









ESCC QUALIFIED PARTS LIST
REP005



Updated 15 - November - 2008







| | General Information | |
|--|--|---|
| As affected | Tyco M/A Com is now known as Cobhem MAL Ltd. | |
| Section/Page No. | Description | |
| Section 04 04-05-003-1A | Index of Diodes PIN and Varactors from Cobham MAL Ltd. | Amended Extended |
| Section 10 10-07-001 | Index of Resistors Types SMP, SMS, SMT from Isabellenhütte | Amended Added |
| Section 11 11-01-001 | Index of Thermistors Type G15K4D489 and *K3A35* from Betatherm | Amended Extended |
| Section 13 13-01-004-2 13-01-005-1 10-01-011-1 | Index of Wires and Cables Polyimide, Types SPL from Gore Crosslinked PTFE, Type Silver-Plated Copper from Tyco Crosslinked ETFE, Type Silver-Plated Copper Lightweight from Tyco Electronics | Amended Extended Amended Amended |
|   | | Qualified Parts List |
| | | Change Date: 15 November 2008 |



| | General Information | |
|---|--|-------------------------------------|
| As affected | Section 18 Added : Optoelectronics | |
| Section/Page No. | Description | |
| Section 01 01-05-002-1 | Index of Capacitors Type KM94S from Eurofarad | Amended Deleted |
| Section 04 04-07-001 | Index of Diodes Photodiode, Sensor from OSI | Amended Moved to 18 |
| Section 12 12-01-002-3B 12-02-002-3B | Index of Transistors Type NPN from STMicroelectronics Type PNP from STMicroelectronics | Amended Amended |
| Section 18 18-04-001 | Index of Optoelectronics Photodiode, Sensor from OSI | Added Added |
|  | | |
| | | Qualified Parts List |
|  | | Change Date: 15 October 2008 |



| | General Information | | |
|--|--|---------------------|--|
| As affected | | | |
| Section/Page No. | Description | | |
| Section 04 04-02-003-1 | Index of Diodes Types BVW-81, BYV52, BYV54 from STMicroelectronics | Amended | |
| Section 10 10-04-001 | Index of Resistors Type RNC 90 from Vishay S.A. Sfernice | Amended Extended | |
| Section 13 13-01-008 | Index of Wires and Cables PTFE, Polyimide/PFA insulated, Type SPP from W.L. Gore | Amended Extended | |
|   | | | Qualified Parts List DOCUMENT CHANGES |
| | | | Change Date: 15 September 2008 |



| | General Information | |
|--|---|--------------------|
| As affected | | |
| Section/Page No. | Description | |
| Section 01 01-01-006 01-02-004 | Index of Capacitors Ceramic, Type II, High Voltage from AVX (N.I.) Ceramic, Chip Type II, High Voltage from AVX N.I.) | Amended Amended |
| Section 04 04-05-003-1A | Index of Diodes Microwave, Silicon PIN and Varactors from Tyco M/A Com | Amended |
| Section 06 06-01-001 | Index of Fuses Type MGA-S from Schurter | Amended |
| Section 10 10-04-001 | Index of Resistors Type RNC 90 from Vishay S.A. Sfernice | Amended |
| Section 11 11-01-001 | Index of Thermistors Type G15K4D489 and *K3A35* from Betatherm | Amended |
| Section 13 13-01-011-1 | Index of Wires and Cables Crosslinked, Modified ETEF, Type Silver-Plated Copper, Lightweight from Tyco Electronics | Amended |
|   | Qualified Parts List | |
| | Change Date: 15 August 2008 | |



| | General Information | |
|--|---|--|
| As affected | | |
| Section/Page No. | Description | |
| Section 04 04-02-002-1 04-02-003-1 | Index of Diodes Type STPS20H100 from STMicroelectronics Types BYW-81, BYV52, BYV54 from STMicroelectronics | Amended Extended Extended |
| Section 07 07-01-001 | Index of Inductors Types MSC1, 10k, 12k, 20k and H01 from Microspire | Amended |
| Section 12 12-01-002-3A-B 12-01-003-1 12-02-002-3A-B | Index of Transistors Types NPN from STMicroelectronics Types 2N2369A from STMicroelectronics Types PNP from STMicroelectronics | Amended Extended Extended Extended |
|   | | Qualified Parts List DOCUMENT CHANGES Change Date: 15 July 2008 |



| | General Information | |
|--|---|---------------------|
| As affected | | |
| Section/Page No. | Description | |
| Section 01 01-01-005 | index of Capacitors Type II, High Capacitance from AVX (N.I.) | Amended Extended |
| Section 05 05-01-001A | Index of Filters Types SFC, SFL, SFP from Eurofarad | Amended Extended |
| Section 06 06-01-001 | Index of Fuses Type MGA-S from Schurter | Amended Added |
| Section 07 07-01-001 | Index of Inductors Types MSC1, 10000, 12000, 20000 from Microspire | Amended Extended |
| Section 14 14-03-003 | Index of Miscellaneous Thermostatic, Bimetallic from Comepa | Amended Extended |
|   | Qualified Parts List | |
| | Change Date: 15 June 2008 | |



| | General Information | |
|--|--|---|
| As affected | | |
| Section/Page No. | Description | |
| Section 02 02-01-001-2 02-02-001-2 | Index of Connectors D*M Series, Rectangular from SOURIAU D*MA Series, Rectangular from SOURIAU | Amended Extended Extended |
| Section 04 04-02-002-1 04-02-003-1 | Index of Diodes Type STPS20H100 from STMicroelectronics Types BYW-81, BYV52, BYV-54 from STMicroelectronics | Amended Amended |
| Section 07 07-01-001 | Index of Inductors Types MSC1, 10000, 12000, 20000 from Microspire | Amended |
| Section 10 10-08-002 | Index of Resistors Type P HR from Vishay S.A. Sfernice | Amended Extended |
| Section 12 12-01-002-3A-B 12-01-003-1 12-02-002-3A-B | Index of Transistors Types NPN from STMicroelectronics Types 2N2369A from STMicroelectronics Types PNP from STMicroelectronics | Amended Amended Amended |
| Section 13 13-01-001-2 13-01-003 13-02-001 | Index of Wires and Cables Polyimide, Types 1871-1872 from Nexans PTFE, Types MTV-BTV from Nexans PTFE/Polyimide, Types 50 CIS from Nexans | Amended Extended Extended Extended |
| Section 14 14-03-003 | Index of Miscellaneous Thermostatic, Bimetallic from Comepa | Amended |
|   | Qualified Parts List | |
| | Change Date: 15 May 2008 | |

| | General Information | |
|--|--|-------------------------------|
| As affected | | |
| Section/Page No. | Description | |
| Section 01 01-05-001-1 | Index of Capacitors Type HT86PS, High Voltage from Eurofarad | Amended Extended |
| Section 13 13-01-001-2 13-01-003 13-02-001 | Index of Wires and Cables Polyimide, Types 1871-1872 from Nexans PTFE, Types MTV-BTV from Nexans PTFE/Polyimide, Types 50 CIS from Nexans | Amended Amended Amended |
|   | Qualified Parts List | |
| | Change Date: 15 April 2008 | |

| | General Information | |
|--|---|---|
| As affected | | |
| Section/Page No. | Description | |
| Section 01 01-03-004 | Index of Capacitors Type TAJ from AVX (GB) | Amended Extended |
| Section 02 02-02-005 02-02-006 02-02-007-1 02-02-008 | Index of Connectors Series I, Circular, Crimp from SOURIAU Series II, Circular, Crimp from SOURIAU Series III, Circular, Miniature from SOURIAU Series III, Hermetic from SOURIAU | Amended Extended Extended Extended Extended |
| Section 03 03-01-001-1 03-01-002 | Index of Crystals TO-5 Can from RAKON (F) TO-8 Can from RAKON (F) | Amended Extended Extended |
| Section 04 04-05-001-3 04-05-002-2 04-05-003 | Index of Diodes Schottky, BAS 70 from Infineon PIN, BXY 42 from Infineon PIN, BXY 43 and 44 from Infineon | Amended Re-qualified Re-qualified Re-qualified |
| Section 10 10-08-002 10-10-001 | Index of Resistors Type P HR from Vishay S.A. Sfernice Single-in-Line from Vishay S.A. Sfernice | Amended Amended Extended |
| Section 12 12-10-001 12-10-002 12-15-001 12-16-001 | Index of Transistors Types BFY 193 from Infineon Types BFY 405-450 from Infineon Types CLY 32 from Infineon Types CFY66 & 67, High Electron Mobility, Low Noise from Infineon | Amended Re-qualified Re-qualified Re-qualified Re-qualified |
| Section 13 13-01-010-1 | Index of Wires and Cables Polyimide, Insulated, Shielded, Type SPLD, Drain Wire from GORE | Amended Extended |
| Section 14 14-01-002-2 14-01-004 | Index of Miscellaneous Coaxial Loads, 0 to 22 GHz from Radiall Attenuators, Type R413 from Radiall | Amended Extended Extended |
|   | Qualified Parts List | |
| | DOCUMENT CHANGES | |
| Change Date: 15 March 2008 | | |

| | General Information | |
|--|---|---|
| As affected | | |
| Section/Page No. | Description | |
| Section 01 01-01-005 | Index of Capacitors Type II, High Capacitance from AVX (N.I.) | Amended |
| Section 02 02-01-001-2 02-02-001-2 | Index of Connectors D*M Series, Rectangular from SOURIAU D*MA Series Rectangular from SOURIAU | Amended Amended |
| Section 04 04-02-002-1 04-02-003-1 04-05-002-4A-B 04-07-001 | Index of Diodes Type STPS20H100 from STMicroelectronics Types BYW-81, BYV52, BYV54 from STMicroelectronics PIN, Fast Switching from Chelton Photodiode, Sensor from OSI | Amended Amended Amended Extended Amended |
| Section 05 05-01-001-A | Index of Filters Types SFC, SFL, SFP from Eurofarad | Amended |
| Section 08 08-02-001-2 08-02-002-1 | Index of Microcircuits 4000 B Series from ST Microelectronics 54HCMOS Series from ST Microelectronics | Amended Extended Extended |
| Section 09 09-01-002 09-01-005 09-02-002 09-02-006 09-03-001 | Index of Relays Type GP5 from LEACH Type E from LEACH Type GP2 from LEACH Type D from LEACH Type GP250 from LEACH | Amended Extended Extended Extended Extended Extended |
| Section 12 12-01-002-3A 12-01-003-1 12-02-002-3A | Index of Transistors Types NPN from STMicroelectronics Type 2N369A from STMicroelectronics Types PNP from STMicroelectronics | Amended Amended Amended |
| Section 13 13-01-001 13-01-009 13-01-010-1 | Index of Wires and Cables Polyimide, Types FA-3901-1, FA-3901-2 from Draka Fileca PTFE, Polyimide/PFA insulated, Shielded, Type SPM from GORE Polyimide, Insulated, Shielded, Type SPLD, Drain Wire from GORE | Amended Extended Extended Amended |
| Section 14 14-01-002-2 14-01-004 | Index of Miscellaneous Coaxial Loads, to 22 GHz from Radiall Attenuators, Type R413 from Radiall | Amended Amended |
|   | | Qualified Parts List |
| | | DOCUMENT CHANGES |
| | | Change Date: 15 February 2008 |

| | General Information | |
|--|---|--|
| As affected | | |
| Section/Page No. | Description | |
| Section 01 01-04-001-2 | Index of Capacitors Type CLR 79 from Arcotronics | Amended |
| Section 04 04-05-002-4A-B | Index of Diodes PIN, Fast Switching from Chelton | Amended |
| Section 08 08-02-001-2 08-02-002-1 | Index of Microcircuits 4000 B Series from ST Microelectronics 54HCMOS Series from ST Microelectronics | Amended Amended |
| Section 09 09-01-002 09-01-005 09-02-002 09-02-006 09-03-001 | Index of Relays Type GP5 from LEACH Type E from LEACH Type GP2 from LEACH Type D from LEACH Type GP250 from LEACH | Amended Amended Amended Amended Amended |
| Section 13 13-01-001 13-01-009 | Index of Wires and Cables Polyimide, Types FA-3901-1, FA-3901-2 from Draka Fileca PTFE, Polyimide/PFA insulated, Shielded, Type SPM from GORE | Amended Amended |
|   | | <p align="center">Qualified Parts List</p> <p align="center">DOCUMENT CHANGES</p> <p align="center">Change Date: 15 January 2008</p> |

| | General Information | |
|--|--|------------------------------|
| As affected | | |
| Section/Page No. | Description | |
| Section 02 02-04-001 02-04-002 | Index of Connectors SMA Series from Radiall SMA 2.9 from Radiall | Amended Extended Added |
| Section 04 04-07-001 | Index of Diodes Photodiode, Sensor from OSI | Amended Added |
|   | Qualified Parts List DOCUMENT CHANGES | |
| Change Date: 15 December 2007 | | |



| | |
|--|--------------------------------------|
| | General Information |
| As affected | This is the current QPL for November |
| Section/Page No. | Description |
| | |
|   | Qualified Parts List |
| | Change Date: 15 November 2007 |

TABLE OF CONTENTS

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| 4 | Revision Procedure | 2 |
| 5 | Table of Qualified Component Types | 3 |
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1. FOREWORD

This document contains a list of components that have been qualified to the rules of the ESCC System and are intended for use in ESA and other spacecraft and associated equipment in accordance with the requirements of the ECSS Standard ESCC-Q-60.

It is permitted to advertise the ESCC qualification status of a product provided such publicity or advertisement does not state or imply that the product is the only qualified or capability approved one of that particular type, range or family.

2. PROCURORS' RESPONSIBILITY

When procuring ESCC qualified or capability approved components, the procurer is responsible for ensuring that the qualification or capability approval status is valid and that delivered components fulfill the specified requirements of the applicable ESCC specifications. The procurer is advised to utilise the ESCC non-conformance system in the event that a qualified or capability approved manufacturer delivers non-conforming components.

3. USE OF TABLES

3.1 Publication

The individual entries are published in sections within this document and are presented by manufacturer on the web, the starting point for which is:

<https://escies.org/public/escq/qpl>

3.2 Type Designation

The referenced type (style) designations are derived from industrial standards (i.e., JEDEC PRO-ELECTRON, MIL, IEC and CECC). The purpose is to identify the similarity of a listed qualified component to a standard type designation.

3.3 Components Characteristics

The electrical characteristics are listed for guidance only and, unless otherwise stated, are specified at +25°C. The precise characteristics of the qualified component are defined in the referenced ESCC specification.

3.4 Manufacturer

Plant locations are indicated in the individual listing; contact information is given in full on the appropriate web pages accessed from:

<https://escies.org/public/escq/qpl>

4. REVISION PROCEDURE

Amendments to earlier issues of the QPL implemented herein are indicated by the date on the front page and by the content of the "Document Changes" pages. The latter provides the changes over a one year period. The same issue date appears on the table at the start of each Section on the Appendix irrespective of whether changes have been made in a particular section. This indicates the information has been reviewed and is current. Finally, it should be noted that the ESA/SCC System is superseded by the ESCC (European Space Components Coordination) System.



5. TABLE OF QUALIFIED COMPONENTS

Components qualified to the ESCC System are grouped by component type designations. Individual components are listed within the relevant sections as indicated in Table 5.1

TABLE 5.1

| Section | Component Types |
|---------|------------------|
| 01 | Capacitors |
| 02 | Connectors |
| 03 | Crystals |
| 04 | Diodes |
| 05 | Filters |
| 06 | Fuses |
| 07 | Inductors |
| 08 | Microcircuits |
| 09 | Relays |
| 10 | Resistors |
| 11 | Thermistors |
| 12 | Transistors |
| 13 | Wires and Cables |
| 14 | Miscellaneous |
| 18 | Optoelectronics |


APPENDIX A


Qualified Components List


Section 01**Component Type: Capacitors**


| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-------------|-------|--|--------------|
| 01-01 | | | Ceramic, Fixed | |
| | 01-01-005 | 231 E | Type II, High Capacitance | AVX (N.I.) |
| | 01-01-006 | 262 B | Type II, High Voltage | AVX (N.I.) |
| 01-02 | | | Ceramic, Fixed, Chip | |
| | 01-02-001-1 | 109 H | Type I | AVX/TPC |
| | 01-02-002-1 | 110 H | Type II | AVX/TPC |
| | 01-02-004-1 | 264 B | Type II, High Voltage | AVX (N.I.) |
| 01-03 | | | Tantalum, (Solid), Fixed, Electrolytic | |
| | 01-03-004 | 196 C | Type TAJ | AXV (GB) |
| 01-04 | | | Tantalum (Non-Solid), Fixed, Electrolytic, Hermetically Sealed | |
| | 01-04-001-2 | 173 E | Type CLR 79 | Arcotronics |
| 01-05 | | | Fixed, Film | |
| | 01-05-001-1 | 251 D | Type HT86PS, High Voltage | Eurofarad |
| | 01-05-003-1 | 270 B | Type PM94S | Eurofarad |

**SECTION 01-**: INDEX OF CAPACITORS****REP005 Updated on 15-Nov-08**

| | | | | |
|---|--|---|---|--|
| Types covered by similarity: ±20% tolerance | | Remarks: Capacitors no longer use a varnish finish. | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3001 Detail ESCC 3001/030 | AVX Limited Coleraine Northern Ireland | Qualification Extension Extension Extension Extension | DRA DERA DERA QinetiQ QinetiQ BNSC | Jul 1996 Jul 1999 Jul 2001 Oct 2003 Mar 2006 Jun 2008 |
| <p>Characteristics: E12 series</p> <p>Qualified Range:</p> <p>Variants 01 to 74 capacitance range for 50V, 100V and 200V, as per Detail Specification Variants 01 to 52, and 59 to 60, for 500V are qualified ±10% tolerance</p> <p>Operating Temperature Range (°C): -55 to +125</p> | | | | |
|  | <p>CAPACITORS, CERAMIC, TYPE II, HIGH CAPACITANCE, BASED ON CASE STYLES BR, CV, AND CH</p> | Current Validity of Qualification | | Page |
| | | Certificate 231 E | Valid Until June 2010 | 01-01 005 |

| | | | | |
|---|---|---|------------------------------------|--|
| Types covered by similarity: ±20% tolerance | | Remarks: Maintenance of qualification testing is under-way. | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3001 Detail ESCC 3001/034 | AVX Limited Coleraine Northern Ireland | Qualification Extension Extension | DERA QinetiQ QinetiQ | Sep 2000 Aug 2002 Mar 2006 |
| <p>Characteristics: E12 series</p> <p>Qualified Range:</p> <p>Variants 01 to 22 are qualified ±10% tolerance</p> <p>Operating Temperature Range (°C): -55 to +125</p> | | | | |
|  | <p>CAPACITORS, CERAMIC, TYPE II, HIGH VOLTAGE, 1.0 TO 5.0 KV, BASED ON CASE STYLES VR, CV, AND CH</p> | Current Validity of Qualification | | Page |
| | | Certificate 262 B | Valid Until March 2008 | 01-01 006 |

| Types covered by similarity: Variants 01 and 06 are qualified Values covered by ESCC Specifications defined below. Tolerance (\pm): 0.5pF; 2, 5, 20% | | | | | | | | Remarks: | | | | |
|---|-------|--------------|----------|-------------------------------------|--------------------|-----------------------|------------------------|--|-----------------------|-----------------------------------|-------------|-------|
| Procurement Specifications | | | | Manufacturer | | | | Nature of Approval | Supervising Authority | Date | | |
| Generic ESCC 3009 Detail ESCC 3009/003 3009/004 3009/005 3009/006 3009/022 | | | | AVX/TPC St Apollinaire France | | | | Qualification | CNES | Feb 1983 | | |
| | | | | | | | | Extension | CNES | Sep 1986 | | |
| | | | | | | | | Requalification | CNES | Apr 1992 | | |
| | | | | | | | | Extension | CNES | Jan 1995 | | |
| | | | | | | | | Extension | CNES | Jun 1998 | | |
| | | | | | | | | Extension | CNES | Nov 2000 | | |
| | | | | | | | | Extension | CNES | Jun 2003 | | |
| | | | | | | | | Requalification | CNES | Feb 2005 | | |
| | | | | | | | | Extension | CNES | May 2007 | | |
| Characteristics: Operating Temp. Range ($^{\circ}$ C), -55 to +125 | | | | | | | | | | | | |
| Style | Model | Detail Spec. | Variants | Capacitance Range (pF) | Rated Volt. (V) | Tolerance ($\pm\%$) | TC (ppm/ $^{\circ}$ C) | | | | | |
| 0805 | A_12C | 3009/003 | 01, 06 | 4.7 to 9.1 10 to 1500 | 50, 100 50, 100 | 0.5pF 1, 2, 5, 10 | ± 30 | | | | | |
| 1206 | A_20C | 3009/022 | 01, 06 | 10 to 3900 | 50, 100 | 1, 2, 5, 10 | ± 30 | | | | | |
| 1210 | A_13C | 3009/004 | 01, 06 | 22 to 6800 | 50, 100 | 1, 2, 5, 10 | ± 30 | | | | | |
| 1812 | A_14C | 3009/005 | 01, 06 | 100 to 15000 | 50, 100 | 1, 2, 5, 10 | ± 30 | | | | | |
| 2220 | A_15C | 3009/006 | 01,06 | 470 to 33000 | 50, 100 | 1, 2, 5, 10 | ± 30 | | | | | |
|  ESCC <small>European Space Components Coordination</small> QPL | | | | | | | | CAPACITORS, CERAMIC, FIXED, CHIP, TYPE I | | Current Validity of Qualification | | Page |
| | | | | | | | | | | Certificate | Valid Until | 01-02 |
| | | | | | | | | 109 H | May 2009 | 001-1 | | |

| | | | | |
|---|---|--|--|--|
| Types covered by similarity: Tolerance ($\pm\%$): 10, 20% | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3009 Detail ESCC 3009/008 3009/009 3009/010 3009/011 3009/023 | AVX/TPC St Apollinaire France | Qualification Extension Requalification Extension Extension Extension Extension Extension Requalification Extension | CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES | Feb 1983 Sep 1986 Oct 1992 Mar 1995 Jun 1998 Nov 2000 Jun 2003 Feb 2005 May 2007 |
| Characteristics: See Table on next page Operating Temperature Range ($^{\circ}\text{C}$), -55 to +125 | | | | |
|  | CAPACITORS, CERAMIC, FIXED, CHIP, TYPE II | Current Validity of Qualification | | Page |
| | | Certificate 110 H | Valid Until May 2009 | 01-02 002-1A |

Characteristics:

| Style | Model | Detail Spec. | Variants | Capacitance Range (pF) | | | Rated Volt. (V) | Tol. (±%) |
|-------|-------|--------------|----------|------------------------|----|---------|-----------------|-----------|
| 0805 | A_12G | 3009/008 | 01, 06 | 10000 | to | 47000 | 25 | 5, 10, 20 |
| | | | | 3900 | to | 27000 | 50 | 5, 10, 20 |
| | | | | 820 | to | 10000 | 100 | 5, 10, 20 |
| 0805 | A612Z | 3009/008 | 07 | 27000 | to | 68000 | 25, 50 | 5, 10, 20 |
| | | | | 10000 | to | 47000 | 100 | |
| 1210 | A_13G | 3009/009 | 01, 06 | 47000 | to | 220000 | 25 | 5, 10, 20 |
| | | | | 33000 | to | 120000 | 50 | 5, 10, 20 |
| | | | | 3900 | to | 47000 | 100 | 5, 10, 20 |
| 1210 | A613Z | 3009/009 | 07 | 100000 | to | 330000 | 25, 50 | 5, 10, 20 |
| | | | | 47000 | to | 220000 | 100 | |
| 1812 | A_14G | 3009/010 | 01, 06 | 82000 | to | 470000 | 25 | 5, 10, 20 |
| | | | | 56000 | to | 270000 | 50 | 5, 10, 20 |
| | | | | 6800 | to | 82000 | 100 | 5, 10, 20 |
| 1812 | A614Z | 3009/010 | 07 | 220000 | to | 680000 | 25, 50 | 5, 10, 20 |
| | | | | 82000 | to | 470000 | 100 | |
| 2220 | A_15G | 3009/011 | 01, 06 | 180000 | to | 1000000 | 25 | 5, 10, 20 |
| | | | | 100000 | to | 680000 | 50 | 5, 10, 20 |
| | | | | 18000 | to | 180000 | 100 | 5, 10, 20 |
| 2220 | A615Z | 3009/011 | 07 | 470000 | to | 1500000 | 25, 50 | 5, 10, 20 |
| | | | | 180000 | to | 1000000 | 100 | |
| 1206 | A_20G | 3009/023 | 01, 06 | 27000 | to | 100000 | 25 | 5, 10, 20 |
| | | | | 12000 | to | 68000 | 50 | 5, 10, 20 |
| | | | | 2200 | to | 22000 | 100 | 5, 10, 20 |
| 1206 | A620Z | 3009/023 | 07 | 47000 | to | 150000 | 25, 50 | 5, 10, 20 |
| | | | | 27000 | to | 100000 | 100 | |



