

ESCC QUALIFIED PARTS LIST

REP005

Updated 15-Oct-2006



| General Information | |
|--|---|
| As affected | |
| Section/Page No. | Description |
| Section 01 01-03-004 | Index of Capacitors Type TAJ from AVX Amended |
| Section 07 07-01-002 | Index of Inductors Types SESI from Microspire Amended |
| Section 10 10-09-001-1 | Index of Resistors Single & Double Layer from IRCA Amended |
| Section 11 11-01-001 | Index of Thermistors Type G15K4D489 and *K3A35* from Betatherm Amended |
| Section 13 13-01-001-3 13-01-004-2 13-01-004-3 13-01-005-2 | Index of Wires and Cables Polyimide, Types 3901002**B from Axon Cable Polyimide, Type SPL from Gore Polyimided, Type 3901019**B from Axon Cable Crosslinked PTFE, Type Silver-Plated Copper from Axon Cable Amended Amended Extended Amended Amended |



Qualified Parts List
DOCUMENT CHANGES

Changes of : 15-Oct-06

| | General Information | |
|-------------------------|---|---------------------|
| As affected | | |
| Section/Page No. | Description | |
| DCN Aug. 06 | Type SPP from Gore (D) | Amended |
| Section 13 13-01-008 | Index of Wires/Cables Type SPP from Gore (D) | Amended Extended |



Qualified Parts List
DOCUMENT CHANGES

Changes of : 15-Sep-06

| | |
|-------------------------|----------------------------|
| | General Information |
| As affected | |
| Section/Page No. | Description |
| | |



**Qualified Parts List
DOCUMENT CHANGES**

Changes of : 15-Aug-06

| General Information | |
|---------------------|--|
| As affected | |
| Section/Page No. | Description |
| Section 04 | Index of Diodes |
| 04-01-002-2 | Types 1N4148-1, 1N4150-1 from Microsemi |
| 04-01-003-1 | Types 1N6638 and 1N3595-1 from Micosemi |
| 04-01-004-1 | Types 1N5806 and 1N5806US from Micorsemi |

Amended
Deleted
Deleted
Deleted



Qualified Parts List
DOCUMENT CHANGES

Changes of : 15-Jul-06

| | General Information | |
|------------------|--------------------------------------|---------|
| As affected | | |
| Section/Page No. | Description | |
| Section 02 | Index of Connectors | Amended |
| 02-03-001-1 | Type HE801 from Hypertac | Amended |
| 02-03-002-1 | Type KMC from Hypertac | Amended |
| 02-03-003-1 | Type MHD from Hypertac | Amended |
| Section 04 | Index of Diodes | Amended |
| 04-05-003-2 | Types DH267 and DH294 from Chelton | Amended |
| 04-05-003-3 | Types DH76xxx from Chelton | Amended |
| Section 07 | Index of Inductors | Amended |
| 07-01-002 | Series SESI from Microspire | Amended |
| Section 11 | Index of Thermistors | Amended |
| 11-01-001 | Types *G*D and *K3A* from Betatherm, | Amended |



Qualified Parts List
DOCUMENT CHANGES

Changes of : 15-Jun-06

| General Information | |
|--|--|
| As affected | |
| Section/Page No. | Description |
| Section 01 01-01-007 01-02-004-1 | Index of Capacitors Type II, High Voltage from TEMEX Type II, High Voltage from AVX (N.I.) |
| | Amended Amended Extended |



Qualified Parts List
DOCUMENT CHANGES
 Changes of : 15-May-06

| General Information | | |
|---------------------|---|----------|
| As affected | | |
| Section/Page No. | Description | |
| Section 01 | Index of Capacitors | Amended |
| 01-01-005 | Type II, High Capacitance from AVX (N.I.) | Extended |
| 01-01-006 | Type II, High Voltage from AVX (N.I.) | Extended |
| 01-04-001-2 | Type CLR 79 from Arcotronics | Extended |
| Section 02 | Index of Connectors | Amended |
| 02-01-001-2 | D*M Series, Rectangular from SOURIAU | Extended |
| 02-02-001-2 | D*MA Series, Rectangular from SOURIAU | Extended |
| Section 04 | Index of Diodes | Amended |
| 04-02-002-1 | Type STPS20H100 from STMicroelectronics | Extended |
| 04-02-003-1 | Types BYW-81, BYV52, BY54 from STMicroelectronics | Extended |
| Section 05 | Index of Filters | Amended |
| 05-01-001 A-B | Types SFC, SFL, SFP from Eurofarad | Extended |
| Section 12 | Index of Transistors | Amended |
| 12-01-002-3A-B | Types NPN from STMicroelectronics | Extended |
| 12-01-003-1 | Types 2N2369A from STMicroelectronics | Extended |
| 12-02-002-3A-B | Types PNP from STMicroelectronics | Extended |



Qualified Parts List
DOCUMENT CHANGES

Changes of : 15-Mar-06

| 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 04-05-003-1A-B | Index of Diodes PIN and Varactors from Tyco M/A Com Amended Extended |
| Section 10 10-08-002 10-10-001 | Index of Resistors Type P HR from Vishay S.A. Sfernice Single-in-Line Network from Vishay S.A. Sfernice Amended Extended Extended |
| Section 13 13-01-001-1 13-01-010-1 | Index of Wires and Cables Polyimide, Types FA-3901-1, FA 3901-2 from Draka Fileca Polyimide, Insulated, Shielded, Type SPLD, Drain Wire from Gore Amended Extended Extended |