CAPACITORS,
CERAMIC, FIXED,
CHIP, TYPE II

Current Validity of Qualification

Certificate

110 H


Valid Until


May 2009



Page


01-02


002-1B

| Types covered by similarity: ±20% tolerance | | Remarks: Maintenance of qualification testing is under-way. | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------|---|-----------|--|---------|--------------------|------------------------|-----------|------|-----|-----------------|----|-----|----------------|----|-----|--------------|----|------|-----|------------------|----|-----|----------------|----|-----|--------------|----|
| Procurement Specifications | | Manufacturer | | Date | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 3009 | | AVX Limited Coleraine Northern Ireland | | Feb 2001 | | | | | | | | | | | | | | | | | | | | | | | | |
| Detail ESCC 3009/034 | | | | Qualification | DERA | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | QinetiQ | | | | | | | | | | | | | | | | | | | | | | | |
| | | Extension | QinetiQ | May 2006 | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Characteristics: E12 series</p> <p>Qualified Range: Variants 01 to 24 are qualified</p> <p>Terminations: Variants 01 to 12: metallised pads Variants 13 to 24: solder coating (62/36/2 SN/Pb/Ag)</p> <p>Operating Temperature Range (°C):-55 to +125</p> | | <table border="1"> <thead> <tr> <th>Style</th> <th>Rated Voltage (kV)</th> <th>Capacitance Range (pF)</th> <th>Tol. (±%)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1812</td> <td>1.0</td> <td>3 900 to 22 000</td> <td>10</td> </tr> <tr> <td>2.0</td> <td>1 500 to 1 800</td> <td>10</td> </tr> <tr> <td>3.0</td> <td>820 to 1 000</td> <td>10</td> </tr> <tr> <td rowspan="3">1825</td> <td>1.0</td> <td>27 000 to 56 000</td> <td>10</td> </tr> <tr> <td>2.0</td> <td>2 200 to 6 800</td> <td>10</td> </tr> <tr> <td>3.0</td> <td>820 to 2 700</td> <td>10</td> </tr> </tbody> </table> | | | Style | Rated Voltage (kV) | Capacitance Range (pF) | Tol. (±%) | 1812 | 1.0 | 3 900 to 22 000 | 10 | 2.0 | 1 500 to 1 800 | 10 | 3.0 | 820 to 1 000 | 10 | 1825 | 1.0 | 27 000 to 56 000 | 10 | 2.0 | 2 200 to 6 800 | 10 | 3.0 | 820 to 2 700 | 10 |
| Style | Rated Voltage (kV) | Capacitance Range (pF) | Tol. (±%) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1812 | 1.0 | 3 900 to 22 000 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2.0 | 1 500 to 1 800 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3.0 | 820 to 1 000 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1825 | 1.0 | 27 000 to 56 000 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2.0 | 2 200 to 6 800 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3.0 | 820 to 2 700 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | <p>CAPACITORS, FIXED, CHIP, CERAMIC, TYPE II, HIGH VOLTAGE, BASED ON 1812 and 1825</p> | | <p>Current Validity of Qualification</p> <p>Certificate: 264 B</p> <p>Valid Until: May 2008</p> <p>Page: 01-02 004-1</p> | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|--|-----------------------------------|-------------------------------|------------------|
| Types covered by similarity: | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3012 | AVX Limited Paignton England | Qualification | DRA | Jun 1993 |
| Detail ESCC 3012/001 | | Extension | DERA | Apr 2001 |
| | | Extension | QinetiQ | Apr 2003 |
| | | Extension | BNSC | Mar 2008 |
| Characteristics: Variants 01 to 07 and 11 to 17 are qualified | | | | |
|  | <p style="text-align: center;">CAPACITORS, LEADLESS SURFACE MOUNTED, TANTALUM, SOLID ELECTROLYTE, TYPE TAJ</p> | Current Validity of Qualification | | Page |
| | | Certificate 196 C | Valid Until March 2010 | 01-03 004 |

| | | | | | | | | | | |
|--|------------------------|----|---|-------------------------------------|--|--------------------|-----------------------------------|-----------------------|---------------------------|----------------|
| Types covered by similarity: ±20% tolerance | | | | | Remarks: Closure of the facility has been announced. | | | | | |
| Procurement Specifications | | | | Manufacturer | | Nature of Approval | | Supervising Authority | Date | |
| Generic ESCC 3003 | | | | ARCOTRONICS Towcester England | | Qualification | | RAE | Sep 1990 | |
| Detail ESCC 3003/005 | | | | | | Extension | | DRA | Aug 1993 | |
| | | | | | | Extension | | DERA | Nov 1997 | |
| | | | | | | Extension | | DERA | Feb 2000 | |
| | | | | | | Extension | | QinetiQ | Aug 2002 | |
| | | | | | | Extension | | QinetiQ | Mar 2006 | |
| Characteristics: Variants 02 to 05 are qualified | | | | | | | | | | |
| Detail Spec. | Capacitance Range (µF) | | | Rated Volt. (V) | Capacitance Range (µF) | | | Rated Volt. (V) | | |
| 3003/005 | 30 | to | 2 200 | 6 | 12 | to | 470 | 40 | | |
| | 68 | to | 2 200 | 6.3 | 5 | to | 430 | 50 | | |
| | 25 | to | 850 | 8 | 8.2 | to | 330 | 60 | | |
| | 20 | to | 1 800 | 10 | 10 | to | 330 | 63 | | |
| | 15 | to | 1 200 | 15 | 3.5 | to | 250 | 75 | | |
| | 33 | to | 1 200 | 16 | 4.7 | to | 100 | 100 | | |
| | 10 | to | 850 | 25 | 2.7 | to | 82 | 125 | | |
| | 8 | to | 560 | 30 | | | | | | |
| Operating Temperature Range, (°C): -55 to +125 Case sizes: A, B, C and D | | | | | | | | | | |
|   | | | CAPACITORS, TANTALUM, NON-SOLID, ELECTROLYTE, FIXED, CLR 79 | | | | Current Validity of Qualification | | | Page |
| | | | | | | | Certificate 173 E | | Valid Until March 2008 | 01-04 001-2 |


| Types covered by similarity: All values defined by the ESCC Detail Specification 20% tolerance by variant where applicable | | Remarks: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|---|---|--|--|----|-------|---------------------|----|-------|---------------------|----|-------|------------------|----|-------|------------------|----|-------|------------------|----|--------|-----------------|----|--------|-----------------|----|--------|---------------|----|--------|--|--|--|
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 3006 Detail ESCC 3006/022 | | EUROFARAD Lagny sur Marne France | Qualification Extension Extension Extension Extension | CNES CNES CNES CNES CNES | Aug 1998 Jan 2001 Aug 2003 Dec 2005 Apr 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Characteristics: Operating Temperature Range, (°C): -55 to +125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Capacitance Range (pF)</th> <th>Tol. (±%)</th> <th>U_R(V)</th> </tr> </thead> <tbody> <tr> <td>33 000 to 2 200 000</td> <td>10</td> <td>1 500</td> </tr> <tr> <td>15 000 to 1 500 000</td> <td>10</td> <td>2 500</td> </tr> <tr> <td>15 000 to 1 000 000</td> <td>10</td> <td>3 500</td> </tr> <tr> <td>6 800 to 470 000</td> <td>10</td> <td>5 000</td> </tr> <tr> <td>2 200 to 220 000</td> <td>10</td> <td>7 500</td> </tr> <tr> <td>1 000 to 100 000</td> <td>10</td> <td>10 000</td> </tr> <tr> <td>3 300 to 68 000</td> <td>10</td> <td>12 500</td> </tr> <tr> <td>1 500 to 33 000</td> <td>10</td> <td>15 000</td> </tr> <tr> <td>680 to 15 000</td> <td>10</td> <td>20 000</td> </tr> </tbody> </table> | | Capacitance Range (pF) | Tol. (±%) | U _R (V) | 33 000 to 2 200 000 | 10 | 1 500 | 15 000 to 1 500 000 | 10 | 2 500 | 15 000 to 1 000 000 | 10 | 3 500 | 6 800 to 470 000 | 10 | 5 000 | 2 200 to 220 000 | 10 | 7 500 | 1 000 to 100 000 | 10 | 10 000 | 3 300 to 68 000 | 10 | 12 500 | 1 500 to 33 000 | 10 | 15 000 | 680 to 15 000 | 10 | 20 000 | | | |
| Capacitance Range (pF) | Tol. (±%) | U _R (V) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 000 to 2 200 000 | 10 | 1 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 000 to 1 500 000 | 10 | 2 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 000 to 1 000 000 | 10 | 3 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 800 to 470 000 | 10 | 5 000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 200 to 220 000 | 10 | 7 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 000 to 100 000 | 10 | 10 000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 300 to 68 000 | 10 | 12 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 500 to 33 000 | 10 | 15 000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680 to 15 000 | 10 | 20 000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | CAPACITORS, FIXED, RECONSTITUTED MICA, HIGH VOLTAGE, BASED ON TYPE HT86PS | | Current Validity of Qualification | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Certificate 251 D | Valid Until April 2010 | 01-05 001-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |


| Types covered by similarity: All values defined by the ESCC Detail Specification ±20% (E6 Series) tolerance by variant where applicable | | Remarks: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|-----------|---|--------------------------------|--|--|-----------|--------------------|-----|----|----|----|----|-----|----|----|----|----|------|----|----|----|-----|------|----|-----|----|-----|------|----|-----|----|-----|------|----|-----|----|-----|--|--|
| Procurement Specifications | | Manufacturer | | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 3006 Detail ESCC 3006/024 | | EUROFARAD Lagny sur Marne France | | Qualification Extension Extension | CNES CNES CNES | Aug 2002 Apr 2005 Aug 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Characteristics: E12 Series</p> <p>Sizes Available 01, 02, 03, 04</p> <p>Maximum dimensions (mm): 01: 10.7 x 10.7 x B 02: 15.5 x 15.5 x B 03: 16.5 x 15.5 x B 04: 18.5 x 17.0 x B</p> <p>Where B= 6, 8, 10, 12, 14, 15 depending on capacitance value Operating Temperature Range, (°C): -55 to +125</p> | | <table border="1"> <thead> <tr> <th colspan="3">Capacitance Range (µF)</th> <th>Tol. (±%)</th> <th>U_R(V)</th> </tr> </thead> <tbody> <tr> <td>2.2</td> <td>to</td> <td>47</td> <td>10</td> <td>50</td> </tr> <tr> <td>1.5</td> <td>to</td> <td>22</td> <td>10</td> <td>63</td> </tr> <tr> <td>0.56</td> <td>to</td> <td>12</td> <td>10</td> <td>100</td> </tr> <tr> <td>0.33</td> <td>to</td> <td>5.6</td> <td>10</td> <td>200</td> </tr> <tr> <td>0.22</td> <td>to</td> <td>4.7</td> <td>10</td> <td>250</td> </tr> <tr> <td>0.10</td> <td>to</td> <td>1.8</td> <td>10</td> <td>400</td> </tr> </tbody> </table> | | | Capacitance Range (µF) | | | Tol. (±%) | U _R (V) | 2.2 | to | 47 | 10 | 50 | 1.5 | to | 22 | 10 | 63 | 0.56 | to | 12 | 10 | 100 | 0.33 | to | 5.6 | 10 | 200 | 0.22 | to | 4.7 | 10 | 250 | 0.10 | to | 1.8 | 10 | 400 | | |
| Capacitance Range (µF) | | | Tol. (±%) | U _R (V) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2 | to | 47 | 10 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.5 | to | 22 | 10 | 63 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.56 | to | 12 | 10 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.33 | to | 5.6 | 10 | 200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.22 | to | 4.7 | 10 | 250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.10 | to | 1.8 | 10 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | <p>CAPACITORS, FIXED, SURFACE MOUNT, D.C. SELF-HEALING, NON-INDUCTIVE, POLYTEREPHALATE DIELECTRIC, BASED ON TYPE PM94S</p> | | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Certificate 270 B | Valid Until August 2009 | 01-05 003-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |


Section 02



Component Type: Connectors


| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-------------|-------|---------------------------------|----------------|
| 02-01 | | | Multipin, Solder Contacts | |
| | 02-01-001-1 | 71 L | D*M Series, Rectangular | C&K COMPONENTS |
| | 02-01-001-2 | 155 H | D*M Series, Rectangular | SOURIAU |
| 02-02 | | | Multipin, Crimp Contacts | |
| | 02-02-001-1 | 72 L | D*MA Series, Rectangular | C&K COMPONENTS |
| | 02-02-001-2 | 156 G | D*MA Series, Rectangular | SOURIAU |
| | 02-02-003 | 25 K | DBAS Series, Circular | Deutsch |
| | 02-02-005 | 220 D | Series I, Circular, Crimp | SOURIAU |
| | 02-02-006 | 221 D | Series II, Circular, Crimp | SOURIAU |
| | 02-02-007-1 | 222 D | Series III, Circular, Miniature | SOURIAU |
| | 02-02-008 | 223 C | Series III, Hermetic | SOURIAU |
| 02-03 | | | Printed Circuit Board | |
| | 02-03-001-1 | 99 J | HE 801 Series | HYPERTAC |
| | 02-03-001-2 | 217 D | HE 801 Series | HYPERTAC UK |
| | 02-03-002-1 | 149 G | KMC Series | HYPERTAC |
| | 02-03-003-1 | 250 C | MHD Series | HYPERTAC |
| | 02-03-004-1 | 281 | IHD INTERPOSER | HYPERTAC |
| 02-04 | | | R.F. Coaxial | |
| | 02-04-001 | 68 J | SMA Series | Radiall |
| | 02-04-002 | 283 | SMA 2.9 | Radiall |
| 02-05 | | | Micro-miniature, Crimp Contacts | |
| | 02-05-001-1 | 140 J | MDM Series, Rectangular | C&K COMPONENTS |
| | 02-05-002-1 | 141 J | MTB Series, Rectangular | C&K COMPONENTS |


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|--|--|--|--------------------|-----------------------------------|-------------|-------|
| Types covered by similarity: Range defined in the corresponding Detail Specifications. | | Remarks: | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 | | C&K COMPONENTS Dole France | Qualification | CNES | Feb 1981 | |
| Detail ESCC 3401/001 | | | Extension | CNES | Jun 1983 | |
| 3401/004 | | | Extension | CNES | Sep 1986 | |
| 3401/022 | | | Extension | CNES | Oct 1988 | |
| 3401/040 | | | Extension | CNES | Jun 1989 | |
| <p>Characteristics: Range of Contacts: 9, 15, 25, 37 and 50 contacts size 20 for standard arrangements 3W3, 5W1 to 47W1 combined contact arrangements 15, 26, 44, 62, 78 and 104 contacts size 22 for high density contact arrangements</p> <p>Mounting Type: Blank: standard mounting holes Y: floating mount E: captive nuts</p> <p>Gold-plated non-magnetic coating Coaxial contact arrangements: 3401/004 variants 01 to 20 Power contact arrangements: 3401/040 variants 01 to 12 Operating Temperature Range (°C): -55 to +125</p> | | | Extension | CNES | Sep 1991 | |
| | | | Extension | CNES | Apr 1994 | |
| | | | Extension | CNES | Jan 1997 | |
| | | | Extension | CNES | Jan 2000 | |
| | | | Extension | CNES | Apr 2003 | |
| | | Extension | CNES | Aug 2005 | | |
| | | Extension | CNES | Aug 2007 | | |
|  ESCC <small>European Space Components Coordination</small> QPL | | CONNECTORS, ELECTRICAL, SOLDER AND WIRE WRAP CONTACTS, RECTANGULAR RECEPTACLE AND PLUG, BASED ON TYPE D*M | | Current Validity of Qualification | | Page |
| | | | | Certificate | Valid Until | 02-01 |
| | | | | 71 L | August 2009 | 001-1 |


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|---|---|--------------|--|--|--|
| Types covered by similarity: Complete range as defined in the Detail Specifications except high density 104 contacts arrangement, coaxial and power contacts and arrangement 3401/022: variants 01 to 16, 44 to 57, 65 to 80 3401/072: variants 01 to 04, 41 to 45 | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3401 Detail ESCC 3401/001 3401/022 3401/072 | SOURIAU Connection Technology Marolles en Brie France | | Qualification Extension Extension Extension Extension Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES | Sep 1988 Apr 1991 Jan 1994 Jul 1996 Oct 1997 Mar 2000 Apr 2003 Mar 2006 May 2008 |
| Characteristics: Range of Contacts: Size 20: 9, 15, 25, 37 and 50 contacts. Range of Contacts: Size 22:15, 26, 44, 62, 78 contacts. Mounting Type= blank: standard mounting holes Y: floating mount E: captive nuts Gold-plated non-magnetic coating Operating Temperature Range (°C): -55 to +125 | | | | | |
|  | CONNECTORS, ELECTRICAL, SOLDER AND WIRE WRAP CONTACTS, NON-REMOVABLE, RECTANGULAR RECEPTACLE AND PLUG, BASED ON TYPE D*M | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 02-01 |
| | | | 155 H | May 2010 | 001-2 |



| | | | | | |
|--|--|--|---|---|---|
| Types covered by similarity: Range defined in the corresponding Detail Specifications. | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| <p>Generic ESCC 3401</p> <p>Detail ESCC 3401/002 3401/005 3401/020 3401/021</p> | | C&K COMPONENTS Dole France | <p>Qualification</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> <p>Extension</p> | <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> <p>CNES</p> | <p>Feb 1981</p> <p>Jun 1983</p> <p>Sep 1986</p> <p>Oct 1988</p> <p>Jun 1989</p> <p>Sep 1991</p> <p>Apr 1994</p> <p>Jan 1997</p> <p>Jan 2000</p> <p>Apr 2003</p> <p>Aug 2005</p> <p>Aug 2007</p> |
| <p>Characteristics:</p> <p>Range of Contacts: 9, 15, 25, 37 and 50 contacts size 20* for standard contact arrangements *Accepts wire sizes AWG # 20 to 24 (standard bucket: variants 01 and 02) *Accepts wire sizes AWG # 26 and 28 (reduced bucket: variants 03 and 04) *Accepts wire size AWG # 18 and 20 (large bucket: variants 05 to 06) 15, 26, 44, 62, 78 and 104 contacts size 22** for high density contact arrangements ** Accepts wire sizes AWG # 22 to 26 (standard bucket: variants 07 to 08)</p> <p>Gold-plated non-magnetic coating</p> <p>Operating Temperature Range (°C): -55 to +125</p> <p>Connector Savers: For usage with above connector range</p> | | | | | |
|  | | <p>CONNECTORS, ELECTRICAL, CRIMP CONTACTS, RECTANGULAR RECEPTACLE AND PLUG, BASED ON TYPE D*MA</p> | | <p>Current Validity of Qualification</p> | |
| | | | Certificate | Valid Until | Page |
| | | | 72 L | August 2009 | 02-02 001-1 |


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|---|--|---------------|-----------------------------------|-----------------------|-------|
| Types covered by similarity: Complete range as defined in the Detail Specifications except high density 104 contacts arrangement 3401/022: variants 01 to 16, 44 to 57, 65 to 80 3401/072: variants 01 to 04, 41 to 45 | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3401 | SOURIAU Connection Technology Marolles en Brie France | Qualification | CNES | Sep 1988 | |
| Detail ESCC 3401/002 3401/005 3401/020 3401/021 3401/022 3401/072 | | Extension | CNES | Apr 1991 | |
| | | Extension | CNES | Jan 1994 | |
| | | Extension | CNES | Jul 1996 | |
| | | Extension | CNES | Mar 2000 | |
| | | Extension | CNES | Apr 2003 | |
| | | Extension | CNES | Mar 2006 | |
| Characteristics: Connectors:- *Accepts wire sizes AWG # 20 to 24 (standard bucket: variants 01 and 02) *Accepts wire sizes AWG # 26 and 28 (reduced bucket: variants 03 and 04) *Accepts wire size AWG # 22, 24 and 26 (contact AWG # 22 for high density, contact arrangements, variants 07 and 08) Range of Contacts: 9, 15, 25, 37 and 50 contacts size 20 for standard contact arrangements 15, 26, 44, 62, 78 contacts size 22 for high density contact arrangements Gold-plated non-magnetic coating Operating Temperature Range (°C): -55 to +125 Connector Savers- For usage with above connector range | | Extension | CNES | May 2008 | |
|   | CONNECTORS AND CONNECTOR SAVER, ELECTRICAL, CRIMP CONTACTS, REMOVABLE RECTANGULAR RECEPTACLE AND PLUG, BASED ON TYPE D*MA | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 02-02 |
| | | 156 G | May 2010 | 001-2 | |


| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------|----------|--|---|------|--------------------|-----------------------|------------------|--------|--------|--------|----------------|----|----|----|----|-----|----|-----|--|--|-----------|------|----------|
| Types covered by similarity: All variants defined in the Detail Specifications. | | | | Remarks: Maximum Ratings are stated for one isolated contact. | | | | | | | | | | | | | | | | | | | | |
| Procurement Specifications | | | | Manufacturer | | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | |
| Generic ESCC 3401 Detail ESCC 3401/008 3401/009 3401/012 | | | | Cie DEUTSCH Evreux France | | Qualification | CNES | Jul 1979 | | | | | | | | | | | | | | | | |
| Characteristics: <table border="1"> <tr> <td>Wire Sizes (AWG) #</td> <td>8</td> <td>10</td> <td>12, 14</td> <td>16, 20</td> <td>20, 24</td> <td>18, 22</td> <td>26, 30</td> </tr> <tr> <td>Max Rating (A)</td> <td>46</td> <td>33</td> <td>23</td> <td>13</td> <td>7.5</td> <td>10</td> <td>2.0</td> </tr> </table> <p>Variants 01 to 20 are qualified</p> <p>Cylindrical Multicontacts Range of shell sizes: 3, 7, 12, 19, 27, 37, 61 contacts in wire size AWG # 20 and solder gauge 8 Other arrangements with contacts size AWG 22, 20, 16, 12 and 8</p> <p>Operating Temperature Range (°C): -65 to +200</p> | | | | Wire Sizes (AWG) # | 8 | 10 | 12, 14 | 16, 20 | 20, 24 | 18, 22 | 26, 30 | Max Rating (A) | 46 | 33 | 23 | 13 | 7.5 | 10 | 2.0 | | | Extension | CNES | Nov 1982 |
| | | | | Wire Sizes (AWG) # | 8 | 10 | 12, 14 | 16, 20 | 20, 24 | 18, 22 | 26, 30 | | | | | | | | | | | | | |
| | | | | Max Rating (A) | 46 | 33 | 23 | 13 | 7.5 | 10 | 2.0 | | | | | | | | | | | | | |
| | | | | Extension | CNES | Nov 1985 | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Oct 1989 | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Apr 1992 | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Aug 1994 | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Feb 1997 | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | May 1999 | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Aug 2001 | | | | | | | | | | | | | | | | | | |
| Extension | CNES | Nov 2004 | | | | | | | | | | | | | | | | | | | | | | |
| Extension | CNES | May 2007 | | | | | | | | | | | | | | | | | | | | | | |
|  <p style="text-align: center;">CONNECTORS, MINIATURE, ELECTRICAL, CIRCULAR, PUSH-PULL COUPLING, REMOVABLE CRIMP CONTACTS, BASED ON TYPE DBAS</p> | | | | Current Validity of Qualification | | | | Page | | | | | | | | | | | | | | | | |
| | | | | Certificate | | Valid Until | | 02-02 003 | | | | | | | | | | | | | | | | |
| | | | | 25 K | | May 2009 | | | | | | | | | | | | | | | | | | |


| Types covered by similarity: All connector variants are qualified For 3401/058, variants 01 to 14 are qualified For 3401/062, variants 01 to 27 are qualified | | Remarks: | | | | | | | | | | | | | |
|--|-------------|---|--------------------|-----------------------------------|-------------|-------|------|----|------|----|-----|--|--|--|--|
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | |
| Generic ESCC | 3401 | SOURIAU Connection Technology Marolles en Brie France | Qualification | CNES | May 1995 | | | | | | | | | | |
| Detail ESCC | 3401/052 | | Extension | CNES | Mar 1998 | | | | | | | | | | |
| | 3401/058 | | Extension | CNES | Jul 2001 | | | | | | | | | | |
| | 3401/062 | | Extension | CNES | Jun 2005 | | | | | | | | | | |
| <p>Characteristics:</p> <table border="1"> <thead> <tr> <th>Contact Size</th> <th>Ratings (A)</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>46.0</td> </tr> <tr> <td>12</td> <td>23.0</td> </tr> <tr> <td>16</td> <td>13.0</td> </tr> <tr> <td>20</td> <td>7.5</td> </tr> </tbody> </table> <p>Range: # 20 with standard contact arrangements 3, 6, 10, 19, 26, 32, 41, 53, 61 # 22 with high density arrangements 6, 13, 22, 37, 55, 66, 79, 100, 128</p> <p>Other arrangements with contact sizes: 20, 16, 12, 8 Receptacle and Plug Shell Sizes: 09, 11, 13, 15, 17, 19, 21, 23, 25 Operating Temperature Range (°C): -65 to +200</p> | | Contact Size | Ratings (A) | 8 | 46.0 | 12 | 23.0 | 16 | 13.0 | 20 | 7.5 | | | | |
| Contact Size | Ratings (A) | | | | | | | | | | | | | | |
| 8 | 46.0 | | | | | | | | | | | | | | |
| 12 | 23.0 | | | | | | | | | | | | | | |
| 16 | 13.0 | | | | | | | | | | | | | | |
| 20 | 7.5 | | | | | | | | | | | | | | |
|  | | CONNECTORS, ELECTRICAL, CIRCULAR, BAYONET COUPLING, SCOOP-PROOF, REMOVABLE CRIMP CONTACTS, BASED ON TYPE MIL-C-38999, SERIES I | | Current Validity of Qualification | | Page | | | | | | | | | |
| | | | | Certificate | Valid Until | 02-02 | | | | | | | | | |
| | | | | 220 D | March 2010 | 005 | | | | | | | | | |


| Types covered by similarity: For 3401/044, all variants are qualified For 3401/045, variants 01 to 08 are qualified For 3401/062, variants 01 to 27 are qualified | | Remarks: | | | | | | | | | | | |
|---|-------------|---|---|--------------------------------------|--|--------------|-------------|----|------|----|------|----|-----|
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | |
| Generic ESCC 3401 Detail ESCC 3401/044 3401/045 3401/062 | | SOURIAU Connection Technology Marolles en Brie France | Qualification Extension Extension Extension Extension | CNES CNES CNES CNES CNES | May 1995 Mar 1998 Jul 2001 Jun 2005 Mar 2008 | | | | | | | | |
| Characteristics: <table border="1" data-bbox="98 775 595 951"> <thead> <tr> <th>Contact Size</th> <th>Ratings (A)</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>23.0</td> </tr> <tr> <td>16</td> <td>13.0</td> </tr> <tr> <td>20</td> <td>7.5</td> </tr> </tbody> </table> <p>Range: # 20 with standard contact arrangements 3, 6, 10, 18, 26, 32, 41, 55, 61 # 22 with high density arrangements 6, 13, 22, 37, 55, 66, 79, 100, 128</p> <p>Other arrangements with contact sizes: 20, 16, 12 Receptacle and Plug Shell Sizes: 08, 10, 12, 14, 16, 18, 20, 22, 24 Operating Temperature Range (°C): -65 to +200</p> | | | | | | Contact Size | Ratings (A) | 12 | 23.0 | 16 | 13.0 | 20 | 7.5 |
| Contact Size | Ratings (A) | | | | | | | | | | | | |
| 12 | 23.0 | | | | | | | | | | | | |
| 16 | 13.0 | | | | | | | | | | | | |
| 20 | 7.5 | | | | | | | | | | | | |
|  | | CONNECTORS, ELECTRICAL, CIRCULAR, BAYONET COUPLING, REMOVABLE CRIMP CONTACTS, BASED ON TYPE MIL-C-38999, SERIES II | | | Current Validity of Qualification | | Page | | | | | | |
| | | | | | Certificate | Valid Until | 02-02 | | | | | | |
| | | | | | 221 D | March 2010 | 006 | | | | | | |


| Types covered by similarity: 3401/058 variants 01 to 14 are qualified 3401/062 variants 28 to 54 are qualified 3401/066 variants 01 and 02 are qualified, arrangements 11-99, 23-55, 11-02, 15-15, 17-02, 21-75, 25-04, 25-08 and 25-20 3401/058 crimp contacts and 3401/066 triax contacts to be mounted on 3401/056 connectors 3401/070 connector receptacles with PCB contacts | | | | Remarks: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|---|--|--|---|------|----|------|---|------|----|-----|----|------|----|-----|----|------|--|--|----|-----|--|--|----|-----|--|--|--|--|--|
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 3401 Detail ESCC 3401/056 3401/058 3401/062 3401/066 3401/070 | | SOURIAU Connection Technology Marolles en Brie France | Qualification Extension Extension Extension Extension | CNES CNES CNES CNES CNES | May 1995 Mar 1998 Jul 2001 Jun 2005 Mar 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Characteristics: | <table border="1"> <thead> <tr> <th>Crimp Contact Size</th> <th>Ratings (A)</th> <th>PCB Contact Size</th> <th>Ratings (A)</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>80.0</td> <td>16</td> <td>10.0</td> </tr> <tr> <td>8</td> <td>46.0</td> <td>20</td> <td>5.0</td> </tr> <tr> <td>12</td> <td>23.0</td> <td>22</td> <td>3.0</td> </tr> <tr> <td>16</td> <td>13.0</td> <td></td> <td></td> </tr> <tr> <td>20</td> <td>7.5</td> <td></td> <td></td> </tr> <tr> <td>22</td> <td>5.0</td> <td></td> <td></td> </tr> </tbody> </table> | Crimp Contact Size | Ratings (A) | PCB Contact Size | Ratings (A) | 4 | 80.0 | 16 | 10.0 | 8 | 46.0 | 20 | 5.0 | 12 | 23.0 | 22 | 3.0 | 16 | 13.0 | | | 20 | 7.5 | | | 22 | 5.0 | | | | | |
| Crimp Contact Size | Ratings (A) | PCB Contact Size | Ratings (A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 80.0 | 16 | 10.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 46.0 | 20 | 5.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 23.0 | 22 | 3.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 13.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 7.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 5.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Range: # 20 with standard contact arrangements (3, 4, 5, 6, 7, 8, 10, 18, 19, 26, 32, 41, 53, 55, 61 contacts) # 22 with high density arrangements (6, 13, 22, 37, 55, 66, 79, 100, 128 contacts) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other arrangements with contact sizes:# 20, 16, 12, 8, 4 Receptacle and Plug Shell Sizes: 09, 11, 13, 15, 17, 19, 21, 23, 25. Triax contact= (layout 09-01 only) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Temperature Range (°C): -65 to +200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|   | | CONNECTORS, MINIATURE, ELECTRICAL, CIRCULAR, TRIPLE-START SELF-LOCKING COUPLING, SCOOP-PROOF, REMOVABLE AND NON-REMOVABLE CONTACTS BASED ON TYPE MIL-C-38999, SERIES III | | Current Validity of Qualification | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Certificate 222 D | Valid Until March 2010 | 02-02 007-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |


| Types covered by similarity: | | Remarks: | | | | | | | |
|--|------------------------|---|--------------------|---|------------------------|-------------|-------|------------|-------------------------------------|
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | |
| Generic ESCC 3401 | | SOURIAU Connection Technology Marolles en Brie France | Qualification | CNES | May 1995 | | | | |
| Detail ESCC 3401/057 | | | Requalification | CNES | Jul 2001 | | | | |
| | | | Extension | CNES | Jun 2005 | | | | |
| | | | Extension | CNES | Mar 2008 | | | | |
| <p>Characteristics:</p> <table border="1"> <thead> <tr> <th>Contact Size</th> <th>Ratings (A)</th> </tr> </thead> <tbody> <tr> <td>8, 12, 16 20, 22D</td> <td>33, 17, 10 5.0, 3.0</td> </tr> </tbody> </table> <p>Range: # 20 with standard contact arrangements (3, 6, 10, 19, 26, 32, 41, 53, 61 contacts) # 22 with high density arrangements (6, 13, 22, 37, 55, 66, 79, 100, 128 contacts)</p> <p>Receptacle Shell 09, 11, 13, 15, 17, 19, 21, 23, 25</p> <p>Sizes: Receptacle (contacts # 8, 12, 16, 20, 22D) and Feedthrough (contacts # 8, 12, 16, 20, 22D)</p> <p>Operating Temperature Range (°C): -65 to +200</p> | | Contact Size | Ratings (A) | 8, 12, 16 20, 22D | 33, 17, 10 5.0, 3.0 | | | | |
| Contact Size | Ratings (A) | | | | | | | | |
| 8, 12, 16 20, 22D | 33, 17, 10 5.0, 3.0 | | | | | | | | |
|  | | <p>CONNECTORS, MINIATURE, ELECTRICAL, CIRCULAR, TRIPLE-START SELF-LOCKING COUPLING, SCOOP-PROOF, HERMETIC RECEPTABLE AND FEEDTHROUGH, BASED ON TYPE MIL-C-38999, SERIES III</p> | | <p>Current Validity of Qualification</p> <table border="1"> <tr> <td>Certificate</td> <td>Valid Until</td> </tr> <tr> <td>223 C</td> <td>March 2010</td> </tr> </table> | Certificate | Valid Until | 223 C | March 2010 | <p>Page</p> <p>02-02</p> <p>008</p> |
| Certificate | Valid Until | | | | | | | | |
| 223 C | March 2010 | | | | | | | | |


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|---|--|--|--|--|--|-------|
| Types covered by similarity: All variants are qualified | | Remarks: | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 Detail ESCC 3401/016 3401/017 | | HYPERTAC SA Saint-Aubin-Lès-Elbeuf France | Qualification Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES | Nov 1982 May 1985 May 1988 Apr 1991 Jan 1994 Mar 1996 Mar 1998 Jan 2002 Jun 2004 Mar 2007 | |
| Characteristics: Shell specifications and sizes: 3401/016 Contact: 3401/017 Crimp wire-wrap solder and savers, 1 to 22 and 64 to 70 2 rows: 17, 29, 41, 53, 65, 72, 84, 96, 120 contacts 3 rows: 62, 80, 98, 160 contacts Contact Ratings: 5 A (1 contact AWG 22) 1.5 A (>31 contacts, AWG 22) Operating Temperature Range (°C): -55 to +125 | | | | | | |
|  | | CONNECTORS, ELECTRICAL, REMOVABLE CONTACTS, CRIMP WIRE-WRAP SOLDER AND SAVER, PRINTED CIRCUIT BOARD, BASED ON TYPE HE 801 | | Current Validity of Qualification | | Page |
| | | Certificate | Valid Until | | | 02-03 |
| | | 99 J | March 2009 | | | 001-1 |


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|---|--|---|-----------------------------------|-----------------------|----------|
| Types covered by similarity: See ESCC Detail Specifications listed below | | Remarks: Maintenance of qualification testing is under-way. | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC | 3401 | HYPERTAC LTD London England | Qualification | DRA | Jul 1994 |
| | | | Extension | DRA | Nov 1996 |
| Detail ESCC | 3401/016 | | Extension | DERA | Nov 1998 |
| | 3401/017 | | Extension | QinetiQ | Apr 2002 |
| | | | Extension | QinetiQ | Mar 2005 |
| <p>Characteristics:</p> <p>Shell specifications and sizes: 3401/016</p> <p>Range of components: 17 to 160 way connectors</p> <p>PCB, 90°, crimp, wire-wrap and saver contacts</p> <p>Guiding/locking device numbers: 26, 27, 28, 29, 33, 34, 35, 36, 40, 41, 43, 46, 54, 55, 71, 72, 76, 77, 78</p> <p>Contact Ratings: 5 A (1 contact AWG 22) 1.5 A (>31 contacts, AWG 22)</p> <p>Operating Temperature Range (°C): -55 to +125</p> | | | | | |
|  | <p>CONNECTORS, ELECTRICAL, REMOVABLE CONTACTS, CRIMP WIRE-WRAP SOLDER AND SAVER, PRINTED CIRCUIT BOARD, BASED ON TYPE HE 801</p> | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 02-03 |
| | | | 217 D | March 2007 | 001-2 |



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|--|--|---|--|--|--|
| Types covered by similarity: As defined in Table 1(a) of ESCC Detail Specifications listed below | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3401 Detail ESCC 3401/039 | | HYPERTAC LTD Saint-Aubin-Lès-Elbeuf France | Qualification Extension Extension Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES CNES CNES CNES | Mar 1987 May 1990 Jan 1993 Oct 1995 Mar 1998 Jan 2002 Jun 2004 Mar 2007 |
| Characteristics: 3 rows 26, 44, 62, 80, 98, 144 contacts Contact Ratings: 2 A (1 contact) Operating Temperature Range (°C): -55 to +125 | | | | | |
|  | | CONNECTORS, ELECTRICAL, NON-REMOVABLE SOLDER AND WIRE-WRAP CONTACTS AND SAVERS, PRINTED CIRCUIT BOARD, BASED ON TYPE KMC | Current Validity of Qualification | | Page |
| | | | Certificate 149 G | Valid Until March 2009 | 02-03 002-1 |


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|--|--|--|-----------------------------------|-----------------------|----------|
| Types covered by similarity: As defined in Table 1(a) of ESCC Detail Specifications listed below | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC | 3401 | HYPERTAC LTD Saint-Aubin-Les-Elbeuf France | Qualification | CNES | Aug 1998 |
| | | | Extension | CNES | Jan 2002 |
| Detail ESCC | 3401/065 | | Extension | CNES | Jun 2004 |
| | | | Extension | CNES | Mar 2007 |
| Characteristics: Contact: 52, 100, 152, 200, 252, 300, 352 and 400 Contact Codes: 10, 11, 12, 30, 31, 43, 45, 47 and 91 Guiding and Locking Devices Codes: 110, 111, 121, 124, 134 and 201 Operating Temperature Range (°C): -55 to +125 | | | | | |
|  | CONNECTORS AND SAVERS, ELECTRICAL, RECTANGULAR, NON-REMOVABLE, PRINTED CIRCUIT BOARD, BASED ON TYPE MHD | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 02-03 |
| | | | 250 C | March 2009 | 003-1 |

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|---|--|---|--------------------|-----------------------------------|-------------|-------|
| Types covered by similarity: All design envelops specified in Table 1(a) of ESCC Detail Specification | | Remarks: | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 Detail ESCC 3401/076 | | HYPERTAC LTD Saint-Aubin-Les-Elbeuf France | Qualification | CNES | Aug 2007 | |
| Characteristics: Max. number of rows 11 Max. number of contacts: 660 Locking and Guiding Devices: -Through holes only -M2 studs with locking nuts and washers -Locating pins not available Rated current: 1A each contact Total contact compression range: 0.1 to 0.65 mm per contact Compression force: 1.6N per contact Torque for locking devices: 10 Ncm Operating Temperature Range (°C): -55 to +125 | | | | | | |
|  | | CONNECTORS, ELECTRICAL, CRIMP CONTACTS, Z-AXIS INTERPOSER, PRINTED CIRCUIT BOARD, BASED ON TYPE RX | | Current Validity of Qualification | | Page |
| | | | | Certificate | Valid Until | 02-03 |
| | | | | 281 | August 2009 | 004-1 |

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|--|---|-------------------------------------|-----------------------------------|-----------------------|----------|
| Types covered by similarity: See ESCC Detail Specifications - Hermetically sealed receptacle | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3402 | Detail ESCC 3402/001 3402/002 3402/003 | RADIALL La Verpilliere France | Qualification | CNES | Feb 1981 |
| | | | Extension | CNES | Apr 1983 |
| | | | Extension | CNES | Apr 1986 |
| | | | Extension | CNES | Nov 1989 |
| | | | Extension | CNES | Jul 1992 |
| | | | Extension | CNES | Nov 1994 |
| | | | Extension | CNES | May 1998 |
| | | | Extension | CNES | Aug 2002 |
| | | | Extension | CNES | Jan 2005 |
| | | | Extension | CNES | Dec 2007 |
| Characteristics: Frequency Range 0-18 GHz 3402/001 Pin contact (Plug). Variants 01 to 44 3402/002 socket contact (Receptacle). Variants 01 to 71 3402/003 Adapters. Variants 01 to 09 Crimp- or solder-type contact for flexible and semi-rigid cables, contacts for micro strip Gold-plated beryllium copper non-magnetic or stainless steel Operating Temperature Range (°C): See Detail Specifications | | | | | |
|  | CONNECTORS, RF, COAXIAL, SOLDER AND CRIMP CONTACTS, MALE, FEMALE ADAPTORS AND CONNECTING PIECES, BASED ON TYPE SMA | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 02-04 |
| | | | 68 J | December 2009 | 001 |

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|---|---|-------------------------------------|-----------------------------------|-----------------------|----------|
| Types covered by similarity: | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3402 Detail ESCC 3402/021 3402/022 3402/023 | | RADIALL La Verpilliere France | Qualification | CNES | Dec 2007 |
| Characteristics: Frequency Range 0-40 GHz 50 Ohms 3402/021 Pin contact (Plug). Variants 01 to 07 3402/022 Socket contact (Receptacle). Variants 01 to 05 3402/023 Adapters. Variants 01 to 03 Crimp- or solder-type contact for flexible and semi-rigid cables, contacts for micro strip Gold-plated beryllium copper non-magnetic or stainless steel Operating Temperature Range (°C): -65 to +165 | | | | | |
|  | CONNECTORS, RF, COAXIAL, SOLDER AND CRIMP CONTACTS, MALE, FEMALE ADAPTORS AND CONNECTING PIECES, BASED ON TYPE SMA 2.9 | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 02-04 |
| | | | 283 | December 2009 | 002 |


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|---|--|----------------------------------|-----------------------------------|-----------------------|----------|
| Types covered by similarity: | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC | 3401 | C&K COMPONENTS Dole France | Qualification | CNES | Oct 1986 |
| | | | Extension | CNES | Oct 1988 |
| Detail ESCC | 3401/029 | | Extension | CNES | Jun 1989 |
| | 3401/041 | | Extension | CNES | Sep 1991 |
| | 3401/032 | | Extension | CNES | Apr 1994 |
| Characteristics: 9 - 15 - 21- 25 - 31 - 37 - 51 Contacts Terminations: Wire sizes AWG 26 and 28 and uninsulated solid gold-plated wire AWG 25 Max. rating for 1 isolated contact:- AWG 26 and uninsulated wire terminal: 2.5 A AWG 28: 1.5 A Nickel or Gold Plated Shells Operating Temperature Range (°C): -55 to +125 | | | Extension | CNES | Jan 1997 |
| | | | Extension | CNES | Oct 1999 |
| | | | Extension | CNES | Apr 2003 |
| | | | Extension | CNES | Nov 2005 |
| | | | Extension | CNES | Aug 2007 |
|   | CONNECTORS, ELECTRICAL, CRIMP CONTACT, RECTANGULAR, MICROMINIATURE, BASED ON TYPE MDM | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 02-05 |
| | | | 140 J | August 2009 | 001-1 |


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|---|--|-----------------------------------|--------------------|-----------------------|----------|
| Types covered by similarity: | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3401 | Detail ESCC 3401/031 Characteristics: Shell sizes: 5 through 81 Terminations: Wire sizes AWG 26 and 28 and uninsulated solid gold-plated wire AWG 25 Max. rating for 1 isolated contact: AWG 26 and uninsulated wire terminal: 2.5 A AWG 28: 1.5 A Operating Temperature Range (°C): -55 to +125 | C&K COMPONENTS Dole France | Qualification | CNES | Oct 1986 |
| | | | Extension | CNES | Oct 1988 |
| | | | Extension | CNES | Jun 1989 |
| | | | Extension | CNES | Sep 1991 |
| | | | Extension | CNES | Apr 1994 |
| | | | Extension | CNES | Jan 1997 |
| | | | Extension | CNES | Oct 1999 |
| | | | Extension | CNES | Apr 2003 |
| | | | Extension | CNES | Nov 2005 |
| | | | Extension | CNES | Aug 2007 |
|  | CONNECTORS, ELECTRICAL, CRIMP CONTACT, SINGLE-IN-LINE, MICROMINIATURE, BASED ON TYPE MTB | Current Validity of Qualification | | Page | |
| | | Certificate | Valid Until | 02-05 | |
| | | 141 J | August 2009 | 002-1 | |

Section 03**Component Type: Crystals**

| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-------------|-------|------------------|--------------|
| 03-01 | | | Crystals | |
| | 03-01-001-1 | 33 J | TO-5 Can | RAKON (F) |
| | 03-01-002 | 34 J | TO-8 Can | RAKON (F) |

**SECTION 03-**: INDEX OF CRYSTALS****REP005 Updated on 15-Nov-08**


| | | | | | |
|---|--|--------------------------------------|--|--|--|
| Types covered by similarity: All variants are qualified. | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3501 Detail ESCC 3501/001 3501/008 3501/011 3501/012 3501/018 | | RAKON France Argenteuil France | Qualification Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES | Oct 1979 Jun 1983 Oct 1986 Jul 1989 Jan 1995 Nov 1996 Apr 2000 Nov 2002 Jun 2005 Mar 2008 |
| Characteristics: TO-5 Can (T 807) Frequency Range: 15 - 140 MHz | | | | | |
|  | | CRYSTALS, TO-5 CAN | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 03-01 |
| | | | 33 J | March 2010 | 001-1 |


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|---|--|--------------------------------------|---|--|--|
| Types covered by similarity: All variants are qualified. | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3501 Detail ESCC 3501/002 3501/009 3501/019 | | RAKON France Argenteuil France | Qualification Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES | Oct 1979 Jun 1983 Oct 1986 Jul 1989 Jan 1995 Apr 1997 Apr 2000 Nov 2002 Jun 2005 Mar 2008 |
| Characteristics: TO-8 Can (T 1507) Frequency Range: 2.5 - 20 MHz | | | | | |
|  | | CRYSTALS, TO-8 CAN | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 03-01 |
| | | | 34 J | March 2010 | 002 |


Section 04**Component Type: Diodes**


| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|----------------|-------|----------------------------|-------------------|
| 04-02 | | | Power | |
| | 04-02-002-1 | 272 B | Type STPS20H100 | STMicroelectronic |
| | 04-02-003-1 | 274 B | Types BYW-81, BYV52, BYV54 | STMicroelectronic |
| 04-05 | | | Microwave, Silicon | |
| | 04-05-001-3 | 227 B | Schottky, BAS 70 | Infineon |
| | 04-05-002-2 | 224 C | PIN, BXY 42 | Infineon |
| | 04-05-002-4A-B | 259 B | PIN, Fast Switching | Chelton |
| | 04-05-003 | 236 C | PIN, BXY 43 and 44 | Infineon |
| | 04-05-003 1A-B | 200 D | PIN and Varactors | Cobham MAL |
| | 04-05-003-2 | 225 C | Varactor, DH 267 | Chelton |
| | 04-05-003-3 | 273 A | Varactor, Tuning, DH 76xxx | Chelton |