Qualified Parts List
DOCUMENT CHANGES

Changes of : 15-Feb-06

| General Information | |
|--|---|
| As affected | |
| Section/Page No. | Description |
| Section 01 01-02-003-1 | Index of Capacitors Type I, High Frequency from TEMEX Amended Deleted |
| 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 04-05-003-2 04-05-003-3 | Index of Diodes Type STPS20H100 from STMicroelectronics Types BYW-81, BYV52, BYV54 from STMicroelectronics PIN, Fast Switching from Chelton Varactor, DH 267 from Chelton Varactor, Tuning DH 76xx from Chelton Amended Amended Amended Amended Amended |
| Section 09 09-01-005 09-02-006 09-03-002 | Index of Relays Type E from LEACH Type D from LEACH Type GP3A Amended Amended Amended Deleted |
| Section 10 10-08-002 10-10-001 | Index of Resistors Type P HR from Vishay Sfernice Single-in-Line from Vishay Sfernice Amended 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 Amended Amended |
| Section 13 13-01-001-1 13-01-010-1 | Index of Wires and Cables Polyimide, Types FA-3901-1, FA 3901-2 from Draka Fileca Polyimide, Insulated, Shielded, Type SPLD, Drain Wire from GORE Amended Amended |



Qualified Parts List
DOCUMENT CHANGES

Changes of : 15-Jan-06

| | General Information | |
|------------------|---|----------|
| As affected | | |
| Section/Page No. | Description | |
| Section 01 | Index of Capacitors | Amended |
| 01-01-005 | Type II, High Capacitance from AVX (N.I.) | Amended |
| 01-01-006 | Type II, High Voltage from AVX (N.I.) | Amended |
| 01-02-003-1 | Type I, High Frequency from TEMEX | Amended |
| 01-02-004-1 | Type II, High Voltage from AVX (N.I.) | Amended |
| 01-05-001-1 | Type HT86PS, High Voltage from Eurofarad | Extended |
| Section 02 | Index of Connectors | Amended |
| 02-01-001-2 | D*M Series, Rectangular from SOURIAU | Amended |
| 02-04-001 | SMA Series from Radiall | Amended |
| 02-05-001-1 | MDM Series, Rectangular from ITT Cannon | Extended |
| Section 04 | Index of Diodes | |
| 04-02-003-1 | Types BYW-81, BYV52, BYV54 from STMicroelectronic | Amended |
| 04-05-001-3 | Schottky, BAS 70 from Infineon | Amended |
| 04-05-002-2 | PIN, BXY 42 from Infineon | Amended |
| 04-05-003 | PIN, BXY 43 and 44 from Infineon | Amended |
| 04-05-003-2 | Varactor, DH 267 from Chelton | Amended |
| 04-05-003-3 | Varactor, Tuning, DH 76xxx from Chelton | Amended |
| Section 05 | Index of Filters | |
| 05-01-001-A | Types SFC, SFL, SFP from Eurofarad | Amended |
| Section 07 | Index of Inductors | Amended |
| 07-01-001 | Types MSC1 10000, 12000, 20000 from Microspire | Extended |
| Section 09 | Index of Relays | |
| 09-03-002 | Type GP3A from LEACH | Amended |
| Section 10 | Index of Resistors | |
| 10-04-001 | Type RNC 90 from Vishay Sfernice | Amended |
| 10-08-002 | Type P HR from Vishay Sfernice | Amended |
| 10-10-001 | Single-in-Line from Vishay Sfernice | Amended |
| Section 12 | Index of Transistors | |
| 12-10-001 | Types BFY 193 from Infineon | Amended |
| 12-10-002 | Types BFY 405-450 from Infineon | Amended |
| 12-15-001-1 | Type CLY32 from Infineon | Amended |
| 12-16-001 | Types CFY66 & 67, High Electron Mobility, Low Noise from Infineon | Amended |
| Section 13 | Index of Wires and Cables | Amended |
| 13-01-005-1 | Crosslinked PTFE, Type Sliver-Plated copper from Tyco Electronics | Extended |



**Qualified Parts List
DOCUMENT CHANGES**

Changes of : 15-Dec-05

| General Information | | |
|---------------------|--|----------|
| As affected | | |
| Section/Page No. | Description | |
| Section 08 | Index of Microcircuits | Amended |
| 08-02-001-2 A-E | 4000 B Series from ST Microelectronics | Extended |
| 08-02-002-2 A-F | 54HCMOS Series from ST Microelectronics | Extended |
| Section 10 | Index of Resistors | Amended |
| 10-02-006 | Surface Mount, Type MS1 from Vishay Electronic (Selb) | Extended |
| Section 13 | Index of Wire and Cables | Amended |
| 13-01-001-2 | Polyimide, Types 1871-1872 from Nexans | Extended |
| 13-01-003 | PTFE, Types MTV-BTV from Nexans | Extended |
| 13-01-005-1 | Crosslinked PTFE Type Silver-Plated Copper from Tyco Electronics | Amended |
| 13-01-009 | PTFE, Polyimide/PFA insulated Shielded, Type SPM from GORE | Extended |
| 13-02-001 | PTFE/Polyimide, Type 50 CIS from Nexans | Extended |



Qualified Parts List
DOCUMENT CHANGES

Changes of : 15-Nov-05

| General Information | |
|-------------------------|--|
| As affected | |
| Section/Page No. | Description |
| Section 10 10-02-006 | Index of Resistors Surface Mount, Type MS1 from Vishay Electronic (Selb) Amended |
| Section 13 13-01-009 | Index of Wire and Cables PTFE, Polyimide/PFA insulated Shielded, Type SPM from GORE Amended |



Qualified Parts List
DOCUMENT CHANGES

Changes of : 15-Oct-05

TABLE OF CONTENTS

| <u>SECTION</u> | | <u>PAGE</u> |
|----------------|------------------------------------|-------------|
| | Document Changes | - |
| | Table of Contents | 1 |
| 1 | Foreword | 2 |
| 2 | Procurors' Responsibility | 2 |
| 3 | Use of Tables | 2 |
| 4 | Revision Procedure | 2 |
| 5 | Table of Qualified Component Types | 3 |
| Appendices | | |
| 'A' | Qualified Components List | 4 |

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 ECSS-Q-60A.