**SECTION 04-**: INDEX OF DIODES****REP005 Updated on 15-Nov-08**

| | | | | | | |
|---|--|--|---|-----------------------------------|----------------------------------|-------|
| Types covered by similarity: | | Remarks: | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5000 Detail ESCC 5106/016 | | ST Microelectronics Rennes France | Qualification Extension Extension | CNES CNES CNES | Nov 2002 Mar 2006 Jul 2008 | |
| Characteristics: Variants 01 to 07 are qualified Maximum Ratings: V_{RRM} : 100 V I_o : 2 x 20 A T_J : + 175°C Package Type TO254, SMD0.5 and SMD1 Operating Temperature Range (°C): -55 to +175 | | | | | | |
|  | | DIODES, POWER, SCHOTTKY BARRIER, BASED ON TYPE STPS20H100 | | Current Validity of Qualification | | Page |
| | | | | Certificate | Valid Until | 04-02 |
| | | | | 272 B | July 2010 | 002-1 |

| | | | | | |
|---|---|---|---|-----------------------|----------------------------------|
| Types covered by similarity: | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 5000 Detail ESCC 5103/029 5103/030 5103/031 | | ST Microelectronics Rennes France | Qualification Extension Extension | CNES CNES CNES | Aug 2003 Mar 2006 Jul 2008 |
| Characteristics: 5103/029 variants 01 to 05 are qualified 5103/030 variant 01 is qualified 5103/031 variant 01 to 05 are qualified Maximum Ratings: V_{RRM} : 200 V I_O : 40 A for BYV 54-200, 30 A for BYV52-200, 15 and 30 A for BYW-81-200 T_J : + 150°C Package Type TO254, TO254AA and SMD0.5 Operating Temperature Range (°C): -55 to +150 | | | | | |
|  | DIODES, SILICON, POWER RECTIFIER, HIGH EFFICIENCY, FAST RECOVERY, BASED ON TYPES BYW81, BYV52 AND BYV54 | Current Validity of Qualification | | Page | |
| | | Certificate 274 B | Valid Until July 2010 | 04-02 003-1 | |

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|---|---|---|---|-----------------------|----------------------------------|
| Types covered by similarity: Variant 03 | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 5010 Detail ESCC 5512/020 | | INFINEON Technologies AG München Germany | Qualification Extension Requalification | DARA DLR DLR | Sep 1995 Jan 2000 Mar 2008 |
| Characteristics: Maximum Ratings: V_{RR} : -70 V I_F : 70 mA I_{FSM} : 85 mA _{pk} @ t<10ms, duty cycle=10% D.C Parameters: $I_R = 100$ nA max @ $V_R = -56$ V $V_{F1} = 0.44$ V max. @ $I_F = 1.0$ mA At room temp. $V_{BR} = 70V$ min @ $I_R = -10\mu A$ $V_{F2} = 0.78$ V max. @ $I_F = 10$ mA $V_{F3} = 1.00$ V max. @ $I_F = 15$ mA Package Type T1 $P_{tot}=0.25W$ @ $T_{case}= 125$ °C Operating Temperature Range (°C): -55 to +150 | | | | | |
|  | DIODES, MICROWAVE, SILICON, SCHOTTKY, GENERAL PURPOSE, BASED ON TYPE BAS 70 | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 04-05 |
| | | | 227 B | March 2010 | 001-3 |

| | | | | | |
|---|---|---|--|---------------------------|--|
| Types covered by similarity: Variant 02 | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 5010 Detail ESCC 5513/017 | | INFINEON Technologies AG München Germany | Qualification Extension Extension Requalification | DARA DLR DLR DLR | Jun 1995 Jan 2000 Jan 2004 Mar 2008 |
| Characteristics: Maximum Ratings: V_R : -50 V I_{FM} : 5.0 A @ $t_p=1.0 \mu s$, duty cycle = 0.001% D.C Parameters: $I_{R1} = 10 \mu A$ max @ $V_R = -50 V$ $I_{R2} = 5 nA$ max @ $V_R = -40 V$ $V_F = 1.1 V$ max. @ $I_F = 100 mA$ Package Type T1 $P_D = 350mW$ Operating Temperature Range ($^{\circ}C$): -55 to +175 | | | | | |
|  | DIODES, MICROWAVE, SILICON, PIN, BASED ON TYPE BXY 42- MESA | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 04-05 |
| | | | 224 C | March 2010 | 002-2 |

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|---|----------------------------|--|--------------------|-----------------------------------|---------------|--------|
| Types covered by similarity: | | Remarks: New package BH 155 introduced | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5010 Detail ESCC Please refer to the next page | | CHELTON Les Ulis France | Qualification | CNES | Mar 2000 | |
| | | | Extension | CNES | Dec 2003 | |
| | | | Extension | CNES | Feb 2008 | |
| Characteristics: | | | | | | |
| | V_{Rmax} @ $I_R=10\mu A$ | R_{SF} (Ω) (max.) | τ_L (ns) | C_T | | |
| DH 50033 | - 30 | 1.8 | 40 max. | 0.25 | | |
| DH 50101 | - 100 | 1.9 | 300 max. | 0.19 | | |
| DH 50151 | - 150 | 2.0 | 160 min. | 0.19 | | |
| DH 50251 | - 250 | 2.4 | 265 min. | 0.19 | | |
| Operating Temperature Range ($^{\circ}C$): -55 to +125 | | | | | | |
|  | | DIODES, MICROWAVE, SILICON, PIN, FAST SWITCHING | | Current Validity of Qualification | | Page |
| | | | | Certificate | Valid Until | 04-05 |
| | | | | 259 B | February 2010 | 002-4A |

Types covered by similarity:

| ESCC Spec. No. | Component Type |
|----------------|---|
| 5513/031 | DH 50151 to DH 50157, Variants 01 to 56 |
| 5513/032 | DH 50033 to DH 50037, Variants 01 to 40 |
| 5513/033 | DH 50201 to DH 50209, Variants 01 to 70 |
| 5513/034 | DH 50251 to DH 50256, Variants 01 to 41 |
| 5513/036 | DH 50052 to DH 50057, Variants 01 to 48 |
| 5513/037 | DH 50071 to DH 50077, Variants 01 to 56 |
| 5513/038 | DH 50101 to DH 50107, Variants 01 to 56 |



DIODES,
MICROWAVE, SILICON, PIN, FAST SWITCHING

Current Validity of Qualification

Certificate

259 B


Valid Until


February 2010

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04-05

002-4B

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|-----------------------------------|--|-------|-------------------------|-------------------------|------------------|-----------------------|-----------------|--|-----------------------|--|--|-----------------------|--|-----------------|--|--------------------------------------|--|---------------------------|---|
| Types covered by similarity: Variants 01 - 08 are qualified. | | Remarks: | | | | | | | | | | | | | | | | | | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5010 Detail ESCC 5513/030 | | INFINEON Technologies AG München Germany | Qualification Extension Extension Requalification | DARA DLR DLR DLR | Oct 1996 Jan 2000 Jan 2004 Mar 2008 | | | | | | | | | | | | | | | | | | |
| Characteristics: <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">BXY 43 (variants 01-04)</td> <td style="text-align: center;">BXY 44 (variants 05-08)</td> </tr> <tr> <td>Maximum Ratings:</td> <td style="text-align: center;">$V_R = -150\text{ V}$</td> <td style="text-align: center;">-200 V</td> </tr> <tr> <td></td> <td style="text-align: center;">$I_F = 400\text{ mA}$</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">$P_D = 500\text{ mW}$</td> <td></td> </tr> <tr> <td>D.C Parameters:</td> <td style="text-align: center;">$I_R = 100\text{ nA max @ } V_R = -150\text{ V}$</td> <td style="text-align: center;">$5\text{ nA @ } V_R = -100\text{ V}$</td> </tr> <tr> <td></td> <td style="text-align: center;">$V_F = 1.0\text{ V max.}$</td> <td style="text-align: center;">$1.05\text{ V max. @ } I_F = 100\text{ mA}$</td> </tr> </table> Package Type T, T1, Teller, Pill, Flatpack Operating Temperature Range (°C): -55 to +150 | | | | | | | BXY 43 (variants 01-04) | BXY 44 (variants 05-08) | Maximum Ratings: | $V_R = -150\text{ V}$ | -200 V | | $I_F = 400\text{ mA}$ | | | $P_D = 500\text{ mW}$ | | D.C Parameters: | $I_R = 100\text{ nA max @ } V_R = -150\text{ V}$ | $5\text{ nA @ } V_R = -100\text{ V}$ | | $V_F = 1.0\text{ V max.}$ | $1.05\text{ V max. @ } I_F = 100\text{ mA}$ |
| | BXY 43 (variants 01-04) | BXY 44 (variants 05-08) | | | | | | | | | | | | | | | | | | | | | |
| Maximum Ratings: | $V_R = -150\text{ V}$ | -200 V | | | | | | | | | | | | | | | | | | | | | |
| | $I_F = 400\text{ mA}$ | | | | | | | | | | | | | | | | | | | | | | |
| | $P_D = 500\text{ mW}$ | | | | | | | | | | | | | | | | | | | | | | |
| D.C Parameters: | $I_R = 100\text{ nA max @ } V_R = -150\text{ V}$ | $5\text{ nA @ } V_R = -100\text{ V}$ | | | | | | | | | | | | | | | | | | | | | |
| | $V_F = 1.0\text{ V max.}$ | $1.05\text{ V max. @ } I_F = 100\text{ mA}$ | | | | | | | | | | | | | | | | | | | | | |
|  | | DIODES, MICROWAVE, SILICON, PIN, PLANAR BASED ON TYPES BXY 43 AND 44 | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | |
| | | | | Certificate | Valid Until | 04-05 | | | | | | | | | | | | | | | | | |
| | | | | 236 C | March 2010 | 003 | | | | | | | | | | | | | | | | | |

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|---|--|--|-----------------------------------|-----------------------|----------|
| Types covered by similarity: | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 5010 Detail ESCC See types covered by similarity | | Cobham MAL Milton Keynes England | Qualification | DRA | Dec 1993 |
| | | | Extension | DERA | Oct 1997 |
| | | | Extension | QinetiQ | Mar 2002 |
| | | | Extension | QinetiQ | Feb 2006 |
| | | | Extension | BNSC | Nov 2008 |
| Characteristics: Operating Temperature Range (°C): -65 to +125 and 150 | | | | | |
|  | DIODES, MICROWAVE, SILICON, PIN AND VARACTORS | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 04-05 |
| | | 200 D | November 2010 | 003-1A | |

Types covered by similarity:

| ESCC Spec. No. | Component Type |
|----------------|---|
| 5513/007 | ML4207 to ML 4209, variants 01-03, 06, 08-13, 17, 19, 21-27, 30, 32-37, 41, 43, 45-51, 54, 56-61, 65, 67, 69-72 |
| 5513/009 | ML4610, ML4617 to ML4619, variants 01-03, 06, 08-13, 17, 19, 21-23, 25-28, 31, 33-38, 42, 44, 46-48, 50-53, 56, 58-63, 67, 69, 71-73, 75-78, 81, 83-88, 92, 94, 96-99 |
| 5513/010 | ML4611, ML4612, ML4614, ML4615, variants 01-03, 06, 08-13, 17, 19, 21-23, 25-28, 31, 33-38, 42, 44, 46-48, 50-53, 56, 58-63, 67, 69, 71-73, 75-78, 81, 83-88, 92, 94, 96-99 |
| 5513/014 | ML4622 to ML4624, variants 01-03, 06, 08-13, 17, 19, 21-23, 25-28, 31, 33-38, 42, 45-47, 49-52, 55, 57-58, 61, 63 |
| 5513/015 | ML4627 to ML4629, variants 01-03, 06, 08-13, 17, 19, 21-23, 25-28, 31, 33-38, 42, 45-47, 49-52, 55, 57-58, 61, 63 |
| 5512/001 | ML4402, ML4404 to ML4409 and ML40721, variants 01-03,05, 07-12, 14-18, 20, 22-27, 29-33, 35, 37-42, 44-48, 50, 52-57, 59-63, 65, 67-72, 74-78, 80, 82-84, 86, 88, 90-92 |
| 5512/003 | ML4310 to ML4319, variants 01-02, 05-06, 09-13, 16-17, 20-24, 27-28, 31-35, 38-39, 42-46, 49-50, 53-57, 60-61, 64-68, 71-72, 75-79, 83-85, 89-91, 95 |
| 5512/004 | ML4331 to ML4335, variants 01-02, 05-06, 09-13, 16-17, 20-24, 27-28, 31-35, 38-39, 42-46, 49-50, 53-55 |
| 5512/005 | ML4336 to ML4343, variants 01-02, 06-08, 12-14, 18-20, 24-26, 30-32, 36-38, 42-44, 48 |
| 5512/006 | ML4351 to ML4354, variants 01-02, 05-06, 09-13, 16-17, 20-24, 27-28, 31-35, 38-39, 42-44 |
| 5512/007 | ML4355 to ML4365, variants 01-02, 06-08, 12-14, 18-20, 24-26, 30-32, 36-38, 42-44, 47-48, 51-52, 55-56 |



DIODES,
MICROWAVE, SILICON, PIN AND VARACTORS

Current Validity of Qualification

Certificate

200 D


Valid Until


November 2010

Page

04-05

003-1B


| Types covered by similarity: The variants are based on the following types | | | | Remarks: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------|---------------------------|--|--------------------|-----------------------------------|-------------|----------|----------|---------------|--|----------|--------|--------|---|----|--------|--------|----------|--------|--------|---|----|--------|--------|----------|--------|--------|---|----|--------|--------|----------|--------|--------|---|----|--------|--------|----------|--------|--------|----|--------|--------|
| Variants 10 to 16: DH 267 | | Variants 20 to 26: DH 292 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Variants 30 to 36: DH 256 | | Variants 40 to 46: DH 252 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Variants 50 to 56: DH 294 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Procurement Specifications | | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5010 | | | CHELTON Les Ulis France | Qualification | CNES | Jun 1995 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detail ESCC 5512/016 | | | | Extension | CNES | Aug 1998 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Jun 2003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Mar 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Characteristics:</p> <table border="0"> <thead> <tr> <th>Variants</th> <th>CT(max.)</th> <th>Based on Type</th> <th></th> </tr> </thead> <tbody> <tr> <td>01 to 15</td> <td>0.4 pF</td> <td>DH 267</td> <td rowspan="2">Maximum Ratings: $V_R = -15\text{ V to }-45\text{ V}$</td> </tr> <tr> <td>16</td> <td>0.5 pF</td> <td>DH 267</td> </tr> <tr> <td>20 to 25</td> <td>0.6 pF</td> <td>DH 292</td> <td rowspan="2">$I_F = 250\text{ to }1000\text{ mA at }T_{amb} = +75\text{ }^\circ\text{C}$</td> </tr> <tr> <td>26</td> <td>0.7 pF</td> <td>DH 292</td> </tr> <tr> <td>30 to 35</td> <td>1.2 pF</td> <td>DH 256</td> <td rowspan="2">$P_{tot} = +0.5\text{ to }1.25\text{ W at }T_{amb}$</td> </tr> <tr> <td>36</td> <td>1.3 pF</td> <td>DH 256</td> </tr> <tr> <td>40 to 45</td> <td>2.1 pF</td> <td>DH 252</td> <td rowspan="4">Operating Temperature Range ($^\circ\text{C}$): -55 to +150</td> </tr> <tr> <td>46</td> <td>2.2 pF</td> <td>DH 252</td> </tr> <tr> <td>50 to 55</td> <td>7.1 pF</td> <td>DH 294</td> </tr> <tr> <td>56</td> <td>7.2 pF</td> <td>DH 294</td> </tr> </tbody> </table> | | | | | | | Variants | CT(max.) | Based on Type | | 01 to 15 | 0.4 pF | DH 267 | Maximum Ratings: $V_R = -15\text{ V to }-45\text{ V}$ | 16 | 0.5 pF | DH 267 | 20 to 25 | 0.6 pF | DH 292 | $I_F = 250\text{ to }1000\text{ mA at }T_{amb} = +75\text{ }^\circ\text{C}$ | 26 | 0.7 pF | DH 292 | 30 to 35 | 1.2 pF | DH 256 | $P_{tot} = +0.5\text{ to }1.25\text{ W at }T_{amb}$ | 36 | 1.3 pF | DH 256 | 40 to 45 | 2.1 pF | DH 252 | Operating Temperature Range ($^\circ\text{C}$): -55 to +150 | 46 | 2.2 pF | DH 252 | 50 to 55 | 7.1 pF | DH 294 | 56 | 7.2 pF | DH 294 |
| Variants | CT(max.) | Based on Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01 to 15 | 0.4 pF | DH 267 | Maximum Ratings: $V_R = -15\text{ V to }-45\text{ V}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 0.5 pF | DH 267 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 to 25 | 0.6 pF | DH 292 | $I_F = 250\text{ to }1000\text{ mA at }T_{amb} = +75\text{ }^\circ\text{C}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | 0.7 pF | DH 292 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 to 35 | 1.2 pF | DH 256 | $P_{tot} = +0.5\text{ to }1.25\text{ W at }T_{amb}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | 1.3 pF | DH 256 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 to 45 | 2.1 pF | DH 252 | Operating Temperature Range ($^\circ\text{C}$): -55 to +150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46 | 2.2 pF | DH 252 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 to 55 | 7.1 pF | DH 294 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | 7.2 pF | DH 294 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | DIODES, MICROWAVE, SILICON, MULTIPLIER VARACTOR BASED ON TYPES DH 267 AND DH 294 | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Certificate | Valid Until | 04-05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 225 C | March 2009 | 003-2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|---|---|--|--------------------|-----------------------------------|---------------------------|------------------|---|--|--|--|--|---|-------------|--|--|--|--|----------|--------------------|---------------|--|--|--|----------|--------|----------|--|--|--|----------|---------|----------|--|--|--|----------|---------|----------|--|--|--|----------|---------|----------|--|--|--|----------|---------|----------|--|--|--|----------|---------|----------|--|--|--|----------|----------|----------|--|--|--|----------|----------|----------|--|--|--|
| Types covered by similarity: All variants are qualified. | | | | Remarks: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5010 | | CHELTON Les Ulis France | Qualification | CNES | Jun 2003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detail ESCC 5512/023 | | | Extension | CNES | Mar 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Characteristics:</p> <table border="0"> <tr> <td>Maximum Ratings:</td> <td colspan="5">$V_R = 20$ at $I_R = 10 \mu A$ and $T_{amb} = +25 \text{ }^\circ C$</td> </tr> <tr> <td>Operating Temperature Range ($^\circ C$):</td> <td colspan="5">-55 to +155</td> </tr> </table> <table border="0"> <tr> <td>Variants</td> <td>C_j(typ.) (4 V)</td> <td>Based on Type</td> <td colspan="3"></td> </tr> <tr> <td>01 to 09</td> <td>1.0 pF</td> <td>DH 76010</td> <td colspan="3"></td> </tr> <tr> <td>10 to 18</td> <td>1.50 pF</td> <td>DH 76015</td> <td colspan="3"></td> </tr> <tr> <td>19 to 27</td> <td>2.20 pF</td> <td>DH 76022</td> <td colspan="3"></td> </tr> <tr> <td>28 to 36</td> <td>2.30 pF</td> <td>DH 76033</td> <td colspan="3"></td> </tr> <tr> <td>37 to 45</td> <td>4.70 pF</td> <td>DH 76047</td> <td colspan="3"></td> </tr> <tr> <td>46 to 54</td> <td>6.80 pF</td> <td>DH 76068</td> <td colspan="3"></td> </tr> <tr> <td>55 to 63</td> <td>10.00 pF</td> <td>DH 76100</td> <td colspan="3"></td> </tr> <tr> <td>64 to 72</td> <td>15.00 pF</td> <td>DH 76150</td> <td colspan="3"></td> </tr> </table> | | | | | | Maximum Ratings: | $V_R = 20$ at $I_R = 10 \mu A$ and $T_{amb} = +25 \text{ }^\circ C$ | | | | | Operating Temperature Range ($^\circ C$): | -55 to +155 | | | | | Variants | C_j (typ.) (4 V) | Based on Type | | | | 01 to 09 | 1.0 pF | DH 76010 | | | | 10 to 18 | 1.50 pF | DH 76015 | | | | 19 to 27 | 2.20 pF | DH 76022 | | | | 28 to 36 | 2.30 pF | DH 76033 | | | | 37 to 45 | 4.70 pF | DH 76047 | | | | 46 to 54 | 6.80 pF | DH 76068 | | | | 55 to 63 | 10.00 pF | DH 76100 | | | | 64 to 72 | 15.00 pF | DH 76150 | | | |
| Maximum Ratings: | $V_R = 20$ at $I_R = 10 \mu A$ and $T_{amb} = +25 \text{ }^\circ C$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Temperature Range ($^\circ C$): | -55 to +155 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Variants | C_j (typ.) (4 V) | Based on Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01 to 09 | 1.0 pF | DH 76010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 to 18 | 1.50 pF | DH 76015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 to 27 | 2.20 pF | DH 76022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 to 36 | 2.30 pF | DH 76033 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 to 45 | 4.70 pF | DH 76047 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46 to 54 | 6.80 pF | DH 76068 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 to 63 | 10.00 pF | DH 76100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 64 to 72 | 15.00 pF | DH 76150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | DIODES, MICROWAVE, SILICON, HYPER-ABRUPT JUNCTION TUNING VARACTOR BASED ON TYPES DH 76xxx | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Certificate 273 A | Valid Until March 2009 | 04-05 003-3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Section 05**Component Type: Filters**

| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|---------------|-------|---------------------|--------------|
| 05 | | | Feedthrough | |
| | 05-01-001-A-B | 252 D | Types SFC, SFL, SFP | Eurofarad |

**SECTION 05-**: INDEX OF FILTERS****REP005 Updated on 15-Nov-08**

| | | | | | |
|---|--|--|---|--------------------------------------|--|
| Types covered by similarity: | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3008 Detail ESCC Please refer to the next page | | EUROFARAD Lagny sur Marne France | Qualification Extension Extension Extension Extension | CNES CNES CNES CNES CNES | Aug 1998 Apr 2001 Nov 2003 Mar 2006 Jun 2008 |
| Characteristics: All variants specified in the Detail Specifications are qualified. Operating Temperature Range (°C): -55 to +125 | | | | | |
|  | CAPACITOR FILTERS, FEEDTHROUGH, ELECTROMAGNETIC INTERFERENCE SUPPRESSION, HERMETICALLY AND NON-HERMETICALLY SEALED, PI-, C-, AND L- TYPES, BASED ON TYPES SFC, SFL AND SFP | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 05-01 |
| | | | 252 D | June 2010 | 001A |

Types covered by certificate:

| Style | Detail Specification | Variants | Capacitance Range (nF) | Rated Current (A) | Rated Voltage (V) |
|------------------------|----------------------|----------|------------------------|-------------------|-------------------|
| SFP 040 | 3008/014 | 01 to 40 | 0.75 to 44.8 | 10 (DC 7 LF) | 70 to 250 |
| SFP 060 | 3008/021 | 01 to 14 | 2.4 to 89.6 | 10 | 35 to 500 |
| SFP 035 | 3008/025 | 01 to 20 | 2.4 to 35.2 | 10 | 35 to 200 |
| SFP 100 | 3008/028 | 01 to 06 | 0.16 to 1312.0 | 10 | 50 to 300 |
| SFP 060 | 3008/030 | 01 to 28 | 2.4 to 89.6 | 10 | 35 to 500 |
| Capacitance Range (pF) | | | | | |
| SFC 030 | 3008/020 | 01 to 12 | 470 to 22000 | 1.0 to 5.0 | 25 to 200 |
| SFC 060 | 3008/026 | 01 to 06 | 680 to 220000 | 10 | 25 to 200 |
| SFC 100 | 3008/027 | 01 to 06 | 1000 to 1000000 | 10 | 25 to 200 |
| SFC 035 | 3008/031 | 01 to 06 | 470 to 22000 | 10 | 25 to 200 |
| SFC 040 | 3008/032 | 01 to 12 | 470 to 22000 | 10 | 25 to 200 |
| SFC 060 | 3008/033 | 01 to 12 | 680 to 220000 | 10 | 25 to 200 |
| Capacitance Range (nF) | | | | | |
| SFL 100 | 3008/029 | 01 to 48 | 17.6 to 1600 | 5, 10, 15 | 40 to 300 |



CAPACITOR FILTERS, FEEDTHROUGH, ELECTROMAGNETIC INTERFERENCE SUPPRESSION, HERMETICALLY AND NON-HERMETICALLY SEALED, PI-, C-, AND L- TYPES, BASED ON TYPES SFC, SFL AND SFP

Current Validity of Qualification

Certificate

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Valid Until

June 2010

Page



05-01

001B

Section 06**Component Type: Fuses**

| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|----------|-------|------------------|--------------|
| 06-01 | 001 | 284 | Type MGA-S | Schurter |


**SECTION 06-**: INDEX OF FUSES****REP005 Updated on 15-Nov-08**


| | | | | |
|---|---|-----------------------------------|--------------------------|--------------|
| Types covered by similarity: Variants 02 to 09 | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 4008 Detail ESCC 4008/001 | Schurter Lucerne Switzerland | Qualification | ESTEC | Jun 2008 |
| <p>Characteristics: Variants 01 to 12 are qualified.</p> <p>Rated Voltage (VAC or VDC): 125/125, 63/125 and 32/125 by variant</p> <p>Rated Current (VAC and VDC): 0.14 to 3.5 A by variant</p> <p>AC Interrupt Current (A): 50 at maximum rated voltage, power factor > 0.95</p> <p>DC Interrupt Current (A): at maximum rated voltage, time constant \leq 1 ms</p> <p>Variants 01 to 10: 300, Variants 11 and 12: 50</p> <p>Operating Temperature Range, (°C): -50 to +125 (90% I_R to 107% I_R)</p> | | | | |
|   | <p>FUSES, SURFACE MOUNT, THIN FILM, 0.14 TO 3.5 AMPS, BASED ON TYPE MGA-S</p> | Current Validity of Qualification | | Page |
| | | Certificate 284 | Valid Until June 2010 | 06-01 001 |

Section 07**Component Type: Inductors**

| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-----------|-------|---------------------------------|--------------|
| 07 | | | PowerFixed, RF | |
| | 07-01-001 | 241 D | Types MSCI, 10000, 12000, 20000 | Microspire |
| | 07-01-002 | 276 A | Types SESI | Microspire |

**SECTION 07-**: INDEX OF INDUCTORS****REP005 Updated on 15-Nov-08**


| Types covered by similarity: | | | | | | | Remarks: | | | |
|---|--------------|----------------|---|---------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|--------------------------|--------------|
| Procurement Specifications | | | | Manufacturer | | | Nature of Approval | | Supervising Authority | Date |
| Generic ESCC 3201 | | | | MICROSPIRE Illange France | | | Qualification | | CNES | Apr 1997 |
| Detail ESCC 3201/008 | | | | | | | Extension | | CNES | Nov 2000 |
| | | | | | | | Extension | | CNES | Mar 2003 |
| | | | | | | | Extension | | CNES | Dec 2005 |
| | | | | Extension | | CNES | Jun 2008 | | | |
| Characteristics: Variants 01 to 05 are qualified | | | | | | | | | | |
| Series No. | Range (μH) | Tolerance (±%) | Q min. | Min. SRF f _r (MHz) | Max. DCR, R _{dc} (Ω) | Rated DC Current, I _R (mA) | Case Size | | | |
| 10k | 0.010-10 | 2.0, 5.0, 10 | 60 - 42 | 1000 - 33 | 0.025 - 3.3 | 750 - 87 | A | | | |
| 12k | 12 - 1000 | 2.0, 5.0, 10 | 56 - 12 | 26 - 1.5 | 2.0 - 120 | 110 - 15 | B | | | |
| 20k | 0.010 - 1000 | 10 | 75 - 30 | 1000 - 1.7 | 0.04 - 80 | 1000 - 25 | C | | | |
| H01 | 0.380 - 100 | 15 | N/A | N/A | 0.016 - 3.3 | 1500 - 100 | C | | | |
| Dielectric Withstanding Voltage (DWV): 200 Vrms | | | | | | | | | | |
| Operating Temperature Range (°C): -55 to +125 | | | | | | | | | | |
|  | | | INDUCTORS, FIXED, RF, MINIATURE, MOULDED, SURFACE MOUNT, BASED ON SERIES MSC1 10k, 12k, 20k and H01 | | | | Current Validity of Qualification | | | Page |
| | | | | | | | Certificate 241 D | | Valid Until June 2010 | 07-01 001 |

| Types covered by similarity: All other variants in the range. | | | | | Remarks: | | | |
|--|------------|----------------|--|--------------------------------------|----------------------------------|-----------------------------------|-------------------------|--------------|
| Procurement Specifications | | | Manufacturer | | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3201 | | | MICROSPIRE Illange France | | Qualification Extension | CNES CNES | Apr 2004 May 2007 | |
| Detail ESCC 3201/009 | | | | | | | | |
| Characteristics: Variants 01 to 05 are qualified | | | | | | | | |
| Series No. | Range (µH) | Tolerance (±%) | Max. DCR, R _{dc} (Ω) | Rated DC Current, I _R (A) | Peak Current, I _P (A) | | | |
| 14 | 3.3 - 330 | 10, 20 | 15 - 1575 | 5.8 - 0.57 | 8.0 - 0.8 | | | |
| 15, 15W | 1.5 - 330 | 10, 20, 30 | 5.0 - 630 | 14 - 0.74 | 19 - 1.0 | | | |
| 18 | 6.8 - 330 | 10, 20 | 7.5 - 250 | 110 - 15 | 13.6 - 1.9 | | | |
| 9.1 | 1.0 - 1000 | 10, 20, 30 | 8.5 - 5865 | 6.0 - 0.2 | 11.0 - 0.34 | | | |
| <p>Inductance measured at 0.25V, 100kHz. Peak current is the maximum current for a square pulse of duration <10s Dielectric Withstanding Voltage (DWV): 500 Vrms Operating Temperature Range (°C): -55 to +125</p> | | | | | | | | |
|  ESCC European Space Components Coordination QPL | | | INDUCTORS, POWER, MOULDED, SURFACE MOUNT, BASED ON SERIES SESI | | | Current Validity of Qualification | | Page |
| | | | | | | Certificate 276 A | Valid Until May 2009 | 07-01 002 |

Section 08**Component Type: Microcircuits**

| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-----------------------|-------|------------------|---------------------|
| 08-02 | | | Digital C-MOS | |
| | 08-02-001-2 A to E | 73 L | 4000 B Series | ST Microelectronics |
| | 08-02-002-2 A to F | 190 G | 54HCMOS Series | ST Microelectronics |

**SECTION 08-**: INDEX OF MICROCIRCUITS****REP005 Updated on 15-Nov-08**

| Types covered by similarity: See next pages | | Remarks: Refer to: https://escies.org/public/escsc/comp_no.html for information concerning the ESCC Component Number and its marking. | | | |
|---|--|--|-----------------------------------|-----------------------|----------|
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 9000 Detail ESCC See types covered by similarity | | ST Microelectronics Rennes France | Qualification | CNES | Apr 1981 |
| | | | Extension | CNES | Jan 1981 |
| | | | Extension | CNES | Dec 1984 |
| | | | Extension | CNES | May 1987 |
| | | | Extension | CNES | Apr 1990 |
| | | | Extension | CNES | Oct 1992 |
| | | | Extension | CNES | Apr 1995 |
| | | | Extension | CNES | Apr 1997 |
| | | | Extension | CNES | Apr 1999 |
| | | | Extension | CNES | May 2001 |
| | | Extension | CNES | Nov 2002 | |
| | | Extension | CNES | Nov 2005 | |
| | | Extension | CNES | Feb 2008 | |
| Characteristics: Package Types: Ceramic Dual-in-Line Ceramic Flat Pack Leadless Chip Carrier SOIC 14, 16, 24 | | | | | |
|  | MICROCIRCUITS, DIGITAL, C-MOS-B, 4000B SERIES | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 08-02 |
| | | | 73 L | February 2010 | 001-2A |

Types covered by similarity:

| ESCC Spec. No. | Component Type | Component Type |
|----------------|---|----------------|
| 9201/041 | Quad 2-input NOR gate | 4001B |
| 9201/042 | Dual 4-input NOR gate | 4002B |
| 9202/039 | 4-bit full adder | 4008B |
| 9201/043 | Quad 2-input NAND gate | 4011B |
| 9201/044 | Dual 4-input NAND gate | 4012B |
| 9203/023 | Dual D-type flip-flop | 4013B |
| 9306/014 | 8-stage synchronous static shift register | 4014B |
| 9306/015 | Dual 4-stage static shift register with serial input/parallel input | 4015B |
| 9202/050 | Quad bilateral switch | 4016B |
| 9204/020 | Decade counter/divider | 4017B |
| 9204/021 | Presetable divide-by-N counter | 4018B |
| 9202/051 | Quad AND/OR select gate | 4019B |
| 9204/022 | 14-stage ripple carry binary counter/divider | 4020B |
| 9306/016 | 8-stage static shift register | 4021B |
| 9204/023 | Octal counter/divider | 4022B |
| 9201/045 | Triple 3-input NAND gates | 4023B |
| 9204/024 | 7-stage ripple carry binary counter/divider | 4024B |
| 9201/046 | Triple 3-input NOR gate | 4025B |
| 9406/001 | Ripple carry decade counter/divider | 4026B |
| 9203/022 | Dual J-K master slave flip-flop | 4027B |



MICROCIRCUITS, DIGITAL,
C-MOS-B, 4000B SERIES

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Certificate

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Valid Until

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Page

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001-2B

Types covered by similarity:

| ESCC Spec. No. | Component Type | Component Type |
|----------------|--|----------------|
| 9205/010 | BCD-to-decimal or binary-to-octal decoder | 4028B |
| 9204/025 | Presetable up/down counter binary or BCD decade | 4029B |
| 9201/047 | Quad 2-input exclusive OR gates | 4030B |
| 9306/017 | 64-stage static shift register | 4031B |
| 9306/025 | 8-stage static bidirectional parallel/serial input/output bus register with 3 state output | 4034B |
| 9306/018 | 4-bit universal shift register | 4035B |
| 9204/026 | 12-stage ripple carry binary counter/divider | 4040B |
| 9202/040 | Quad true/complement buffer with unbuffered outputs | 4041UB |
| 9202/041 | Quad clocked D latch | 4042B |
| 9202/042 | Quad NOR 3-state R/S latches | 4043B |
| 9202/043 | Quad NAND 3-state R/S latch | 4044B |
| 9202/044 | Micropower phase-locked loop | 4046B |
| 9207/003 | Low power monostable/astable multivibrator | 4047B |
| 9202/045 | Hex buffer/converter (inverting type) | 4049UB |
| 9202/046 | Hex buffer/converter (non-inverting type) | 4050B |
| 9202/047 | Analogue multiplexer/demultiplexer | 4051B |
| 9202/048 | Analogue multiplexer/demultiplexer | 4052B |
| 9202/049 | Triple 2-channel analogue multiplexer/demultiplexer | 4053B |
| 9209/001 | 4-bit magnitude comparator | 4063B |
| 9204/052 | 14-stage ripple-carry binary counter/divider and oscillator | 4060B |



MICROCIRCUITS, DIGITAL,
C-MOS-B, 4000B SERIES

Current Validity of Qualification

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08-02

001-2C

Types covered by similarity:

| ESCC Spec. No. | Component Type | Component Type |
|----------------|--|----------------|
| 9408/005 | Quad bilateral switch | 4066B |
| 9408/009 | Analogue multiplexer/demultiplexer | 4067B |
| 9201/061 | 8-input NAND gate | 4068B |
| 9401/010 | Hex inverter | 4069UB |
| 9201/048 | Quad exclusive OR gate | 4070B |
| 9201/063 | Quad 2-input OR gate | 4071B |
| 9201/082 | Dual 4-input OR gate | 4072B |
| 9201/064 | Triple 3-input AND gate | 4073B |
| 9201/065 | Triple 3-input OR gate | 4075B |
| 9306/022 | 4-bit D-type register with 3-state output | 4076B |
| 9201/055 | Quad exclusive NOR gate | 4077B |
| 9201/062 | 8-input OR/NOR gate | 4078B |
| 9201/052 | Quad 2-input AND gate | 4081B |
| 9201/066 | Dual 4-input AND gate | 4082B |
| 9201/067 | Dual 2-wide 2-input AND/OR inverter gate | 4085B |
| 9409/002 | Quad 2-input NAND gate with Schmitt trigger input | 4093B |
| 9306/026 | 8-stage shift and store bus register with synchronous serial outputs and 3-state parallel output | 4094B |
| 9206/003 | Dual monostable multivibrator | 4098B |
| 9202/058 | 8-bit addressable latch | 4099B |
| 9401/006 | Strobed hex inverter/buffer | 4502B |



MICROCIRCUITS, DIGITAL,
C-MOS-B, 4000B SERIES

Current Validity of Qualification

Certificate

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Valid Until

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08-02

001-2D

Types covered by similarity:

| ESCC Spec. No. | Component Type | Component Type |
|----------------|--|----------------|
| 9401/030 | Hex non-inverting buffers with 3-state output | 4503B |
| 9202/063 | Dual 4-bit latch with 3-state output | 4508B |
| 9408/006 | 8-channel multiplexer with 3-state output | 4512B |
| 9408/012 | 4-bit latch/4-to-16 decoder | 4514B |
| 9205/011 | 4-bit latch/4-to-16 line decoder | 4515B |
| 9204/045 | Synchronous quad presettable up/down binary counter | 4516B |
| 9204/028 | Dual binary up counter | 4520B |
| 9202/065 | 8-bit priority encoder | 4532B |
| 9207/007 | Dual monostable multivibrator with reset | 4538B |
| 9408/011 | Dual 1-of-4 decoder/demultiplexer | 4555B |
| 9408/025 | Dual 1-of-4 decoder/demultiplexer (output low on select) | 4556B |
| 9204/036 | Presettable 8-bit synchronous down-counter | 40103B |
| 9306/033 | FIFO register with 3-state output | 40105B |
| 9409/005 | Hex Schmitt-trigger | 40106B |
| 9401/013 | Dual 2-input NAND buffer/driver | 40107B |
| 9407/003 | Quad low-to-high 3-state voltage level shifter | 40109B |
| 9204/054 | Programmable 4-bit binary counter with asynchronous clear | 40161B |
| 9204/046 | Programmable 4-bit binary counter with synchronous clear | 40163B |
| 9203/038 | Hex D-type flip-flop | 40174B |
| 9204/041 | Presettable binary up/down counter (dual clock with reset) | 40193B |
| 9408/017 | Quad 2-lin-to-1-line data selector/multiplexer with 3-state output | 40257B |



MICROCIRCUITS, DIGITAL,
C-MOS-B, 4000B SERIES

Current Validity of Qualification

Certificate

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Page

08-02

001-2E

| Types covered by similarity: See next pages | | Remarks: Refer to: https://escies.org/public/escsc/comp_no.html for information concerning the ESCC Component Number and its marking. | | | |
|--|---|--|-----------------------------------|-----------------------|----------|
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 9000 Detail ESCC See types covered by similarity | | ST Microelectronics Rennes France | Qualification | CNES | Nov 1992 |
| | | | Extension | CNES | Apr 1995 |
| | | | Extension | CNES | Apr 1997 |
| | | | Extension | CNES | Apr 1999 |
| | | | Extension | CNES | May 2001 |
| | | | Extension | CNES | Nov 2002 |
| | | | Extension | CNES | Nov 2005 |
| | | | Extension | CNES | Feb 2008 |
| Characteristics: Qualified Packages: <ul style="list-style-type: none"> • Ceramic Dual-in-Line • Ceramic Flat Pack • Leadless Chip Carrier • SOIC 14, 16, 20, 24 NOTES 1. These parts have successfully passed radiation testing to 50 krads. | | | | | |
|  | MICROCIRCUITS, DIGITAL, MONOLOTHIC, HIGH SPEED CMOS, 54HC AND 54HCT SERIES | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 08-02 |
| | | | 190 G | February 2010 | 002-2A |

Types covered by similarity:

| ESCC Spec. No. | Component Type | Component Type | Note |
|----------------|--|----------------|------|
| 9201/105 | Quad 2-input NAND gate | 54HC 00 | 1 |
| 9201/113 | Quad 2-input NOR gate | 02 | 1 |
| 9201/114 | Quad 2-input NAND gate with open drain output | 03 | 1 |
| 9401/033 | Hex inverter | 04 | 1 |
| 9201/106 | Quad 2-input positive AND gate | 08 | 1 |
| 9201/107 | Triple 3-input NAND gate | 10 | 1 |
| 9201/117 | Triple 3-input AND gate | 11 | 1 |
| 9409/007 | Hex Schmitt trigger inverter | 14 | 1 |
| 9201/118 | Dual 4-input NAND gate | 20 | 1 |
| 9201/108 | Dual 4-input AND gate | 21 | 1 |
| 9201/109 | Triple 3-input NOR gate | 27 | 1 |
| 9201/110 | 8-input NAND gate | 30 | 1 |
| 9201/111 | Quad 2-input OR gate | 32 | 1 |
| 9203/071 | Dual negative-edge triggered J-K flip-flops with clear | 73 | 1 |
| 9203/050 | Dual D-type flip-flop with preset and clear | 74 | 1 |
| 9203/065 | Quad 4-bit bistable D-type latch | 75 | 1 |
| 9209/004 | 4-bit magnitude comparator | 85 | 1 |
| 9201/119 | Quad 2-input exclusive OR gate | 86 | 1 |
| 9203/072 | Dual J-K negative-edge triggered flip-flop with direct clear | 107 | 1 |
| | | | |



MICROCIRCUITS, DIGITAL, MONOLITHIC,
HIGH SPEED CMOS, 54HC AND 54HCT SERIES

Current Validity of Qualification

Certificate

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Valid Until

February 2010

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08-02

002-2B

Types covered by similarity:

| ESCC Spec. No. | Component Type | Component Type | Note |
|----------------|--|----------------|------|
| 9306/048 | Dual J-K positive edge triggered flip-flop with preset and clear | 54HC 109 | 1 |
| 9203/051 | Dual J-K negative edge triggered flip-flop with preset and clear | 112 | 1 |
| 9207/006 | Dual positive or negative edge Schmitt-retriggerable monostable multivibrator with clear | 123 | 1 |
| 9401/039 | Quad bus buffer with 3 state output | 125 | 1 |
| 9401/046 | Quad bus buffer with 3 state output | 126 | 1 |
| 9201/120 | Quad 2-input NAND gate with Schmitt-trigger input | 132 | 1 |
| 9205/013 | 3-to-8 line decoder/demultiplexer with address latch and inverted output | 137 | 1 |
| 9408/046 | 3-to-8 line decoder/demultiplexer with inverted output | 138 | 1 |
| 9205/017 | Dual 2-to-4 line decoder/demultiplexer with inverted output | 139 | 1 |
| 9410/017 | 8-line to 3-line priority encoder | 148 | 1 |
| 9408/054 | 8-line to 1-line data selector/multiplexer | 151 | 1 |
| 9408/038 | Dual 4-line to 1-line data selectors/multiplexer | 153 | 1 |
| 9205/023 | 4-to-16 line decoder/demultiplexer with inverted output | 154 | 1 |
| 9408/057 | Quad 2-line to 1-line data selector/multiplexer | 157 | 1 |
| 9408/059 | Quad 2-line to 1-line data selector/multiplexer with inverted output | 158 | 1 |
| 9204/062 | Synchronous presettable 4-bit decade counter with direct clear | 160 | 1 |
| 9204/059 | Asynchronous 4-bit binary counter | 161 | 1 |
| 9204/073 | Synchronous 4-bit binary counter | 163 | 1 |
| 9306/041 | 8-bit SIPO shift register | 164 | 1 |
| 9306/042 | 8-bit PISO shift register | 165 | 1 |



MICROCIRCUITS, DIGITAL, MONOLITHIC,
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002-2C

Types covered by similarity:

| ESCC Spec. No. | Component Type | Component Type | Note |
|----------------|---|----------------|------|
| 9306/043 | 8-bit PISO shift register | 54HC 166 | 1 |
| 9306/052 | Hex D-type edge-triggered flip-flop with clear | 174 | 1 |
| 9203/052 | Quad D-type edge-triggered flip-flop with clear | 175 | 1 |
| 9204/066 | Synchronous 4-bit up/down binary counter | 191 | 1 |
| 9204/065 | Synchronous 4-bit up/down binary counter (dual clock with clear) | 193 | 1 |
| 9306/047 | 4-bit PIPO shift register | 194 | 1 |
| 9306/053 | 4-bit PIPO shift register with overriding clear | 195 | 1 |
| 9205/021 | 3-line to 8-line decoder/demultiplexer with address latch | 237 | 1 |
| 9401/034 | Octal bus buffer with inverted 3-state output | 240 | 1 |
| 9401/035 | Octal bus buffer with 3-state output | 241 | 1 |
| 9405/011 | Quad bus transceiver with inverted 3-state output | 242 | 1 |
| 9405/012 | Quad bus transceiver with 3-state output | 243 | 1 |
| 9401/048 | Octal bus buffer with 3-state output | 244 | 1 |
| 9405/013 | Octal bus transceiver with 3-state output | 245 | 1 |
| 9408/048 | 1-to-8 data selector/multiplexer with 3-state output | 251 | 1 |
| 9408/058 | Dual 4-line to 1-line data selector/multiplexer with 3-state output | 253 | 1 |
| 9408/047 | Quad 2-line to 1-line data selector/multiplexer with 3-state output | 257 | 1 |
| 9203/073 | 8-bit addressable latch | 259 | 1 |
| 9203/053 | Octal D-type edge-triggered flip-flop with clear | 273 | 1 |
| 9208/003 | 9-bit odd/even parity generator/checker | 280 | 1 |



MICROCIRCUITS, DIGITAL, MONOLITHIC,
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08-02

002-2D

Types covered by similarity:

| ESCC Spec. No. | Component Type | Component Type | Note |
|----------------|--|----------------|------|
| 9202/075 | 4-bit binary full adder with fast carry | 54HC 283 | 1 |
| 9401/052 | Hex bus buffer with 3-state output | 365 | 1 |
| 9401/044 | Hex bus buffer with 3-state output | 367 | 1 |
| 9203/059 | Octal D-type transparent latch with 3-state output | 373 | 1 |
| 9203/060 | Octal D-type edge-triggered flip-flop with 3-state output | 374 | 1 |
| 9201/121 | Quad 2-input exclusive OR gate | 386 | 1 |
| 9204/074 | Dual 4-bit negative edge-triggered binary counter | 393 | 1 |
| 9401/049 | Octal bus buffer with inverted 3-state output | 540 | 1 |
| 9401/047 | Octal bus buffer with 3-state output | 541 | 1 |
| 9202/072 | Octal D-type transparent latch with 3-state output | 573 | 1 |
| 9203/054 | Octal D-type edge-triggered flip-flop with 3-state output | 574 | 1 |
| 9204/071 | 8-bit binary counter with 3-state output register | 590 | 1 |
| 9306/051 | 8-bit shift register with 3-state output register | 595 | 1 |
| 9306/054 | 8-bit PISO shift register | 597 | 1 |
| 9209/005 | 8-bit identify comparator | 688 | 1 |
| 9201/130 | Dual 4-input NOR gate | 4002 | 1 |
| 9204/070 | Asynchronous negative-edge-triggered 14-bit binary counter | 4020 | 1 |
| 9204/069 | Asynchronous negative edge-triggered 12-bit binary counter | 4040 | 1 |
| 9401/037 | Hex buffer/converter with inverted output | 4049 | 1 |
| 9401/038 | Hex buffer/converter | 4050 | 1 |



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Current Validity of Qualification

Certificate

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08-02

002-2E

Types covered by similarity:

| ESCC Spec. No. | Component Type | Component Type | Note |
|----------------|---|----------------|------|
| 9408/064 | Analogue multiplexer/demultiplexer | 54HC 4051 | 1 |
| 9408/065 | Analogue multiplexer/demultiplexer (triple 2-channel) | 4053 | 1 |
| 9204/076 | Asynchronous negative-edge-triggered 14-bit binary counter and oscillator | 4060 | 1 |
| 9408/052 | Quad bilateral switch | 4066 | 1 |
| 9201/124 | Dual 4-input OR gate | 4072 | 1 |
| 9201/129 | Triple 3-input OR gate | 4075 | 1 |
| 9201/123 | 8-input OR/NOR gate | 4078 | 1 |
| 9306/050 | 8-bit SIPO shift latch register with 3-state output | 4094 | 1 |
| 9205/019 | 4-to-16 line decoder/latch | 4514 | 1 |
| 9203/070 | Dual D-type flip-flop with preset and clear | 54HCT 74 | 1 |
| 9401/045 | Octal buffer with inverted 3-state output | 240 | 1 |
| 9402/009 | Octal bus buffer with 3-state output | 244 | 1 |
| 9405/014 | Octal bus transceiver with 3-state output | 245 | 1 |
| 9203/064 | Octal D-type transparent latch with 3-state output | 373 | 1 |
| 9203/066 | Octal D-type edge-triggered flip-flop with 3-state output | 374 | 1 |
| 9401/055 | Hex inverter (single stage) with unbuffered output | 54HCU04 | 1 |