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 procuror is responsible for ensuring that the qualification or capability approval status is valid and that delivered components fulfil the specified requirements of the applicable ESCC specifications. The procuror 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 Component 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 listings; 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 provide the changes over a one year period. (The same issue date appears on the table at the start of each Section of the Appendix irrespective of whether changes have been made in a particular section. This indicates the information has been reviewed and is current.) The ESA/SCC System is superseded by the ESCC (European Space Components Coordination) System and in consequence this issue of the ESCC QPL is the first one.



Qualified Parts List

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 | Wire and Cables |
| 14 | Miscellaneous |



ESCC
European Space Components Coordination

QPL

Qualified Parts List

APPENDIX A
Qualified Components List



ESCC
European Space Components Coordination



QPL



Qualified Parts List

Section 01

Component Type: Capacitors

| Sub -Section | Page No. | Cert. | Type Designation | Manufacturer |
|--------------|-------------|-------|--|--------------|
| 01-01 | | | Ceramic, Fixed | |
| | 01-01-005 | 231 D | Type II, High Capacitance | AVX (N.I.) |
| | 01-01-006 | 262 B | Type II, High Voltage | AVX (N.I.) |
| | 01-01-007 | 277 | Type II, High Voltage | TEMEX |
| 01-02 | | | Ceramic, Fixed, Chip | |
| | 01-02-001-1 | 109 G | Type I | AVX/TPC |
| | 01-02-002-1 | 110 G | 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 B | Type TAJ | AVX (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 C | Type HT86PS, High Voltage | Eurofarad |
| | 01-05-002-1 | 269 A | Type KM94S | Eurofarad |
| | 01-05-003-1 | 270 A | Type PM94S | Eurofarad |

| | | | | | | | |
|---|--|--|--------------------|-----------------------|-----------------------------------|-------------------------------|------------------|
| Types covered by similarity : ± 20% tolerance | | Remarks : | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | |
| Generic ESCC 3001 | | AVX Limited Coleraine Northern Ireland | Qualification | DRA | Jul 1996 | | |
| Detail ESCC 3001/030 | | | Extension | DERA | Jul 1999 | | |
| | | | Extension | DERA | Jul 2001 | | |
| | | | Extension | QinetiQ | Oct 2003 | | |
| | | | Extension | QinetiQ | Mar 2006 | | |
| <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 No. 231 D | Valid Until March 2008 | 01-01 005 |

| | | | | |
|--|--|-----------------------------------|-------------------------------|------------------|
| Types covered by similarity : ± 20% tolerance | | Remarks : | | |
| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3001 | AVX Limited Coleraine Northern Ireland | Qualification | DERA | Sep 2000 |
| Detail ESCC 3001/034 | | Extension | QinetiQ | Aug 2002 |
| | | Extension | QinetiQ | Mar 2006 |
| Characteristics : E12 series Qualified Range: Variants 01 to 22 are qualified ± 10% tolerance Operating Temperature Range (°C): -55 to +125 | | | | |
|   | CAPACITORS, CERAMIC, TYPE II, HIGH VOLTAGE, 1.0 TO 5.0 KV, BASED ON CASE STYLES VR, CV, AND CH | Current Validity of Qualification | | Page |
| | | Certificate No. 262 B | Valid Until March 2008 | 01-01 006 |

Types covered by similarity :

± 20% tolerance

Remarks : This qualification will not be maintained. The certificate shall be removed in November 2006.

| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|---------------------------|--------------------|-----------------------|----------|
| Generic ESCC 3001 Detail ESCC 3001/036 | TEMEX Pessac France | Qualification | CNES | Nov 2004 |

Characteristics :

Qualified Range:

Variants 01 to 05 are qualified

± 10% tolerance

| Style | Rated Voltage (kV) | Capacitance Range (nF) | Tol. (±%) |
|-------|--------------------|------------------------|-----------|
| H1515 | | 0.100 to 12 | 10 |
| H2020 | 1.0 to 4.0 | 0.150 to 22 | 10 |
| H2520 | | 0.12 to 33 | 10 |
| H3333 | 1.0 to 5.0 | 0.82 to 100 | 10 |
| H5440 | | 2.7 to 220 | 10 |

Operating Temperature Range (°C): -55 to +125



CAPACITORS, FIXED,
 CERAMIC, TYPE II, HIGH VOLTAGE, 1.0 TO 5.0 KV,
 RADIALL LEADED, BASED ON TYPES Hxxx

Current Validity of Qualification

Certificate No.

277

Valid Until

November 2006

Page

01-01

007

Types covered by similarity

Variants 01 and 06 are qualified
Tolerance (\pm): 0.5pF; 2, 5, 20 %

Remarks :

| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|-------------------------------------|--------------------|-----------------------|----------|
| Generic ESCC 3009 | | AVX/TPC St Apollinaire France | Qualification | CNES | Feb 1983 |
| Detail ESCC 3009/003 | | | Extension | CNES | Sep 1986 |
| 3009/004 | | | Requalification | CNES | Apr 1992 |
| 3009/005 | | | Extension | CNES | Jan 1995 |
| 3009/006 | | | Extension | CNES | Jun 1998 |
| 3009/022 | | | Extension | CNES | Nov 2000 |
| | | | Extension | CNES | Jun 2003 |
| | | | Requalification | CNES | Feb 2005 |