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002-2F


Section 09**Component Type: Relays**



| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-----------|-------|--------------------------------------|--------------|
| 09-01 | | | Non-Latching 28Vdc Contact Rating | |
| | 09-01-002 | 02 J | Type GP5 | LEACH |
| | 09-01-005 | 239 C | Type E | LEACH |
| | 09-01-006 | 279 | Type 317 | STPI |
| 09-02 | | | Latching, 28Vdc Contact Rating | |
| | 09-02-002 | 13 J | Type GP2 | LEACH |
| | 09-02-006 | 240 C | Type D | LEACH |
| | 09-02-007 | 280 | Type 3*7B | STPI |
| 09-03 | | | Latching, 50Vdc Contact Rating | |
| | 09-03-001 | 93 H | Type GP250 | LEACH |



**SECTION 09-**: INDEX OF RELAYS****REP005 Updated on 15-Nov-08**


| | | | | | | |
|--|---|--|-----------------------------------|-----------------------|----------|--|
| Types covered by similarity: Variants 01 to 08 are qualified Coil Voltages 6 and 12 Vdc | | Remarks: | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3601 | Detail ESCC 3601/003 | LEACH International Europe Niort France | Qualification | CNES | Apr 1978 | |
| | | | Extension | CNES | Oct 1980 | |
| | | | Extension | CNES | Jan 1984 | |
| | | | Extension | CNES | Oct 1986 | |
| | | | Extension | CNES | Jul 1992 | |
| | | | Extension | CNES | Jun 1995 | |
| | | | Extension | CNES | Dec 1998 | |
| Characteristics: | | | Extension | CNES | Nov 2001 | |
| Contact Rating 2 A at 28 Vdc | | | Extension | CNES | Jun 2005 | |
| Contact Configuration 2 PDT | | | Extension | CNES | Feb 2008 | |
| Package Type Half-crystal can | | | | | | |
| Coil Voltage 26.5 Vdc | | | | | | |
| Operating Temperature Range (°C): -65 to +125 | | | | | | |
|   | RELAY, NON-LATCHING, ELECTROMAGNETIC, TYPE GP 5 | | Current Validity of Qualification | | Page | |
| | | | Certificate | Valid Until | 09-01 | |
| | | 02 J | February 2010 | 002 | | |


| | | | | | | |
|--|--|--|--|-----------------------------------|--|-------|
| Types covered by similarity: Variants 01 to 11 are qualified | | Remarks: | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3601 Detail ESCC 3601/012 | | LEACH International Europe Niort France | Qualification Extension Extension Extension | CNES CNES CNES CNES | Apr 1997 Sep 2000 Jan 2004 Feb 2008 | |
| Characteristics: Contact Rating 1 A at 28 Vdc Contact Configuration 2 PDT Package Type 1/6 crystal can Coil Voltage 6, 12, 26.5 Vdc Operating Temperature Range (°C): -65 to +125 | | | | | | |
|  | | RELAY, NON-LATCHING, ELECTROMAGNETIC, TYPE E | | Current Validity of Qualification | | Page |
| | | | | Certificate | Valid Until | 09-01 |
| | | | | 239 C | February 2010 | 005 |

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|--|--|--|--------------------|-----------------------------------|---------------------------|--------------|
| Types covered by similarity: Variants 01 to 06 are qualified Coil voltages 6 and 12 Vdc | | Remarks: | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3601 Detail ESCC 3601/007 | | STPI Paris France | Qualification | CNES | Apr 2007 | |
| Characteristics: Contact Rating 15 A at 28 Vdc Contact Configuration 2 PDT Size (mm. max.) 26x26x14 Package Type 1/2 can Coil Voltage 6, 12, 28 Vdc Operating Temperature Range (°C): -65 to +125 | | | | | | |
|  | | RELAY, NON-LATCHING, ELECTROMAGNETIC, TYPE 317 | | Current Validity of Qualification | | Page |
| | | | | Certificate 279 | Valid Until April 2009 | 09-01 006 |

| | | | | | | |
|--|---|--|-----------------------------------|-----------------------|----------|--|
| Types covered by similarity: Variants 01 to 08 are qualified Coil Voltages 6 and 12 Vdc | | Remarks: | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3602 | Detail ESCC 3602/003 | LEACH International Europe Niort France | Qualification | CNES | Jan 1979 | |
| | | | Extension | CNES | Feb 1981 | |
| | | | Extension | CNES | Jan 1984 | |
| | | | Extension | CNES | Oct 1986 | |
| | | | Extension | CNES | Jul 1992 | |
| | | | Extension | CNES | Jun 1995 | |
| | | | Extension | CNES | Dec 1998 | |
| Characteristics: | | | Extension | CNES | Nov 2001 | |
| Contact Rating 2 A at 28 Vdc | | | Extension | CNES | Jun 2005 | |
| Contact Configuration 2 PDT | | | Extension | CNES | Feb 2008 | |
| Package Type Half-size crystal can | | | | | | |
| Coil Voltage 26.5 Vdc | | | | | | |
| Operating Temperature Range (°C): -65 to +125 | | | | | | |
|   | RELAY, LATCHING, ELECTROMAGNETIC, TYPE GP 2 | | Current Validity of Qualification | | Page | |
| | | | Certificate | Valid Until | 09-02 | |
| | | 13 J | February 2010 | 002 | | |

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|--|--|--|-----------------------------------|-----------------------|----------|
| Types covered by similarity: | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3602 | | LEACH International Europe Niort France | Qualification | CNES | Apr 1997 |
| Detail ESCC 3602/019 | | | Extension | CNES | Sep 2000 |
| | | | Extension | CNES | Jan 2004 |
| | | | Extension | CNES | Feb 2008 |
| Characteristics: | | | | | |
| Contact Rating 1 A at 28 Vdc | | | | | |
| Contact Configuration 2 PDT | | | | | |
| Package Type 1/6 crystal can | | | | | |
| Coil Voltage 6, 12, 26.5 Vdc | | | | | |
| Operating Temperature Range (°C): -65 to +125 | | | | | |
|   | RELAY, LATCHING, ELECTROMAGNETIC, TYPE D | | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 09-02 |
| | | | 240 C | February 2010 | 006 |


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|--|---|---|--------------------|-----------------------------------|---------------------------|--------------|----------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|--------------------------|-----------------------------|------------------|----------------------|---------------------|---------------------|---|---|
| Types covered by similarity: Variants 01 to 09 and 11 to 19 are qualified Coil Voltages 6 and 12 Vdc | | Remarks: | | | | | | | | | | | | | | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | |
| Generic ESCC 3602 Detail ESCC 3602/004 3602/009 | | STPI Paris France | Qualification | CNES | Apr 2007 | | | | | | | | | | | | | | |
| Characteristics: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">3602/004</td> <td style="width: 50%;">3602/009</td> </tr> <tr> <td>Contact Rating 15 A at 28 Vdc</td> <td>Contact Rating 15 A at 28 Vdc</td> </tr> <tr> <td>Contact Configuration 4 PDT</td> <td>Contact Configuration 2 PDT</td> </tr> <tr> <td>Size (mm. max.) 26x26x26</td> <td>Size (mm. max.) 26x26x13.34</td> </tr> <tr> <td>Package Type can</td> <td>Package Type 1/2 can</td> </tr> <tr> <td>Coil Voltage 28 Vdc</td> <td>Coil Voltage 28 Vdc</td> </tr> <tr> <td>Operating Temperature Range (°C): -65 to +125</td> <td>Operating Temperature Range (°C): -65 to +125</td> </tr> </table> | | | | | | 3602/004 | 3602/009 | Contact Rating 15 A at 28 Vdc | Contact Rating 15 A at 28 Vdc | Contact Configuration 4 PDT | Contact Configuration 2 PDT | Size (mm. max.) 26x26x26 | Size (mm. max.) 26x26x13.34 | Package Type can | Package Type 1/2 can | Coil Voltage 28 Vdc | Coil Voltage 28 Vdc | Operating Temperature Range (°C): -65 to +125 | Operating Temperature Range (°C): -65 to +125 |
| 3602/004 | 3602/009 | | | | | | | | | | | | | | | | | | |
| Contact Rating 15 A at 28 Vdc | Contact Rating 15 A at 28 Vdc | | | | | | | | | | | | | | | | | | |
| Contact Configuration 4 PDT | Contact Configuration 2 PDT | | | | | | | | | | | | | | | | | | |
| Size (mm. max.) 26x26x26 | Size (mm. max.) 26x26x13.34 | | | | | | | | | | | | | | | | | | |
| Package Type can | Package Type 1/2 can | | | | | | | | | | | | | | | | | | |
| Coil Voltage 28 Vdc | Coil Voltage 28 Vdc | | | | | | | | | | | | | | | | | | |
| Operating Temperature Range (°C): -65 to +125 | Operating Temperature Range (°C): -65 to +125 | | | | | | | | | | | | | | | | | | |
|  | | RELAY, NON-LATCHING, ELECTROMAGNETIC, TYPE 3*7B | | Current Validity of Qualification | | Page | | | | | | | | | | | | | |
| | | | | Certificate 280 | Valid Until April 2009 | 09-02 006 | | | | | | | | | | | | | |


| | | | | | |
|--|---|--|---|-----------------------|-----------------------------------|
| Types covered by similarity: Variants 01 to 08 are qualified Coil Voltage 12 Vdc | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3602 | Detail ESCC 3602/010 Characteristics: Contact Rating 2 A at 50 Vdc (100000 ops) Contact Configuration 2 PDT Package Type Half-size crystal can Coil Voltage 26.5 Vdc Operating Temperature Range (°C): -65 to +125 | LEACH International Europe Niort France | Qualification | ESTEC | Feb 1982 |
| | | | Extension | CNES | Jul 1984 |
| | | | Extension | CNES | Sep 1987 |
| | | | Extension | CNES | Jul 1992 |
| | | | Extension | CNES | Jun 1995 |
| | | | Extension | CNES | Dec 1998 |
| | | | Extension | CNES | Nov 2001 |
| | | | Extension | CNES | Jun 2005 |
| | | | Extension | CNES | Feb 2008 |
|  | | | RELAY, LATCHING, ELECTROMAGNETIC, TYPE GP 250 | | Current Validity of Qualification |
| | | Certificate | | Valid Until | |
| | | 93 H | | February 2010 | |
| | | | | Page 09-03 001 | |


Section 10**Component Type: Resistors**


| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-------------|-------|-----------------------------|--------------------------|
| 10-02 | | | Fixed, Film | |
| | 10-02-006 | 256 D | Surface Mount, Type MS1 | Vishay Electronic (Selb) |
| 10-04 | | | Fixed, Film, High Precision | |
| | 10-04-001 | 116 K | Type RNC 90 | Vishay S.A. Sfernice |
| 10-07 | | | Shunts | |
| | 10-07-001 | 285 | Types SMP, SMS, SMT | Isabellenhütte |
| 10-08 | | | Chip | |
| | 10-08-002 | 265 C | Type P HR | Vishay S.A. Sfernice |
| 10-09 | | | Flexible, Foil, Heaters | |
| | 10-09-001-1 | 184 G | Single & Double Layer | IRCA |
| 10-10 | | | Network | |
| | 10-10-001 | 235 E | Single-in-Line | Vishay S.A. Sfernice |


**SECTION 10-**: INDEX OF RESISTORS****REP005 Updated on 15-Nov-08**


| Types covered by similarity: Tolerance ($\pm\%$) = 0.1, 0.5, 1.0 Variants 01 to 08 inclusive are qualified | | | | Remarks: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------|---|--------------|--------------------|-----------------------------------|-----------------------------|--------------------|------------------|-------------------------------|--------------|---------------|-----|----|-----|----------------|-----|--|--|---------------|-----|--|--|---------------|-----|----|-----|---------------|-----|--|--|---------------|-----|--|--|----------------|-----|----|-----|----------------|-----|--|--|
| Procurement Specifications | | Manufacturer | | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 4001 | | VISHAY Electronic Division Draloric Selb Germany | | Qualification | DLR | Oct 1999 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detail ESCC 4001/022 | | | | Extension | DLR | Oct 2001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Characteristics: Critical R = 160 k Ω | | | | Extension | DLR | Oct 2003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | DLR | Nov 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | DLR | Oct 2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Range (Ω)</th> <th>Tol. ($\pm\%$)</th> <th>TC (\pmppm/$^{\circ}$C)</th> <th>Value Series</th> </tr> </thead> <tbody> <tr> <td>43.2 - 1.00 M</td> <td>0.1</td> <td>50</td> <td>E96</td> </tr> <tr> <td>10.0 - 1.000 M</td> <td>0.5</td> <td></td> <td></td> </tr> <tr> <td>2.21 - 5.11 M</td> <td>1.0</td> <td></td> <td></td> </tr> <tr> <td>43.2 - 1.00 M</td> <td>0.1</td> <td>25</td> <td>E96</td> </tr> <tr> <td>10.0 - 1.00 M</td> <td>0.5</td> <td></td> <td></td> </tr> <tr> <td>10.0 - 1.00 M</td> <td>1.0</td> <td></td> <td></td> </tr> <tr> <td>43.2 - 0.221 M</td> <td>0.1</td> <td>15</td> <td>E96</td> </tr> <tr> <td>10.0 - 0.511 M</td> <td>0.5</td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | | Range (Ω) | Tol. ($\pm\%$) | TC (\pm ppm/ $^{\circ}$ C) | Value Series | 43.2 - 1.00 M | 0.1 | 50 | E96 | 10.0 - 1.000 M | 0.5 | | | 2.21 - 5.11 M | 1.0 | | | 43.2 - 1.00 M | 0.1 | 25 | E96 | 10.0 - 1.00 M | 0.5 | | | 10.0 - 1.00 M | 1.0 | | | 43.2 - 0.221 M | 0.1 | 15 | E96 | 10.0 - 0.511 M | 0.5 | | |
| Range (Ω) | Tol. ($\pm\%$) | TC (\pm ppm/ $^{\circ}$ C) | Value Series | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43.2 - 1.00 M | 0.1 | 50 | E96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.0 - 1.000 M | 0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.21 - 5.11 M | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43.2 - 1.00 M | 0.1 | 25 | E96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.0 - 1.00 M | 0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.0 - 1.00 M | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43.2 - 0.221 M | 0.1 | 15 | E96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.0 - 0.511 M | 0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Temperature Range, ($^{\circ}$ C): -55 to +125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | RESISTORS, FILM, FIXED, SURFACE MOUNT, NON-HERMETICALLY SEALED, BASED ON TYPE MS1 | | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Certificate 256 D | Valid Until October 2009 | 10-02 006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Types covered by similarity: Tolerance ($\pm\%$) = 0.02, 0.05, 0.1, 0.2, 0.5, 1% Variants 03, 04, 07 and 08 are qualified | | | | | | Remarks: New package fabrication is now located at Nice. | | | | | | | | | | | | | | | | |
|--|------|---|--|--|--|--|-----------------------|--------------------|----------------------------|--|---|------------------|----------------|----------|-----------|----------------------------|--|---|-----|-----------|------|----------|
| Procurement Specifications | | | | Manufacturer | | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | |
| Generic ESCC 4001 Detail ESCC 4001/011 | | | | VISHAY S.A. Division Sfernice Nice France | | Qualification | CNES | Dec 1983 | | | | | | | | | | | | | | |
| Characteristics: E192 Value Series, Critical R = 180 k Ω <table border="1" data-bbox="85 762 1361 1082"> <thead> <tr> <th>Style</th> <th>Detail Spec.</th> <th>Range (Ω)</th> <th>Tol. ($\pm\%$)</th> <th>TC (\pmppm/$^{\circ}$C)</th> <th>Power Rating (W)</th> <th>Max. Voltage (V)</th> </tr> </thead> <tbody> <tr> <td>RNC 90 (RS92N)</td> <td>4001/011</td> <td>50 - 100k</td> <td>0.02 0.05 0.5 1.0</td> <td>$\pm 5, \leq 125^{\circ}$C $\pm 10, \leq 125^{\circ}$C $\pm 10, > 125^{\circ}$C and $\leq 175^{\circ}$C</td> <td>0.5 @ 70 $^{\circ}$C 0.3 @ 125 $^{\circ}$C</td> <td>300</td> </tr> </tbody> </table> | | | | | | Style | Detail Spec. | Range (Ω) | Tol. ($\pm\%$) | TC (\pm ppm/ $^{\circ}$ C) | Power Rating (W) | Max. Voltage (V) | RNC 90 (RS92N) | 4001/011 | 50 - 100k | 0.02 0.05 0.5 1.0 | $\pm 5, \leq 125^{\circ}$ C $\pm 10, \leq 125^{\circ}$ C $\pm 10, > 125^{\circ}$ C and $\leq 175^{\circ}$ C | 0.5 @ 70 $^{\circ}$ C 0.3 @ 125 $^{\circ}$ C | 300 | Extension | CNES | Oct 1986 |
| | | | | | | Style | Detail Spec. | Range (Ω) | Tol. ($\pm\%$) | TC (\pm ppm/ $^{\circ}$ C) | Power Rating (W) | Max. Voltage (V) | | | | | | | | | | |
| | | | | | | RNC 90 (RS92N) | 4001/011 | 50 - 100k | 0.02 0.05 0.5 1.0 | $\pm 5, \leq 125^{\circ}$ C $\pm 10, \leq 125^{\circ}$ C $\pm 10, > 125^{\circ}$ C and $\leq 175^{\circ}$ C | 0.5 @ 70 $^{\circ}$ C 0.3 @ 125 $^{\circ}$ C | 300 | | | | | | | | | | |
| | | | | | | Extension | CNES | Nov 1989 | | | | | | | | | | | | | | |
| | | | | | | Extension | CNES | Jul 1992 | | | | | | | | | | | | | | |
| | | | | | | Requalification | CNES | Apr 1994 | | | | | | | | | | | | | | |
| | | | | | | Extension | CNES | Sep 1996 | | | | | | | | | | | | | | |
| | | | | | | Extension | CNES | Jan 1999 | | | | | | | | | | | | | | |
| | | | | | | Extension | CNES | Jul 2001 | | | | | | | | | | | | | | |
| | | | | | | Extension | CNES | Nov 2003 | | | | | | | | | | | | | | |
| Extension | CNES | Apr 2006 | | | | | | | | | | | | | | | | | | | | |
| Extension | CNES | Sep 2008 | | | | | | | | | | | | | | | | | | | | |
| Operating Temperature Range, ($^{\circ}$ C): -55 to +175 | | | | | | | | | | | | | | | | | | | | | | |
|  | | RESISTORS, FILM, FIXED, NON-HERMETICALLY SEALED, BASED ON TYPE RNC 90 | | | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | |
| | | | | | | Certificate | Valid Until | 10-04 | | | | | | | | | | | | | | |
| | | | | | | 116 K | September 2010 | 001 | | | | | | | | | | | | | | |

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|--|----------------------|--|-----------|---|-----------------------------------|------------------------------|--------------|
| Types covered by similarity: Tolerance (%) = ±1 Variants 01, 02 and 03 are qualified | | | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 4001 Detail ESCC 4001/027 | | ISABELLENHÜTTE HEUSLER GmbH & Co. KG Dillenburg Germany | | Qualification | DLR | Nov 2008 | |
| Characteristics: | | | | | | | |
| Style | Detail Spec. Variant | Range (Ω) | Tol. (±%) | TC (± 10 ⁻⁶ /°C) Applicable to All Variants | Power Rating (W) | | |
| SMP- 2010 | 001 | 0.005-1.000 | 0.5 | -100, +0 over T _{amb} = -55 to +22 °C | 1 | | |
| SMS- 2515 | 002 | 0.003-1.000 | 0.5 | ±60 over T _{amb} = -55 to +170 °C | 2 | | |
| SMT- 2817 | 003 | 0.004-2.000 | 0.5 | ±50 over T _{amb} = -55 to +60 °C | 3 | | |
| Operating Temperature Range, (°C): -55 to +170 | | | | | | | |
|  | | RESISTORS, FIXED, CHIP, METAL FOIL, BASED ON TYPES SMP-PW, SMS-PT AND SMT-PT | | | Current Validity of Qualification | | Page |
| | | | | | Certificate 285 | Valid Until November 2010 | 10-07 001 |

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|--|--------------------|---------------------------|---|--|-----------------------|-----------------------------------|--|-------------------------|--------------|
| Types covered by similarity: Variants 01, 02 and 03 are qualified | | | | | | Remarks: | | | |
| Tolerance ($\pm\%$) | | $R \leq 100 \Omega$ | $\pm 0.1/0.05 \%$ | | | | | | |
| | | $100 < R \leq 250 \Omega$ | $\pm 0.1/0.05/0/02 \%$ | | | | | | |
| | | $R > 250 \Omega$ | $\pm 0.1/0.05/0.02/0.01 \%$ | | | | | | |
| Procurement Specifications | | | | Manufacturer | | Nature of Approval | | Supervising Authority | Date |
| Generic ESCC 4001 | | | | VISHAY S.A. Division Sfernice Nice France | | Qualification | | CNES | May 2001 |
| Detail ESCC 4001/023 | | | | | | Extension | | CNES | Oct 2003 |
| | | | | | | Extension | | CNES | Feb 2006 |
| | | | | | | Extension | | CNES | May 2008 |
| Characteristics: | | | | | | | | | |
| Style | Range (Ω) | Tol. ($\pm\%$) | TC ($\pm\text{ppm}/^\circ\text{C}$) | Critical R (Ω) | Rated Dissipation (W) | Type Variant | | | |
| 0603 | 50 - 0.2 M | 0.01, 0.02, 0.05 | $\pm 10, \pm 25$ | 12.25k | 0.1 | 01 | | | |
| 0805 | 50 - 0.25 M | 0.01, 0.02, 0.05 | $\pm 10, \pm 25$ | 45k | 0.125 | 02 | | | |
| 1206 | 50 - 1.0 M | 0.01, 0.02, 0.05 | $\pm 10, \pm 25$ | 40k | 0.25 | 03 | | | |
| Operating Temperature Range, ($^\circ\text{C}$): -55 to +155 Lead material is Type E with Type 4 finish | | | | | | | | | |
|  | | | RESISTORS, FILM, FIXED, CHIP, THIN FILM, BASED ON TYPE P HR | | | Current Validity of Qualification | | | Page |
| | | | | | | Certificate 265 C | | Valid Until May 2010 | 10-08 002 |


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|--|-------|--|-----------------------------------|-----------------------|----------|
| Types covered by similarity: | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 4009 Detail ESCC 4009/002 | | IRCA RICA Division Vitorio Veneto Italy | Qualification | ESTEC | Apr 1992 |
| Characteristics: Single layer and double layer heaters Maximum Ohmic density 200 Ω/cm^2 Tolerances $\pm 2, 3, 5, 10 \%$ Resistance 1 Ω to 5000 Heating Area 1.6 to 1300 cm^2 Terminal Lead 20, 22, 24, 26, 28, 30 AWG Temperature coefficient (10-6/ $^{\circ}\text{C}$): 175 Operating Temperature Range, ($^{\circ}\text{C}$): -65 to +200 | | | Extension | ESTEC | May 1994 |
| | | | Extension | ESTEC | Mar 1996 |
| | | | Extension | ESTEC | Feb 1998 |
| | | | Extension | ESTEC | Apr 2000 |
| | | | Extension | ESTEC | Aug 2002 |
| Extension | ESTEC | | Dec 2004 | | |
| Extension | ESTEC | Aug 2007 | | | |
|  | | RESISTORS, HEATERS, FLEXIBLE SINGLE AND DOUBLE LAYER | Current Validity of Qualification | | Page |
| | | | Certificate | Valid Until | 10-09 |
| | | | 184 G | August 2009 | 001-1 |