Characteristics : Operating Temp Range ($^{\circ}$ C), -55 to +125

| Style | Model | Detail Spec. | Capacitance Range (pF) | Rated Volt. (V) | Tolerance(\pm %) | TC(ppm/ $^{\circ}$ C) |
|-------|-------|--------------|--------------------------|------------------|----------------------|-----------------------|
| 0805 | A_12C | 3009/003 | 4.7 to 9.1 10 to 1500 | 50,100 50,100 | 0.5 pF 1, 2, 5,10 | \pm 30 |
| 1206 | A_20C | 3009/022 | 10 to 3900 | 50,100 | 1, 2, 5,10 | \pm 30 |
| 1210 | A_13C | 3009/004 | 22 to 6800 | 50,100 | 1, 2, 5,10 | \pm 30 |
| 1812 | A_14C | 3009/005 | 100 to 15000 | 50,100 | 1, 2, 5,10 | \pm 30 |
| 2220 | A_15C | 3009/006 | 470 to 33000 | 50,100 | 1, 2, 5,10 | \pm 30 |



CAPACITORS,
CERAMIC, FIXED,
CHIP, TYPE I

Current Validity of Qualification

Certificate No.

109 G



Valid Until

February 2007

Page

01-02

001-1

| Types covered by similarity : | | Remarks : | | | |
|--|---|-------------------------------------|-----------------------------------|-----------------------|----------|
| Tolerance (\pm %): 10, 20 | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3009 | | AVX/TPC St Apollinaire France | Qualification | CNES | Feb 1983 |
| Detail ESCC 3009/008 | | | Extension | CNES | Sep 1986 |
| 3009/009 | | | Requalification | CNES | Oct 1992 |
| 3009/010 | | | Extension | CNES | Mar 1995 |
| 3009/011 | | | Extension | CNES | Jun 1998 |
| 3009/023 | | | Extension | CNES | Nov 2000 |
| Characteristics: | | | Extension | CNES | Jun 2003 |
| See Table on next page | | | Requalification | CNES | Feb 2005 |
| OperatingTemp. Range (°C): -55 to +125 | | | | | |
|   | CAPACITORS, CERAMIC, FIXED, CHIP, TYPE II | | Current Validity of Qualification | | Page |
| | | Certificate No. 110 G | Valid Until February 2007 | 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 10000 to 47000 | 25, 50 100 | 5,10, 20 |
| 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 47000 to 220000 | 25, 50 100 | 5,10, 20 |
| 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 82000 to 470000 | 25, 50 100 | 5,10, 20 |
| 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 180000 to 1000000 | 25, 50 100 | 5,10, 20 |
| 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 27000 to 100000 | 25, 50 100 | 5,10, 20 |



CAPACITORS,
CERAMIC, FIXED,
CHIP, TYPE II

Current Validity of Qualification

Certificate No.
110 G

Valid Until
February 2007



Page
01-02
002-1B



Types covered by similarity :
± 20% tolerance

Remarks :

| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|--------------------|-----------------------|----------|
| Generic ESCC 3009 Detail ESCC 3009/034 | AVX Limited Coleraine Northern Ireland | Qualification | DERA | Feb 2001 |
| | | Extension | QinetiQ | Apr 2003 |
| | | Extension | QinetiQ | May 2006 |

| Characteristics : E12 series Qualified Range: Variants 01 to 24 are qualified Terminations: Variants 01 to 12: metallised pads Variants 13 to 24: solder coating (62/36/2 Sn/Pb/Ag) Operating Temperature Range (°C): -55 to +125 | 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 | |

| | | | | |
|--|---|-----------------------------------|-------------------------|----------------|
|   | CAPACITORS, FIXED, CHIP, CERAMIC, TYPE II, HIGH VOLTAGE, BASED ON 1812 AND 1825 | Current Validity of Qualification | | Page |
| | | Certificate No. 264 B | Valid Until May 2008 | 01-02 004-1 |

| | | | | | |
|--|--|--|---|--------------------------------|--|
| Types covered by similarity : | | Remarks : Maintenance of qualification testing has been completed. | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3012 Detail ESCC 3012/001 | | AVX Ltd Paignton England | Qualification Extension Extension | DRA DERA QinetiQ | Jun 1993 Apr 2001 Apr 2003 |
| Characteristics Variants 01 to 07 and 11 to 17 are qualified | | | | | |
|   | CAPACITORS, LEADLESS SURFACE MOUNTED, TANTALUM, SOLID ELECTROLYTE, TYPE TAJ | Current Validity of Qualification | | Page | |
| | | Certificate No. | Valid Until | 01-03 | |
| | | 196 B | April 2005 | 004 | |

Types covered by similarity : 20 % tolerance

Remarks :

| Procurement Specifications Issues in effect on certification date | 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, ELECTROLYTIC, FIXED,
CLR 79

| Current Validity of Qualification | | Page |
|-----------------------------------|-------------|-------|
| Certificate No. | Valid Until | 01-04 |
| 173 E | March 2008 | 001-2 |

Types covered by similarity :

All values defined by the ESCC Detail Specification
20% tolerance by variant where applicable

Remarks :

| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|--------------------|-----------------------|----------|
| Generic ESCC 3006 | EUROFARAD Lagny sur Marne France | Qualification | CNES | Aug 1998 |
| Detail ESCC 3006/022 | | Extension | CNES | Jan 2001 |
| | | Extension | CNES | Aug 2003 |
| | | Extension | CNES | Dec 2005 |

Characteristics: Operating Temp. Range (°C): -55 to +125

| 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

Certificate No.