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|---|--------------------|---|---|--|------------------------------------|-----------------------------------|-----------------------|----------|
| Types covered by similarity: | | | | | | Remarks: | | |
| Procurement Specifications | | | | Manufacturer | | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 4005 Detail ESCC 4005/003 | | | | VISHAY S.A. Division Sfernice Nice France | | Qualification | CNES | Oct 1996 |
| Characteristics: Variants 01 to 07 in 6, 8, 9 and 10 pin packages are qualified | | | | | | Extension | CNES | Apr 1999 |
| | | | | | | Extension | CNES | Jul 2001 |
| | | | | | | Extension | CNES | Dec 2003 |
| | | | | | | Extension | CNES | Feb 2006 |
| | | | | | | Extension | CNES | Mar 2008 |
| Detail Spec. | Range (Ω) | Tol. ($\pm\%$) | TC ($10^{-6}/^{\circ}\text{C}$) | Power Rating (mW) | Limiting Element Voltage (U_L) | | | |
| 4005/003 | 46.4 to 1.0 M | $R \leq 100 \Omega, \pm 2.0 \Omega$ $R > 100 \Omega, \pm 2.0 \Omega$ | ± 150 | 180 for individual R 100 for parallel Rs | 100 V | | | |
| Operating Temperature Range, ($^{\circ}\text{C}$): -55 to +175 | | | | | | | | |
|  | | | RESISTORS, NETWORKS, THICK FILM, SINGLE-IN-LINE PACKAGES | | | Current Validity of Qualification | | Page |
| | | | | | | Certificate | Valid Until | 10-10 |
| | | | | | | 235 E | March 2010 | 001 |

Section 11**Component Type: Thermistors**

| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-----------|-------|-----------------------------|-------------------|
| 11-01 | | | NTC | |
| | 11-01-001 | 266 D | Types G15K4D489 and *K3A35* | Betatherm Sensors |

**SECTION 11-**: INDEX OF THERMISTORS****REP005 Updated on 15-Nov-08**

| | | | | |
|---|--|-----------------------------------|------------------------------|--------------|
| Types covered by similarity: | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 4006 | Betatherm Sensors Galway Ireland | Qualification | ESTEC | Jul 2001 |
| Detail ESCC 4006/013 4006/014 | | Extension | ESTEC | Jan 2002 |
| <p>Characteristics:</p> <p>4006/013: Variants 01 to 05 are qualified.</p> <p>4006/014: Variants 08 and 09 are qualified.</p> <p>Operating Temperature Range, (°C): -55 to +115 for 4006/013, -60 to +160 for 4006/014 variant 08 and 60 to +125 for 4006/014 variant 09</p> | | Extension | ESTEC | Sep 2004 |
| | | Extension | ESTEC | Nov 2006 |
| | | Extension | Enterprise Ireland | Nov 2008 |
|  | <p>THERMISTORS, (THERMALLY SENSITIVE RESISTORS), NTC, BASED ON TYPES G15K4D489 AND *K3A35*</p> | Current Validity of Qualification | | Page |
| | | Certificate 266 D | Valid Until November 2010 | 11-01 001 |

Section 12


Component Type: Transistors

| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|----------------|-------|--|---------------------|
| 12-01 | | | Low Power, NPN | |
| | 12-01-002-3A-B | 233 G | Types NPN | ST Microelectronics |
| | 12-01-003-1 | 106 L | Type 2N2369A | ST Microelectronics |
| 12-02 | | | Low Power, PNP | |
| | 12-02-002-3A-B | 234 G | Types PNP | ST Microelectronics |
| 12-10 | | | RF/Microwave, NPN, Low Power, Low Noise | |
| | 12-10-001 | 230 C | Types BFY 193 | Infineon |
| | 12-10-002 | 245 C | Types BFY 405-450 | Infineon |
| 12-15 | | | Microwave, Gallium Arsenide, Power | |
| | 12-15-001 | 246 B | Types CLY 32 | Infineon |
| 12-16 | | | Microwave, Gallium Arsenide | |
| | 12-16-001 | 213 C | Types CFY66 & 67, High Electron Mobility, Low Noise | Infineon |

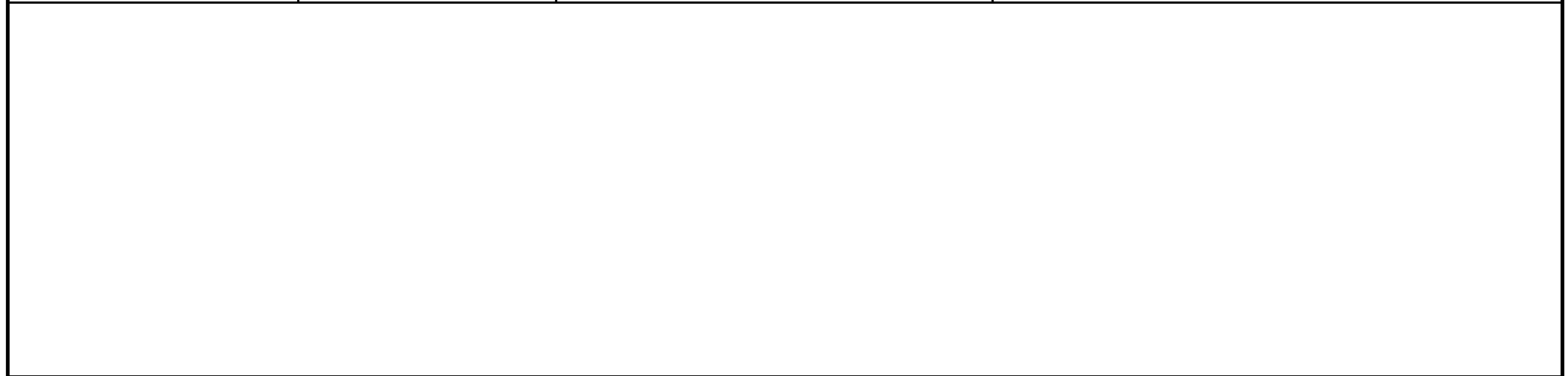


SECTION 12-**: INDEX OF TRANSISTORS

REP005 Updated on 15-Nov-08

| | | | | | | | | | | | | | | |
|---|---|--------|---------|-----------------------|--|--------|--------|----------|--------|---------|-----------------------------------|--|-----------------------|----------|
| Types covered by similarity: | | | | | | | | | | | Remarks: | | | |
| Procurement Specifications | | | | | Manufacturer | | | | | | Nature of Approval | | Supervising Authority | Date |
| Generic ESCC 5000 | | | | | ST Microelectronics Rennes France | | | | | | Qualification | | CNES | Sep 1996 |
| Detail ESCC Please refer to the next page | | | | | | | | | | | Extension | | CNES | Sep 1997 |
| Characteristics: Maximum Rating: | | | | | Extension | | CNES | Aug 1998 | | | | | | |
| | | | | | Extension | | CNES | Nov 1999 | | | | | | |
| | | | | | Extension | | CNES | Nov 2001 | | | | | | |
| | | | | | Extension | | CNES | Dec 2003 | | | | | | |
| | | | | | Extension | | CNES | Mar 2006 | | | | | | |
| | 2N2222A | 2N2484 | 2N2219A | | 2N5551 | 2N3700 | 2N3019 | 2N5154 | BUX 77 | 2N2920A | Extension | | CNES | Jul 2008 |
| V _{CBO} (V): | 75 | 60 | 75 | BV _{CBO} (V) | 180 | 140 | 140 | 100 | 100 | 60 | | | | |
| V _{CEO} (V): | 40 | 60 | 40 | BV _{CEO} (V) | 160 | 80 | 80 | 80 | 80 | 60 | | | | |
| Packages: | TO-18, TO-39, TO-66, TO-77, TO-257, LCCC3, LCCC6 and SMD0.5 | | | | | | | | | | | | | |
| Operating Temperature Range (°C), -65 to +200 | | | | | | | | | | | | | | |
|  | | | | | TRANSISTORS, LOW AND HIGH POWER, NPN | | | | | | Current Validity of Qualification | | | Page |
| | | | | | | | | | | | Certificate | | Valid Until | 12-01 |
| | | | | | | | | | | | 233 G | | July 2010 | 002-3A |

| ESCC Specification No. | Component Type | Package | Qualified Variants |
|------------------------|-----------------|-----------------------|------------------------|
| 5201/001 | 2N 2484 | TO-18, LCCC3 | 01, 02, 04, 05 |
| 5201/002 | 2N 2222A | TO-18, LCCC3 | 01, 02, 04, 05 |
| 5201/019 | 2N 5551 | TO-18, LCCC3, TO-39 | 01, 02, 04, 05, 06, 07 |
| 5201/003 | 2N 2219 A | TO-39 | 01, 02 |
| 5201/004 | 2N 3700 | TO-18, LCCC3 | 01, 02, 04, 05 |
| 5203/010 | 2N 5154, BFX 34 | TO-39, TO-257, SMD0.5 | 01, 02, 04, 05, 06 |
| 5203/016 | BUX 77ESY | TO-257 | 06, 07 |
| 5207/002 | 2N 2920A | TO-77 and LCCC6 | 03, 06, 12, 15 |
| 5201/011 | 2N3019 | TO-39 | 03, 04 |



TRANSISTORS,
LOW AND HIGH POWER,
NPN

Current Validity of Qualification

Certificate

233 G



Valid Until


July 2010

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12-01


002-3B



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|---|--|---|--------------------|-----------------------|----------|
| Types covered by similarity: | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 5000 Detail ESCC 5201/006 | | ST Microelectronics Rennes France | Qualification | CNES | Feb 1983 |
| Characteristics: Variants 01, 02, 04 and 05 are qualified h_{FE} min/max: 40/120 at $I_C = 10$ mA t_{on} : 12 ns $V_{CE SAT}$: 0.5V at $I_C = 100$ mA t_{off} : 18 ns Maximum Ratings: P_D : 360 mW at $T_{amb} +25$ C B_{VCBO} : 40 V B_{VCEO} : 15 V I_C : 500 mA, 10 μ sec pulse Package Types: TO-18 and LCCC3 Operating Temperature Range ($^{\circ}$ C): - 65 to +200 | | | Extension | CNES | Jul 1987 |
| | | | Extension | CNES | Apr 1990 |
| | | | Extension | CNES | Aug 1992 |
| | | | Extension | CNES | Jun 1995 |
| | | | Extension | CNES | Sep 1996 |
| | | | Extension | CNES | Sep 1997 |
| | | | Extension | CNES | Nov 1999 |
| | | | Extension | CNES | Nov 2001 |
| | | | Extension | CNES | Dec 2003 |
| | | Extension | CNES | Mar 2006 | |
| | | Extension | CNES | Jul 2008 | |
|   | TRANSISTORS, LOW POWER, NPN, TYPE 2N 2369A | Current validity of Qualification | | Page | |
| | | Certificate | Valid Until | 12-01 | |
| 106 L | July 2010 | 003-1 | | | |



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|---|------|----------|--|--|--|---|--|--|---|---|----------|--------|--------|--------|--------|--------|--------|-----------------------|----|----|----|----|----|-----|-----|-----|-----------------------|----|----|----|----|----|----|----|-----|-----------|---|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|-----------|------|----------|
| Types covered by similarity: | | | | | | | | | Remarks: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Procurement Specifications | | | | | | Manufacturer | | | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5000 Detail ESCC Please refer to the next page | | | | | | ST Microelectronics Rennes France | | | Qualification | CNES | Sep 1996 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Characteristics: | | | | | | <table border="1"> <tr> <td></td> <td>2N2905A</td> <td>2N2907A</td> <td>2N3350</td> <td>2N3810</td> <td>2N4033</td> <td>2N5153</td> <td>BUX 78</td> <td>2N5401</td> </tr> <tr> <td>BV_{CBO}(V)</td> <td>60</td> <td>60</td> <td>60</td> <td>60</td> <td>80</td> <td>100</td> <td>100</td> <td>160</td> </tr> <tr> <td>BV_{CEO}(V)</td> <td>60</td> <td>60</td> <td>45</td> <td>60</td> <td>80</td> <td>80</td> <td>80</td> <td>150</td> </tr> <tr> <td>Packages:</td> <td colspan="8">TO-18, TO-39, TO-77, TO-78, TO-257, LCCC3, LCCC6 and SMD0.5</td> </tr> <tr> <td colspan="9">Operating Temperature Range (°C), -65 to +200</td> </tr> </table> | | | | 2N2905A | 2N2907A | 2N3350 | 2N3810 | 2N4033 | 2N5153 | BUX 78 | 2N5401 | BV _{CBO} (V) | 60 | 60 | 60 | 60 | 80 | 100 | 100 | 160 | BV _{CEO} (V) | 60 | 60 | 45 | 60 | 80 | 80 | 80 | 150 | Packages: | TO-18, TO-39, TO-77, TO-78, TO-257, LCCC3, LCCC6 and SMD0.5 | | | | | | | | Operating Temperature Range (°C), -65 to +200 | | | | | | | | | Extension | CNES | Sep 1997 |
| | | | | | | | | | | 2N2905A | 2N2907A | 2N3350 | 2N3810 | 2N4033 | 2N5153 | BUX 78 | 2N5401 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | BV _{CBO} (V) | 60 | 60 | 60 | 60 | 80 | 100 | 100 | 160 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | BV _{CEO} (V) | 60 | 60 | 45 | 60 | 80 | 80 | 80 | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | Packages: | TO-18, TO-39, TO-77, TO-78, TO-257, LCCC3, LCCC6 and SMD0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | Operating Temperature Range (°C), -65 to +200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | Extension | CNES | Aug 1998 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extension | CNES | Nov 1999 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extension | CNES | Nov 2001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extension | CNES | Jan 2004 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extension | CNES | Mar 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extension | CNES | Jul 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | <p style="text-align: center;">TRANSISTORS, LOW AND HIGH POWER, PNP</p> | | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | Certificate | Valid Until | 12-02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 234 G | July 2010 | 002-3A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |


| ESCC Specification No. | Component Type | Package | Qualified Variants |
|---------------------------|----------------|-----------------------|--------------------|
| 5202/002 | 2N 2905A | TO-39 | 01, 02 |
| 5202/001 | 2N 2907A | TO-18, LCCC3 | 01, 02, 04, 05 |
| 5202/014 | 2N 5401 | TO-18, LCCC3 | 01, 02, 04, 05 |
| 5204/002 | 2N 5153 | TO-39, TO-257, SMD0.5 | 01, 02, 04, 05, 06 |
| 5204/006 | BUX 78ESY | TO-257 | 06, 07 |
| 5207/005 | 2N 3810 | TO-78, LCCC6 | 01, 02, 07, 09 |
| 5207/003 | 2N 3350 | TO-77, LCCC6 | 01, 02, 04, 05 |
| 5202/008 | 2N 4033 | TO-39, LCCC3 | 01, 02, 04, 05 |

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|---|---|-----------------------------------|--------------------------|-------------------------|
|  ESCC <small>European Space Components Coordination</small> QPL | <p style="text-align: center;">TRANSISTORS, LOW AND HIGH POWER, PNP</p> | Current Validity of Qualification | | Page 12-02 002-3B |
| | | Certificate 234 G | Valid Until July 2010 | |

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|--|-----------|---|-----------------------------------|-----------------------------------|-------------|--------------------|--|----|--|--|--|--------------------|--|----|--|--|--|-------------------|--|--------|-----------------------------------|--|--|--------------|---------|-----|-----------------------------------|--|--|-------------------|---------|------|-----------------------------------|--|--|------------------|-----------|-----|-----------------------------------|--|--|
| Types covered by similarity: All variants from 01 to 07 are qualified (BFY 180, 280, 181, 182, 183, 193 and 196) | | Remarks: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5010 | | Infineon Technologies AG München Germany | Qualification | DARA | Jun 1996 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detail ESCC 5611/006 | | | Extension | DLR | Jan 2000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Extension | DLR | Nov 2004 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Requalification | DLR | Mar 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Characteristics for BFY 193</p> <table border="0"> <tr> <td>V_{CE0} (V) max.</td> <td></td> <td>12</td> <td></td> <td></td> <td></td> </tr> <tr> <td>V_{CBO} (V) max.</td> <td></td> <td>20</td> <td></td> <td></td> <td></td> </tr> <tr> <td>h_{FE} min/max.</td> <td></td> <td>50/175</td> <td>@ $V_{CE} = 8.0$ V, $I_C = 30$ mA</td> <td></td> <td></td> </tr> <tr> <td>NF (dB) max.</td> <td>@ 2 GHz</td> <td>2.9</td> <td>@ $V_{CE} = 5.0$ V, $I_C = 15$ mA</td> <td></td> <td></td> </tr> <tr> <td>MAG/MSG (dB) min.</td> <td>@ 2 GHz</td> <td>12.5</td> <td>@ $V_{CE} = 5.0$ V, $I_C = 40$ mA</td> <td></td> <td></td> </tr> <tr> <td>f_T (GHz) min.</td> <td>@ 500 MHz</td> <td>6.5</td> <td>@ $V_{CE} = 5.0$ V, $I_C = 40$ mA</td> <td></td> <td></td> </tr> </table> <p>Package: "Micro-X1"</p> <p>Total Power Dissipation (P_{tot}) = 580 mW</p> <p>Operating Temperature Range ($^{\circ}$C): $T_{op} = - 65$ to $+200$</p> | | | | | | V_{CE0} (V) max. | | 12 | | | | V_{CBO} (V) max. | | 20 | | | | h_{FE} min/max. | | 50/175 | @ $V_{CE} = 8.0$ V, $I_C = 30$ mA | | | NF (dB) max. | @ 2 GHz | 2.9 | @ $V_{CE} = 5.0$ V, $I_C = 15$ mA | | | MAG/MSG (dB) min. | @ 2 GHz | 12.5 | @ $V_{CE} = 5.0$ V, $I_C = 40$ mA | | | f_T (GHz) min. | @ 500 MHz | 6.5 | @ $V_{CE} = 5.0$ V, $I_C = 40$ mA | | |
| V_{CE0} (V) max. | | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V_{CBO} (V) max. | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| h_{FE} min/max. | | 50/175 | @ $V_{CE} = 8.0$ V, $I_C = 30$ mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NF (dB) max. | @ 2 GHz | 2.9 | @ $V_{CE} = 5.0$ V, $I_C = 15$ mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAG/MSG (dB) min. | @ 2 GHz | 12.5 | @ $V_{CE} = 5.0$ V, $I_C = 40$ mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| f_T (GHz) min. | @ 500 MHz | 6.5 | @ $V_{CE} = 5.0$ V, $I_C = 40$ mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | <p>TRANSISTORS, MICROWAVE, SMALL SIGNAL, BIPOLAR, BASED ON TYPE BFY 193</p> | | Current validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Certificate | Valid Until | 12-10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 230 C | March 2010 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|--|-----------|---|-----------------------------------|-----------------------------------|-------------|--------------------|--|-----|--|--|--|--------------------|--|----|--|--|--|-----------------|--|-----|--|--|--|-----------------|--|----|--|--|--|-------------------|--|--------|-----------------------------------|--|--|--------------|-----------|-----|-----------------------------------|--|--|------------------|-----------|----|-----------------------------------|--|--|
| Types covered by similarity: All variants are qualified (BFY 405, 420, 450) | | Remarks: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5010 | | Infineon Technologies AG München Germany | Qualification | DARA | Jun 1997 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detail ESCC 5611/008 | | | Extension | DLR | Jan 2000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Extension | DLR | Dec 2003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Requalification | DLR | Mar 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Characteristics for BFY 450</p> <table> <tr> <td>V_{CE0} (V) max.</td> <td></td> <td>4.5</td> <td></td> <td></td> <td></td> </tr> <tr> <td>V_{CBO} (V) max.</td> <td></td> <td>15</td> <td></td> <td></td> <td></td> </tr> <tr> <td>I_C (mA) max.</td> <td></td> <td>100</td> <td></td> <td></td> <td></td> </tr> <tr> <td>I_B (mA) max.</td> <td></td> <td>10</td> <td></td> <td></td> <td></td> </tr> <tr> <td>h_{FE} min/max.</td> <td></td> <td>50/150</td> <td>@ $V_{CE} = 1.0$ V, $I_C = 20$ mA</td> <td></td> <td></td> </tr> <tr> <td>NF (dB) max.</td> <td>@ 1.8 GHz</td> <td>2.0</td> <td>@ $V_{CE} = 2.0$ V, $I_C = 10$ mA</td> <td></td> <td></td> </tr> <tr> <td>f_T (GHz) min.</td> <td>@ 1.0 GHz</td> <td>18</td> <td>@ $V_{CE} = 3.0$ V, $I_C = 90$ mA</td> <td></td> <td></td> </tr> </table> <p>Package: "Micro-X"</p> <p>Total Power Dissipation (P_{tot}) = 450 mW</p> <p>Operating Temperature Range (°C): $T_{op} = -65$ to $+175$</p> | | | | | | V_{CE0} (V) max. | | 4.5 | | | | V_{CBO} (V) max. | | 15 | | | | I_C (mA) max. | | 100 | | | | I_B (mA) max. | | 10 | | | | h_{FE} min/max. | | 50/150 | @ $V_{CE} = 1.0$ V, $I_C = 20$ mA | | | NF (dB) max. | @ 1.8 GHz | 2.0 | @ $V_{CE} = 2.0$ V, $I_C = 10$ mA | | | f_T (GHz) min. | @ 1.0 GHz | 18 | @ $V_{CE} = 3.0$ V, $I_C = 90$ mA | | |
| V_{CE0} (V) max. | | 4.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V_{CBO} (V) max. | | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I_C (mA) max. | | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I_B (mA) max. | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| h_{FE} min/max. | | 50/150 | @ $V_{CE} = 1.0$ V, $I_C = 20$ mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NF (dB) max. | @ 1.8 GHz | 2.0 | @ $V_{CE} = 2.0$ V, $I_C = 10$ mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| f_T (GHz) min. | @ 1.0 GHz | 18 | @ $V_{CE} = 3.0$ V, $I_C = 90$ mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|   | | <p>TRANSISTORS, MICROWAVE, SMALL SIGNAL, BIPOLAR, BASED ON TYPE BFY 450</p> | | Current validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Certificate | Valid Until | 12-10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 245 C | March 2010 | 002 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|--|---|---|-------------------------------|----------------------------------|
| Types covered by similarity: | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 5010 Detail ESCC 5614/006 | Infineon Technologies AG München Germany | Qualification Extension Requalification | DLR DLR DLR | Nov 1997 Jan 2000 Mar 2008 |
| Characteristics for CLY 32 V _{DS} (V) max. 14 V _{DG} (V)max. 16 V _{GS} (V)max. -6.0 P _{Out} (dBm) min. 32 @ V _{DS} = 9.0 V, f=2.3 GHz, P _{IN} = 21.5 dBm, power matched n _{add} (%) min. 45 @ V _{DS} = 9.0 V, f=2.3 GHz, P _{IN} = 21.5 dBm, power matched Package: MWP 25 Total Power Dissipation (P _{tot}) = 6.75 W Operating Temperature Range (°C): T _{ch} = - 65 to +175 | | | | |
|  ESCC European Space Components Coordination  | TRANSISTORS, MICROWAVE, METAL SEMICONDUCTOR FIELD EFFECT, POWER, GALLIUM ARSENIDE BASED ON TYPE CLY 32 | Current validity of Qualification | | Page |
| | | Certificate 246 B | Valid Until March 2010 | 12-15 001-1 |

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|--|----------------------------------|--|------------|--|-----------------------------------|--|--------------|
| Types covered by similarity: All variants are qualified | | | | Remarks: | | | |
| Procurement Specifications | | Manufacturer | | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5010 Detail ESCC 5613/002 ESCC 5613/004 | | Infineon Technologies AG München Germany | | Qualification Extension Extension Requalification | DARA DLR DLR DLR | Apr 1994 Jan 2000 Dec 2003 Mar 2008 | |
| Characteristics (@ 12 GHz): | | | | | | | |
| | | NFmin. (dB) | Ga (dB) | | | | |
| 5613/002 lattice matched | variants 1 & 3 variants 2 & 4 | 0.8 1.0 | 10 9.5 | | | | |
| 5613/004 pseudo-morphic | variants 1 & 3 Variants 2 & 4 | 0.8 1.0 | 11 10.5 | | | | |
| Package: Micro-X | | | | | | | |
| Total Power Dissipation (P_{tot}) = 200 mW derated from +31 °C T_{amb} | | | | | | | |
| Operating Temperature Range (°C): T_{stg} = - 65 to +150 | | | | | | | |
|  ESCC European Space Components Coordination QPL | | TRANSISTORS, HIGH ELECTRON MOBILITY, GALLIUM ARSENIDE, MICROWAVE, LOW NOISE, SMALL SIGNAL, BASED ON TYPES CFY 66 AND CFY 67 | | | Current validity of Qualification | | Page |
| | | | | | Certificate 213 C | Valid Until March 2010 | 12-16 001 |