251 C

Valid Until

December 2007

Page

01-05

001-1

Types covered by similarity :

All values defined by the ESCC Detail Specification
 ± 2% (E48 Series), 5% (E24 Series), 10% (E12 Series) tolerance by variant where applicable

Remarks :

| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|--------------------|-----------------------|----------|
| Generic ESCC 3006 | EUROFARAD Lagny sur Marne France | Qualification | CNES | Aug 2002 |
| Detail ESCC 3006/023 | | Extension | CNES | Apr 2005 |

Characteristics: E96 Series

| Capacitance Range (nF) | Tol.(± %) | U _R (V) |
|------------------------|-----------|--------------------|
| 4.64 to 1 000 | 1.0 | 50 |
| 1.0 to 470 | 1.0 | 100 |

Sizes 01, 02, 03 available
 Maximum dimensions (mm) :
 01: 8.0 x 7.5 x 4.5
 02: 8.5 x 8.5 x 7.5
 03: 10.7 x 10.7 x 7.5

Operating Temp. Range (°C): -55 to +125



CAPACITORS, FIXED, SURFACE MOUNT, D.C. SELF-HEALING,
 NON-INDUCTIVE, POLYPHENYLENE SULPHIDE DIELECTRIC,
 BASED ON TYPE KM94S

Current Validity of Qualification

Certificate No.

269 A

Valid Until

April 2007

Page

01-05

002-1

Types covered by similarity :

All values defined by the ESCC Detail Specification
 ± 20% (E6 Series) tolerance by variant where applicable

Remarks :

| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|--------------------|-----------------------|----------|
| Generic ESCC 3006 | EUROFARAD Lagny sur Marne France | Qualification | CNES | Aug 2002 |
| Detail ESCC 3006/024 | | Extension | CNES | Apr 2005 |

Characteristics: E12 Series

Sizes Available: 01, 02, 03, 04

Maximum dimensions (mm):

01: 10.7 x 10.7 x B

02: 15.5 x 11.5 x B

03: 16.5 x 15.5 x B

04: 18.5 x 17.0 x B

| 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 |

where B= 6,8,10,12,14,15 depending on
capacitance value

Operating Temp. Range (°C): -55 to +125



CAPACITORS, FIXED, SURFACE MOUNT, D.C. SELF-HEALING,
 NON-INDUCTIVE, POLYTEREPHALATE DIELECTRIC,
 BASED ON TYPE PM94S

Current Validity of Qualification

Certificate No.

270 A

Valid Until

April 2007

Page



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 K | D*M Series, Rectangular | ITT Cannon |
| | 02-01-001-2 | 155 G | D*M Series, Rectangular | SOURIAU |
| 02-02 | | | Multipin, Crimp Contacts | |
| | 02-02-001-1 | 72 K | D*MA Series, Rectangular | ITT Cannon |
| | 02-02-001-2 | 156 F | D*MA Series, Rectangular | SOURIAU |
| | 02-02-003 | 25 J | DBAS Series, Circular | Deutsch |
| | 02-02-005 | 220 C | Series I, Circular, Crimp | SOURIAU |
| | 02-02-006 | 221 C | Series II, Circular, Crimp | SOURIAU |
| | 02-02-007-1 | 222 C | Series III, Circular, Miniature | SOURIAU |
| | 02-02-008 | 223 B | Series III, Hermatic | SOURIAU |
| 02-03 | | | Printed Circuit Board | |
| | 02-03-001-1 | 99 H | HE 801 Series | HYPERTAC |
| | 02-03-001-2 | 217 D | HE 801 Series | HYPERTAC UK |
| | 02-03-002-1 | 149 F | KMC Series | HYPERTAC |
| | 02-03-003-1 | 250 B | MHD Series | HYPERTAC |
| 02-04 | | | R.F. Coaxial | |
| | 02-04-001 | 68 H | SMA Series | Radiall |
| 02-05 | | | Micro-miniature, Crimp Contacts | |
| | 02-05-001-1 | 140 H | MDM Series, Rectangular | ITT Cannon |
| | 02-05-002-1 | 141 H | MTB Series, Rectangular | ITT Cannon |

| | | | | | | |
|--|--|--|---|--|--|------|
| Types covered by similarity : Range defined in the corresponding Detail Specifications. | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 Detail ESCC 3401/001 3401/004 3401/022 3401/040 | | ITT CANNON Dole France | Qualification Extension Extension Extension Extension | CNES CNES CNES CNES CNES | Feb 1981 Jun 1983 Sep 1986 Oct 1988 Jun 1989 Sep 1991 Apr 1994 Jan 1997 Jan 2000 Apr 2003 Aug 2005 | |
| 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 Mounting Type: Blank: standard mounting holes Y: floating mount E: captive nuts 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 | | | Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES | Sep 1991 Apr 1994 Jan 1997 Jan 2000 Apr 2003 Aug 2005 | |
|   | | CONNECTORS, ELECTRICAL, SOLDER AND WIRE WRAP CONTACTS, RECTANGULAR RECEPTACLE AND PLUG, BASED ON TYPE D*M | | Current Validity of Qualification | | Page |
| | | Certificate No. 71 K | Valid Until August 2007 | 02-01 001-1 | | |

| | | | | | | |
|---|--|--|--------------------|-------------------------------|-----------------------------------|------|
| Types covered by similarity : Complete range as defined in the Detail Specifications | | Remarks : Coaxial and power contacts are not qualified. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 | | SOURIAU Connection Technology Marolles en Brie France | Qualification | CNES | Sep 1988 | |
| Detail ESCC 3401/001 | | | Extension | CNES | Apr 1991 | |
| | | | Extension | CNES | Jan 1994 | |
| | | | Extension | CNES | Jul 1996 | |
| | | | Extension | CNES | Oct 1997 | |
| | | | Extension | CNES | Mar 2000 | |
| | | | Extension | CNES | Apr 2003 | |
| | | Extension | CNES | Mar 2006 | | |
| Characteristics Range of Contacts: 9, 15, 25, 37, 50 contacts. Size 20. Range of Contacts: 15, 26, 44, 62, 78 contacts. Size 22 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 No. 155 G | | Valid Until March 2008 | 02-01 001-2 | |

| | | | | | | |
|---|--|--|--|--|--|-------|
| Types covered by similarity : Range defined in the corresponding Detail Specification | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 Detail ESCC 3401/002 3401/005 3401/020 3401/021 | | ITT CANNON Dole France | Qualification Extension Extension Extension Extension Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES CNES CNES CNES CNES CNES | Feb 1981 Jun 1983 Sep 1986 Oct 1988 Jun 1989 Sep 1991 Apr 1994 Jan 1997 Jan 2000 Apr 2003 Aug 2005 | |
| Characteristics 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 size 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) Gold-plated non-magnetic coating Operating Temperature Range (°C): -55 to +125 Connector Savers: For usage with above connector range | | | | | | |
|   | | CONNECTORS, ELECTRICAL, CRIMP CONTACTS, RECTANGULAR RECEPTACLE AND PLUG, BASED ON TYPE D*MA | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 02-02 |
| | | | 72 K | August 2007 | 001-1 | |

| | | | | | | |
|---|--|---|--|--|--|------|
| Types covered by similarity : Complete range as defined in the Detail Specifications | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 Detail ESCC 3401/002 3401/005 3401/020 3401/021 | | SOURIAU Connection Technology Marolles en Brie France | Qualification Extension Extension Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES CNES CNES | Sep 1988 Apr 1991 Jan 1994 Jul 1996 Mar 2000 Apr 2003 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 sizes AWG # 22, 24 and 26 (contact AWG # 22 for high density, contact arrangements, variants 07 and 08) Range of Contacts: 9, 15, 25, 37, 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 | | | | | | |
|  | | CONNECTORS AND CONNECTOR SAVER, ELECTRICAL, CRIMP CONTACTS, REMOVABLE, RECTANGULAR RECEPTACLE AND PLUG, BASED ON TYPE D*MA | | Current Validity of Qualification | | Page |
| | | | Certificate No. 156 F | Valid Until March 2008 | 02-02 001-2 | |

Types covered by similarity :
See Detail Specification 3401/008,3401/009 and 3401/012

Remarks :
Maximum Ratings are stated for one isolated contact.

| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|---------------------------------|--------------------|-----------------------|----------|
| Generic ESCC 3401 | | Cie DEUTSCH Evreux France | Qualification | CNES | Jul 1979 |
| Detail ESCC 3401/008 | | | Extension | CNES | Nov 1982 |
| 3401/009 | | | Extension | CNES | Nov 1985 |
| 3401/012 | | | 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 |

Characteristics

| | | | | | | | |
|-------------------|----|----|--------|--------|--------|--------|--------|
| 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 |

Variants 01 to 20 are qualified

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
Operating Temperature Range (°C): -65 to +200





CONNECTORS, MINIATURE,
ELECTRICAL, CIRCULAR, PUSH-PULL COUPLING,
REMOVABLE CRIMP CONTACTS,
BASED ON TYPE DBAS



Current Validity of Qualification



Certificate No.
25 J



Valid Until
November 2006



Page
02-02
003



| Types covered by similarity : For contact, variants 01 to 14 are qualified | | Remarks : | | | | | | | | | | | | | |
|--|-------------|---|------------------------------|-----------------------|-----------------------------------|--------------|-------------|---|------|----|------|----|------|----|-----|
| Procurement Specifications Issues in effect on certification date | | 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 | | | | | | | | | | |
| | | | Extension | CNES | Jun 2005 | | | | | | | | | | |
| <p>Characteristics</p> <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</p> <p>Receptacle and Plug Shell Sizes: 09,11,13,15,17,19,21,23,25</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>Operating temperature range (° C): -65 to +200 °C</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 No. 220 C | Valid Until June 2007 | 02-02 005 | | | | | | | | | | | |



| | | | | | | | | | | | | | |
|--|--------------------|---|------------------------------|-----------------------|-----------------------------------|---------------------|--------------------|----|------|----|------|----|-----|
| Types covered by similarity : For contact, variants 01 to 08 are qualified | | Remarks : | | | | | | | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | |
| Generic ESCC 3401 | | SOURIAU Connection Technology Marolles en Brie France | Qualification | CNES | May 1995 | | | | | | | | |
| Detail ESCC 3401/044 | | | Extension | CNES | Mar 1998 | | | | | | | | |
| 3401/045 | | | Extension | CNES | Jul 2001 | | | | | | | | |
| | | | Extension | CNES | Jun 2005 | | | | | | | | |
| <p>Characteristics</p> <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,</p> <p>Receptacle and Plug shell sizes: 08,10,12,14,16,18,20,22,24</p> <table border="0"> <tr> <td><u>Contact Size</u></td> <td><u>Ratings (A)</u></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> </table> <p>Operating temperature range (° C): -65 to +200 °C</p> | | | | | | <u>Contact Size</u> | <u>Ratings (A)</u> | 12 | 23.0 | 16 | 13.0 | 20 | 7.5 |
| <u>Contact Size</u> | <u>Ratings (A)</u> | | | | | | | | | | | | |
| 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 No. 221 C | Valid Until June 2007 | 02-02 006 | | | | | | | | | |