Section 13



Component Type: Wires and Cables



| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-------------|-------|--|------------------|
| 13-01 | | | Low Frequency | |
| | 13-01-001-1 | 07 M | Polyimide, Types FA-3901-1, FA 3901-2 | Draka Fileca |
| | 13-01-001-2 | 09 M | Polyimide, Types 1871-1872 | Nexans |
| | 13-01-001-3 | 132 J | Polyimide, Types 3901002**B | Axon' Cable |
| | 13-01-003 | 08 M | PTFE, Types MTV-BTV | Nexans |
| | 13-01-004-1 | 138 G | Polyimide, Type SPC | Gore |
| | 13-01-004-2 | 219 G | Polyimide, Types SPL | Gore |
| | 13-01-004-3 | 268 B | Polyimide, Types 3901019**B | Axon' Cable |
| | 13-01-005-1 | 159 H | Crosslinked PTFE, Type Silver-Plated Copper | Tyco Electronics |
| | 13-01-005-2 | 267 C | Crosslinked PTFE, Type Silver-Plated Copper | Axon' Cable |
| | 13-01-008 | 215 G | PTFE, Polyimide / PFA Insulated, Type SPP | Gore |
| | 13-01-009 | 216 F | PTFE, Polyimide / PFA Insulated, Shielded, Type SPM | Gore |
| | 13-01-010-1 | 229 F | Polyimide, Insulated, Shielded, Type SPLD, Drain Wire | Gore |
| | 13-01-011-1 | 257 C | Crosslinked, Modified ETFE, Type Silver-Plated Copper, Lightweight | Tyco Electronics |
| 13-02 | | | Coaxial, RF, Flexible | |
| | 13-02-001 | 24 N | PTFE/Polyimide, Type 50 CIS | Nexans |
| | 13-02-002-1 | 255 D | Coaxial, Triaxial, Balanced Shielded Line | Gore |





SECTION 13-**: INDEX OF WIRES AND CABLES


REP005 Updated on 15-Nov-08


| | | | | |
|--|---|--------------------|-----------------------------------|----------------------------------|
| Types covered by similarity: FA 3901-1 All Variants Defined in the Detail Specification are qualified FA 3901-2 All Variants Defined in the Detail Specification are qualified | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/001 3901/002 | Draka Fileca Ste-Genevieve France | Qualification | CNES | Jan 1979 |
| | | Extension | CNES | Sep 1981 |
| | | Extension | CNES | Jan 1984 |
| | | Extension | CNES | Aug 1986 |
| | | Extension | CNES | Jan 1989 |
| | | Extension | CNES | Apr 1991 |
| | | Extension | CNES | Jun 1993 |
| | | Extension | CNES | Jun 1995 |
| | | Extension | CNES | Aug 1997 |
| | | Extension | CNES | Aug 1999 |
| | | Extension | CNES | Jan 2002 |
| | | Extension | CNES | Jan 2004 |
| | | Extension | CNES | Feb 2006 |
| Extension | CNES | Feb 2008 | | |
| Characteristics: Voltage Rating, maximum (Vrms):600 Temperature Range (°C): -100 to +200 | | | | |
|   | WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION BASED ON TYPES FA 3901-1, FA 3901-2 | | Current validity of Qualification | Page |
| | | | Certificate 07 M | Valid Until February 2010 |


| Types covered by similarity: Medium weight 1871 - n/1871 - 871 (3901/001) Variants 24 to 47 are qualified Light weight 1872 - n/1872 - 872 (3901/002) Variants 31 to 73 are qualified | | Remarks: | | |
|--|--|-----------------------------------|-----------------------------|--------------------|
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/001 3901/002 | Nexans Draveil France | Qualification | CNES | Jan 1979 |
| | | Extension | CNES | Sep 1981 |
| | | Extension | CNES | Dec 1983 |
| | | Extension | CNES | Mar 1987 |
| | | Extension | CNES | Jul 1989 |
| | | Extension | CNES | Sep 1991 |
| | | Extension | CNES | Aug 1993 |
| | | Extension | CNES | Sep 1995 |
| | | Extension | CNES | Aug 1997 |
| | | Extension | CNES | Aug 1999 |
| Characteristics: Voltage Rating, maximum (Vrms):600 Temperature Range (°C): -100 to +200 | | Extension | CNES | Aug 2001 |
| | | Extension | CNES | Aug 2003 |
| | | Extension | CNES | Nov 2005 |
| | | Extension | CNES | May 2008 |
| | | Extension | CNES | |
|  ESCC <small>European Space Components Coordination</small>  | WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION BASED ON TYPES 1871 - 1872 | Current validity of Qualification | | Page |
| | | Certificate 09 M | Valid Until May 2010 | 13-01 001-2 |


| Types covered by similarity: All variants are qualified. | | Remarks: | | |
|--|---|-----------------------------------|-------------------------------|--------------------|
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/001 3901/002 | AXON' CABLE Montmirail France | Qualification | ESTEC | Dec 1985 |
| | | Extension | ESTEC | Jul 1988 |
| | | Extension | ESTEC | Jul 1990 |
| | | Extension | ESTEC | Nov 1993 |
| | | Extension | ESTEC | Jan 1996 |
| | | Extension | ESTEC | May 1999 |
| | | Extension | CNES | Jun 2002 |
| | | Extension | CNES | Sep 2004 |
| | | Extension | CNES | Oct 2004 |
| | | Extension | CNES | Mar 2007 |
| Characteristics: Voltage Rating, maximum (Vrms):600 Temperature Range (°C): -100 to +200 | | | | |
|  | WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION, BASED ON TYPES 3901001**B and 3901002**B | Current validity of Qualification | | Page |
| | | Certificate 132 J | Valid Until March 2009 | 13-01 001-3 |


| Types covered by similarity: Variants 01 to 77 are qualified -MTV - BTV -MTV/G - BTV/G -MTV/BF/G - BTV/BF/G | | Remarks: | | |
|---|---|-----------------------------------|-----------------------------|------------------|
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/013 | Nexans Draveil France | Qualification | CNES | Jan 1979 |
| | | Extension | CNES | Sep 1981 |
| Extension | | CNES | Dec 1983 | |
| Extension | | CNES | Mar 1987 | |
| Extension | | CNES | Jul 1989 | |
| Extension | | CNES | Sep 1991 | |
| Extension | | CNES | Aug 1993 | |
| Extension | | CNES | Sep 1995 | |
| Extension | | CNES | Aug 1997 | |
| Extension | | CNES | Aug 1999 | |
| Extension | | CNES | Aug 2001 | |
| Extension | | CNES | Aug 2003 | |
| Extension | | CNES | Nov 2005 | |
| Extension | | CNES | May 2008 | |
| Characteristics: Voltage Rating, maximum (Vrms):600 Temperature Range (°C): -100 to +200 | | | | |
|  | <p>WIRES AND CABLES, LOW FREQUENCY, PTFE/POLYIMIDE INSULATION, BASED ON TYPES MTV-BTV</p> | Current validity of Qualification | | Page |
| | | Certificate 08 M | Valid Until May 2010 | 13-01 003 |


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|--|--|--|---|--|
| Types covered by similarity: Variants 01-66 are qualified | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/009 | W.L. Gore & Co Pleinfeld Germany | Qualification Extension Extension Extension Extension Extension Requalification Extension | DLR ESTEC DARA DARA DARA DLR DLR DLR | Aug 1986 Dec 1988 Jul 1991 Aug 1993 Feb 1996 Feb 1998 Nov 2004 Apr 2007 |
| Characteristics: Voltage Rating, maximum (Vrms):600 Temperature Range (°C): -150 to +150 | | | | |
|  | WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION, BASED ON TYPES SPC 2110 | Current validity of Qualification | | Page |
| | | Certificate 138 G | Valid Until April 2009 | 13-01 004-1 |


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|--|---|--|--|--|
| Types covered by similarity: Variants 01-94 are qualified | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/019 | W.L. Gore & Co Pleinfeld Germany | Qualification Extension Extension Extension Extension Extension Extension Extension | DARA DARA DLR DLR DLR DLR DLR DLR | Nov 1994 Nov 1996 Oct 1998 Oct 2000 Nov 2002 Nov 2004 Oct 2006 Nov 2008 |
| Characteristics: Voltage Rating, maximum (Vrms):600 Temperature Range (°C): -200 to +200 | | | | |
|  | WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION, BASED ON TYPES SPL | Current validity of Qualification | | Page |
| | | Certificate 219 G | Valid Until November 2010 | 13-01 004-2 |


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|---|--|---|-------------------------------|--|
| Types covered by similarity: Variants of construction AWG 12 to 28 All variants are qualified with the exception of variants 01, 09, 17, 24, 25, 32, 48, 56, 64, 72, and 79 | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/019 | AXON' CABLE Montmirail France | Qualification Extension Extension | CNES CNES CNES | Jun 2002 Sep 2004 Mar 2007 |
| Characteristics: AWG 12 to 28 inclusive are qualified Voltage Rating, maximum (Vrms):600 Temperature Range (°C): -200 to +200 | | | | |
|  | WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION, BASED ON TYPES 3901019**B | Current validity of Qualification | | Page |
| | | Certificate 268 B | Valid Until March 2009 | 13-01 004-3 |


| Types covered by similarity: Variants 01 to 80 are qualified. | | Remarks: This product is not intended for manned space applications. | | |
|---|--|--|--|--|
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/012 | Tyco Electronics Dorcan, Swindon England | Qualification Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension Extension | RAE RAE DRA DERA DERA QinetiQ QinetiQ QinetiQ BNSC | Feb 1989 Jul 1992 Mar 1995 Sep 1997 Oct 1999 Nov 2001 Nov 2003 Nov 2005 Oct 2007 |
| Characteristics: Maximum voltage: 600 Vrms Operating temperature range (°C): -100 to +200 | | | | |
|  | <p style="text-align: center;">WIRES AND CABLES, LOW FREQUENCY, 600V, SILVER-PLATED COPPER, EXTRUDED CROSSLINKED FLUOROPOLYMER INSULATION, BASED ON TYPE 55/995X</p> | Current validity of Qualification | | Page |
| | | Certificate 159 H | Valid Until October 2009 | 13-01 005-1 |



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|--|---|---|-------------------------------|--|
| Types covered by similarity: All variants are qualified. | | Remarks: This product is not intended for manned space applications. | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/012 | AXON' CABLE Montmirail France | Qualification Extension Extension Extension | CNES CNES CNES CNES | Mar 2002 Feb 2003 Sep 2004 Mar 2007 |
| Characteristics: Wire code ISO 2635 Voltage Rating, maximum (Vrms) : 600 Temperature Range (°C): -100 to +200 | | | | |
|  | <p style="text-align: center;">WIRES AND CABLES, LOW FREQUENCY, 600V, SILVER-PLATED COPPER, EXTRUDED CROSSLINKED FLUOROPOLYMER INSULATION, BASED ON TYPE 3901012**B</p> | Current validity of Qualification | | Page |
| | | Certificate 267 C | Valid Until March 2009 | 13-01 005-2 |



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|--|---|-----------------------------------|-------------------------------|--------------|
| Types covered by similarity: All variants are qualified | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 | W.L. Gore & Co. Pleinfeld Germany | Qualification | DARA | Jul 1994 |
| Detail ESCC 3901/017 | | Extension | DARA | Sep 1996 |
| | | Extension | DLR | Aug 1998 |
| | | Extension | DLR | Aug 2000 |
| | | Extension | DLR | Aug 2002 |
| | | Extension | DLR | Nov 2004 |
| | | Extension | DLR | Aug 2006 |
| | | Extension | DLR | Sep 2008 |
| <p>Characteristics:</p> <p>Voltage Rating, maximum (Vrms) : 600 Temperature Range (°C): -200 to +200</p> <p>I_{max} (A): 45, 81 and 133 for AWG: 0, 4 and 8, respectively</p> <p>Expanded PTFE, extruded polyimide/fluorthermoplast insulation</p> | | | | |
|  | <p>POWER WIRES FOR CRIMPING, LOW FREQUENCY, BASED ON TYPE SPP</p> | Current validity of Qualification | | Page |
| | | Certificate 215 G | Valid Until September 2010 | 13-01 008 |

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|---|---|---|---|--|
| Types covered by similarity: Variants 01 to 88 are qualified. | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/018 | W.L. Gore & Co. Pleinfeld Germany | Qualification Extension Extension Extension Extension Extension Extension | DARA DARA DLR DLR DLR DLR DLR | Jul 1994 Sep 1997 Aug 1999 Aug 2001 Aug 2003 Nov 2005 Feb 2008 |
| <p>Characteristics:</p> <p>Voltage Rating, maximum (Vrms) : 600 Temperature Range (°C): -200 to +200</p> <p>Expanded PTFE, extruded polyimide/ FEP, sintered PTFE insulated wires. Expanded PTFE, extruded polyimide/fluorothermoplast insulated cables, shielded and jacketed.</p> | | | | |
|  | <p>WIRES AND CABLES, LOW FREQUENCY, INSULATED, POLYIMIDE/FLUOROTHERMOPLAST, BASED ON TYPE SPM</p> | Current validity of Qualification | | Page |
| | | Certificate 216 F | Valid Until February 2010 | 13-01 009 |

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|---|---|---|--|---|
| Types covered by similarity: All variants (01 to 41) are qualified. | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/021 | W.L. Gore & Co. Pleinfeld Germany | Qualification Extension Extension Extension Extension Extension Extension | DARA DLR DLR DLR DLR DLR DLR | Feb1996 Feb 1998 Feb 2000 Feb 2002 Feb 2004 Feb 2006 Mar 2008 |
| Characteristics: Voltage Rating, maximum (Vrms) : 600 Temperature Range (°C): -200 to +200 . | | | | |
|  | POLYIMIDE INSULATED SHIELDED CABLES WITH DRAIN WIRE, LOW FREQUENCY, BASED ON TYPE SPLD | Current validity of Qualification | | Page |
| | | Certificate 229 F | Valid Until March 2010 | 13-01 010-1 |

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|--|---|--|------------------------------------|--|
| Types covered by similarity: 3901/020: All variants (01 - 80) are qualified 3901/022: All variants (01 - 72) are qualified. | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/020 ESCC 3901/022 | Tyco Electronics Dorcan, Swindon England | Qualification Extension Extension Extension | DERA QinetiQ QinetiQ BNSC | Oct 1999 Jan 2002 Jan 2005 Feb 2007 |
| <p>Characteristics: Wires and Cables variants consist of 1, 2, 3 and 4 cores with and without jackets and shields</p> <p>ESCC Detail Specification No. 3901/020 cables are silver-plated copper braided, and ESCC Detail Specification No. 3901/022 cables are silver-plated copper spiral shielded, Wire sizes are in accordance with ISO 2635.</p> <p>Maximum voltage: 600 Vrms Operating temperature range (°C): -100 to +200</p> | | | | |
|  | <p>WIRES AND CABLES, LOW FREQUENCY, 600V, SILVER-PLATED COPPER, EXTRUDED CROSSLINKED MODIFIED ETFE, LIGHTWEIGHT</p> | Current validity of Qualification | | Page |
| | | Certificate 257 C | Valid Until February 2009 | 13-01 011-1 |

| | | | | | | | |
|--|---|--------------------|---------------------------------------|-----------|-----------|------|----------|
| Types covered by similarity: | | Remarks: | | | | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date | | | |
| Generic ESCC 3902 | Nexans Draveil France | Qualification | CNES | July 1979 | | | |
| Detail ESCC 3902/001 | | Extension | CNES | Feb 1982 | | | |
| | | Extension | CNES | July 1984 | | | |
| | | Extension | CNES | Mar 1987 | | | |
| | | Extension | CNES | July 1989 | | | |
| | | Extension | CNES | Sept 1991 | | | |
| | | Extension | CNES | Aug 1993 | | | |
| | | Characteristics: | Extension | CNES | Sep 1995 | | |
| | | | Extension | CNES | Aug 1997 | | |
| | | | Variants 01, 02, and 03 are qualified | | Extension | CNES | Jan 1998 |
| | | | Miniature | | Extension | CNES | Aug 1999 |
| | | | 50 ohms | | Extension | CNES | Aug 2001 |
| | | | PTFE Dielectric | | Extension | CNES | Aug 2003 |
| Polyimide Jacketed, Double Shield, and Shielded/ Jacketed | | Extension | CNES | Nov 2005 | | | |
| Maximum voltage: 900 Vrms | | Extension | CNES | May 2008 | | | |
| Operating temperature range (°C): -100 to +200 | | | | | | | |
|  ESCC <small>European Space Components Coordination</small>  QPL | WIRES AND CABLES, RF COAXIAL, PTFE/POLYIMIDE INSULATION, BASED ON TYPE 50 CIS | | Current validity of Qualification | | | | |
| | | | | Page | | | |
| | | Certificate | Valid Until | 13-02 | | | |
| | | 24 N | May 2010 | 001 | | | |


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|---|---|---|---------------------------------|--|-----|-----------------|-----|--------------------|-----|--|--|--|
| Types covered by similarity: Variants 03 to 06, 10 to 12, 13 and 20 to 25 are qualified | | Remarks: | | | | | | | | | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | |
| Generic ESCC 3902 Detail ESCC 3902/002 | W.L. Gore Pleinfeld Germany | Qualification Extension Extension Extension Extension | DLR DLR DLR DLR DLR | Jan 1999 Feb 2001 Feb 2003 Mar 2005 Mar 2007 | | | | | | | | |
| <p>Characteristics:</p> <p>Variants encompass coaxial, triaxial, and balanced shielded line</p> <p>Operating Voltage (Continuous), maximum ratings, (Vrms):</p> <table> <tr> <td>Variants 03</td> <td>180</td> </tr> <tr> <td>Variants 04, 10, 21, 22, 23, 24</td> <td>200</td> </tr> <tr> <td>Variants 06, 25</td> <td>250</td> </tr> <tr> <td>All Other Variants</td> <td>300</td> </tr> </table> <p>AWG Range: 20, 22, 24, 26, 28, 30 dependent on variant</p> <p>Temperature range (°C): -200 to +180</p> | | Variants 03 | 180 | Variants 04, 10, 21, 22, 23, 24 | 200 | Variants 06, 25 | 250 | All Other Variants | 300 | | | |
| Variants 03 | 180 | | | | | | | | | | | |
| Variants 04, 10, 21, 22, 23, 24 | 200 | | | | | | | | | | | |
| Variants 06, 25 | 250 | | | | | | | | | | | |
| All Other Variants | 300 | | | | | | | | | | | |
|   | <p>WIRES AND CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL, TRIAXIAL AND SYMMETRIC, BASED ON TYPES GCX, GTX, GSC AND GBL</p> | Current validity of Qualification | | Page | | | | | | | | |
| | | Certificate 255 D | Valid Until March 2009 | 13-02 002-1 | | | | | | | | |


Section 14**Component Type: Miscellaneous**


| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-------------|-------|----------------------------|--------------|
| 14-01 | | | Passive Devices, RF | |
| | 14-01-002-2 | 185 D | Coaxial Loads, 0 to 22 GHz | Radiall |
| | 14-01-004 | 178 E | Attenuators, Type R413 | Radiall |
| 14-02 | | | Switches | |
| | 14-03-003 | 275 B | Thermostatic, Bimetallic | COMEPA |



SECTION 14-: INDEX OF MISCELLANEOUS
REP005 Updated on 15-Nov-08**

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|---|--------------|--|-------------------------------------|---------------|--------------------|-----------------------------------|-------------|-------|
| Types covered by similarity: All variants are qualified. | | | | | Remarks: | | | |
| Procurement Specifications | | | Manufacturer | | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3403 Detail 3403/006 | | | RADIALL La Verpilliere France | | Qualification | CNES | Jul 1992 | |
| | | | | | Extension | CNES | Jun 1997 | |
| | | | | | Extension | CNES | Jan 2002 | |
| | | | | | Extension | CNES | Apr 2005 | |
| | | | | | Extension | CNES | Mar 2008 | |
| Characteristics: | | | | | | | | |
| Type | Detail Spec. | Frequency Range (GHz) | Rated Pin (W) | Impedance (Ω) | | | | |
| 3403/006 | 3403/006 | 0-22 | 1 | 50 | | | | |
| Type | VSWR max | | | | | | | |
| | 0<f(GHz)≤4 | 4<f(GHz)≤12.4 | 12.4<f(GHz)≤18 | 18<f(GHz)≤22 | | | | |
| 1 | 1.05 | 1.15 | 1.20 | 1.30 | | | | |
| 2 | 1.05 | 1.15 | 1.20 | 1.25 | | | | |
| Operating Temperature Range (°C), -55 to +125 | | | | | | | | |
|  | | PASSIVE DEVICES, R.F. COAXIAL LOADS, 0-22 GHZ BASED ON TYPE R404 | | | | Current Validity of Qualification | | Page |
| | | | | | | Certificate | Valid Until | 14-01 |
| | | | | | | 185 D | March 2010 | 002-2 |


| | | | | |
|--|--|-----------------------------------|-------------------------------|------------------|
| Types covered by similarity: Variants 01 to 31 | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3403 Detail 3403/005 | RADIALL La Verpilliere France | Qualification | CNES | Jan 1991 |
| Characteristics: Frequency range (GHz): 0 - 22 Attenuation (dB): 0 - 20 Operating Temperature Range (°C), -55 to +125 | | Extension | CNES | Jan 1994 |
| | | Extension | CNES | Jun 1997 |
| | | Extension | CNES | Mar 2002 |
| | | Extension | CNES | Apr 2005 |
| | | Extension | CNES | Mar 2008 |
|  | R.F. ATTENUATORS FIXED, COAXIAL BASED ON TYPE R413 | Current Validity of Qualification | | Page |
| | | Certificate 178 E | Valid Until March 2010 | 14-01 004 |

| | | | | |
|--|---|---|------------------------------|--|
| Types covered by similarity: Variants 01 to 06 are qualified | | Remarks: | | |
| Procurement Specifications | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3702 Detail 3702/001 | COMEPA BAGNOLET France | Qualification Requalification Extension | CNES CNES CNES | Mar 2004 Aug 2005 Jun 2008 |
| Characteristics: Range of Components: Grade 1 and Grade Y Maximum Ratings: Rated Current (I_R): 4 A (30 Vdc resistive) Operating Temperature Range ($^{\circ}\text{C}$), -55 to +125 | | | | |
|  | SWITCHES, THERMOSTATIC, BIMETALLIC, SPST, OPENING CONTACT, BASED ON TYPE TH 47 | Current Validity of Qualification | | Page |
| | | Certificate 275 B | Valid Until June 2010 | 14-03 003 |

Section 18**Component Type: Optoelectronics**

| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|-----------|-------|---------------------------|--------------|
| 18-04 | | | Photodiode, Sensor | |
| | 18-04-001 | 282 | Photovoltaic Type AE 9493 | OSI |

**SECTION 18-**: INDEX OF OPTOELECTRONICS****REP005 Updated on 15-Nov-08**

| | | | | | | |
|--|--|---|--------------------|-----------------------------------|---------------|-------|
| Types covered by similarity: | | Remarks: | | | | |
| Procurement Specifications | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5000 Detail ESCC 5403/001 | | OSI Optoelectronics AS Horten Norway | Qualification | ESTEC | Dec 2007 | |
| Characteristics: Maximum Ratings: $\lambda=410\text{ nm to }800\text{nm}$ at $I_R = 150\text{ mA/W to }480\text{mA/W}$ $V_B=60\text{V}$ at $I_R=10\ \mu\text{A}$ $I_D=300\text{pA}$ at $V_R=-5\text{V}$ $\text{FOV}=40.4^\circ$ Operating Temperature Range ($^\circ\text{C}$): -45 to +110 | | | | | | |
|  | | DIODES, PHOTODIODE, SENSOR, PHOTOVOLTAIC, BLUE ENHANCED BASED ON TYPE AE9493 IN METAL CAN | | Current Validity of Qualification | | Page |
| | | | | Certificate | Valid Until | 18-04 |
| | | | | 282 | December 2009 | 001 |