| Types covered by similarity : 3401/058 variants 01 to 14 are qualified 3401/066 variants 01 and 02 are qualified 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 Issues in effect on certification date | | Manufacturer | | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 3401 | | SOURIAU Connection Technology Marolles en Brie France | | Qualification | CNES | May 1995 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detail ESCC 3401/056 | | | | Extension | CNES | Mar 1998 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3401/058 | | | | Extension | CNES | Jul 2001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3401/066 3401/070 | | | | Extension | CNES | Jun 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Characteristics 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) 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) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="0"> <thead> <tr> <th><u>Crimp Contact Size</u></th> <th><u>Ratings (A)</u></th> <th><u>PCB Contact Size</u></th> <th><u>Ratings (A)</u></th> <th colspan="3"></th> </tr> </thead> <tbody> <tr> <td>4</td> <td>80.0</td> <td>16</td> <td>10.0</td> <td colspan="3"></td> </tr> <tr> <td>8</td> <td>46.0</td> <td>20</td> <td>5.0</td> <td colspan="3"></td> </tr> <tr> <td>12</td> <td>23.0</td> <td>22</td> <td>3.0</td> <td colspan="3"></td> </tr> <tr> <td>16</td> <td>13.0</td> <td colspan="4"></td> <td colspan="2"></td> </tr> <tr> <td>20</td> <td>7.5</td> <td colspan="4"></td> <td colspan="2"></td> </tr> <tr> <td>22</td> <td>5.0</td> <td colspan="4"></td> <td colspan="2"></td> </tr> </tbody> </table> <p style="text-align: center;">Operating temperature range (° C): -65 to +200 °C</p> | | | | | | | <u>Crimp Contact Size</u> | <u>Ratings (A)</u> | <u>PCB Contact Size</u> | <u>Ratings (A)</u> | | | | 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 | | | | | | |
| <u>Crimp Contact Size</u> | <u>Ratings (A)</u> | <u>PCB Contact Size</u> | <u>Ratings (A)</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|   | | CONNECTORS, MINIATURE, ELECTRICAL, CIRCULAR, TRIPLE-START SELF-LOCKING COUPLING, SCOOP-PROOF, REMOVABLE & NON-REMOVABLE CRIMP CONTACTS BASED ON TYPE MIL-C-38999, SERIES III | | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Certificate No. 222 C | Valid Until June 2007 | 02-02 007-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| | | | | | | | | | | | |
|---|-------------|---|---|-----------------------------------|--|--------------|-------------|----|-----|-----|-----|
| Types covered by similarity : | | Remarks : | | | | | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | |
| Generic ESCC 3401 Detail ESCC 3401/057 | | SOURIAU Connection Technology Marolles en Brie France | Qualification Requalification Extension | CNES CNES CNES | May 1995 Jul 2001 Jun 2005 | | | | | | |
| Characteristics 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) Receptacle Shell Sizes: 09,11,13,15,17,19,21,23,25 <table border="0"> <tr> <td>Contact Size</td> <td>Ratings (A)</td> </tr> <tr> <td>20</td> <td>5.0</td> </tr> <tr> <td>22D</td> <td>3.0</td> </tr> </table> Receptacle (contacts # 8, 12, 16, 20, 22D) and Feedthrough (contacts # 8, 12, 16) Operating temperature range (° C): -65 to +200 oC | | | | | | Contact Size | Ratings (A) | 20 | 5.0 | 22D | 3.0 |
| Contact Size | Ratings (A) | | | | | | | | | | |
| 20 | 5.0 | | | | | | | | | | |
| 22D | 3.0 | | | | | | | | | | |
|   | | CONNECTORS, MINIATURE, ELECTRICAL, CIRCULAR, TRIPLE-START SELF- LOCKING COUPLING, SCOOP-PROOF, HERMETIC RECEPTACLE AND FEEDTHROUGH, TYPE MIL-C-38999, SERIES III | | Current Validity of Qualification | | Page | | | | | |
| | | | | Certificate No. | Valid Until | 02-02 | | | | | |
| | | | 223 B | June 2007 | 008 | | | | | | |



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|--|--|--|---|--|--|-------|
| Types covered by similarity : All variants are qualified | | Remarks : Maintenance of qualification testing is underway. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 Detail ESCC 3401/016 3401/017 | | HYPERTAC Saint-Aubin-Lès-Elbeuf France | Qualification Extension Extension Extension Extension Extension Extension Extension Extension | 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 | |
| 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 No. | Valid Until | 02-03 |
| | | | | 99 H | June 2006 | 001-1 |

| | | | | | | | |
|--|--|--|---|--|--|-------------|-------|
| Types covered by similarity : See ESCC Detail Specifications listed below | | Remarks : | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | |
| Generic ESCC 3401 Detail ESCC 3401/016 3401/017 | | HYPERTAC LTD London England | Qualification Extension Extension Extension Extension | DRA DRA DERA QinetiQ QinetiQ | Jul 1994 Nov 1996 Nov 1998 Apr 2002 Mar 2005 | | |
| Characteristics Shell specifications and sizes: 3401/016 Range of components: 17 to 160 way connectors PCB, 90°, crimp, wire-wrap and saver contacts Guiding/locking device numbers: 26, 27, 28, 29, 33, 34, 35, 36, 40, 41, 43, 46 54, 55, 71, 72, 76, 77, 78 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 No. | 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 : Maintenance of qualification testing is underway. | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3401 Detail ESCC 3401/039 | | HYPERTAC Saint-Aubin-Lès-Elbeuf France | Qualification | CNES | Mar 1987 |
| Characteristics | | | Extension | CNES | May 1990 |
| 3 rows 26, 44, 62, 80, 98, 144 contacts | | | Extension | CNES | Jan 1993 |
| Contact Ratings: 2 A (1 contact) | | | Extension | CNES | Oct 1995 |
| Operating Temperature Range (°C): -55 to +125 | | | Extension | CNES | Mar 1998 |
| | | | Extension | CNES | Jan 2002 |
| | | | Extension | CNES | Jun 2004 |
|   | CONNECTORS, ELECTRICAL, NON-REMOVABLE SOLDER AND WIRE-WRAP CONTACTS AND SAVERS, PRINTED CIRCUIT BOARD, BASED ON TYPE KMC | | Current Validity of Qualification | | Page |
| | | | Certificate No. | Valid Until | 02-03 |
| | | 149 F | June 2006 | 002-1 | |

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|--|--|---|--------------------|--------------------------|-----------------------------------|------------------------|
| Types covered by similarity : As defined in Table 1(a) of ESCC Detail Specification | | Remarks : Maintenance of qualification testing is underway. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 | | HYPERTAC Saint-Aubin-Lès-Elbeuf France | Qualification | CNES | Aug 1998 | |
| Detail ESCC 3401/065 | | | Extension | CNES | Jan 2002 | |
| | | | Extension | CNES | Jun 2004 | |
| 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 CONTACTS, BASED ON TYPE MHD | | | Current Validity of Qualification | |
| | | Certificate No. 250 B | | Valid Until June 2006 | | Page 02-03 003-1 |



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|--|--|---|--------------------|---------------------------------|-----------------------------------|----------------------|
| Types covered by similarity : See ESCC detail specifications - Hermetically sealed receptacle | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3402 | | RADIALL La Verpilliere France | Qualification | CNES | Feb 1981 | |
| Detail ESCC 3402/001 | | | Extension | CNES | Apr 1983 | |
| 3402/002 | | | Extension | CNES | Apr 1986 | |
| 3402/003 | | | Extension | CNES | Nov 1989 | |
| Characteristics | | | Extension | CNES | Jul 1992 | |
| Frequency Range 0-18 GHz | | | Extension | CNES | Nov 1994 | |
| 3402/001 Pin contact (Plug). Variants 01 to 44 | | | Extension | CNES | May 1998 | |
| 3402/002 Socket contact (Receptacle). Variants 01 to 71 | | | Extension | CNES | Aug 2002 | |
| 3402/003 Adapters. Variants 01 to 09 | | Extension | CNES | Jan 2005 | | |
| 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 | | | | | | |
|  ESCC <small>European Space Components Coordination</small>  | | CONNECTORS, RF, COAXIAL, SOLDER AND CRIMP CONTACTS, MALE, FEMALE ADAPTORS AND CONNECTING PIECES, BASED ON TYPE SMA | | | Current Validity of Qualification | |
| | | Certificate No. 68 H | | Valid Until January 2007 | | Page 02-04 001 |



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|---|--|--|---|--|--|------|
| Types covered by similarity : | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3401 Detail ESCC 3401/029 3401/041 3401/032 | | ITT CANNON Dole France | Qualification Extension Extension Extension Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES CNES CNES CNES CNES | Oct 1986 Oct 1988 Jun 1989 Sep 1991 Apr 1994 Jan 1997 Oct 1999 Apr 2003 Nov 2005 | |
| 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 | | | | | | |
|   | | CONNECTORS, ELECTRICAL, CRIMP CONTACT, RECTANGULAR, MICROMINIATURE, BASED ON TYPE MDM | | Current Validity of Qualification | | Page |
| | | | Certificate No. 140 H | Valid Until November 2007 | 02-05 001-1 | |

Section 03

Component Type: Crystals

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



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|--|--|--|-----------------------------------|-----------------------|----------|
| Types covered by similarity : All variants are qualified | | Remarks : | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3501 Detail ESCC 3501/001 3501/008 3501/011 3501/012 3501/018 | | C-MAC Frequency Products Argenteuil France | Qualification | CNES | Oct 1979 |
| Characteristics TO-5 Can (T 807) Frequency Range: 15 - 140 MHz | | | Extension | CNES | Jun 1983 |
| | | | Extension | CNES | Oct 1986 |
| | | | Extension | CNES | Jul 1989 |
| | | | Extension | CNES | Jan 1995 |
| | | | Extension | CNES | Nov 1996 |
| | | | Extension | CNES | Apr 2000 |
| | | | Extension | CNES | Nov 2002 |
| | | | Extension | CNES | Jun 2005 |
| | | | Current Validity of Qualification | | Page |
| | | | Certificate No. | Valid Until | 03-01 |
|   | | CRYSTALS, TO-5 CAN | 33 H | June 2007 | 001-1 |



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|--|--|--|---|--|--|
| Types covered by similarity : All variants are qualified | | Remarks : | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3501 Detail ESCC 3501/002 3501/009 3501/019 | | C-MAC Frequency Products Argenteuil France | Qualification Extension Extension Extension Extension Extension Extension Extension Extension | 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 |
| Characteristics TO-8 Can (T 1507) Frequency Range: 2.5 - 20 MHz | | | | | |
|   | | CRYSTALS, TO-8 CAN | Current Validity of Qualification | | Page |
| | | | Certificate No. 34 H | Valid Until June 2007 | 03-01 002 |



Section 04


Component Type: Diodes

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

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|--|--|--|--------------------------------|-----------------------------------|--------------------------|-------|
| Types covered by similarity : | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5000 Detail ESCC 5106/016 | | ST Microelectronics Rennes France | Qualification Extension | CNES CNES | Nov 2002 Mar 2006 | |
| Characteristics Variants 01 to 07 are qualified Maximum Ratings: V_{RRM} : 100 V; I_O : 2x 20 A T_J : + 175° C; Package Type: TO254, SMD.5 and SMD1 Operating Temperature Range (°C): -55 to +175 | | | | | | |
|   | | DIODES, POWER, SCHOTTKY BARRIER, BASED ON TYPE STPS20H100 | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 04-02 |
| | | | 272 A | March 2008 | 002-1 | |

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|---|--|--|--------------------------------|-----------------------------------|--------------------------|-------|
| Types covered by similarity : | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5000 Detail ESCC 5103/029 5103/030 5103/031 | | ST Microelectronics Rennes France | Qualification Extension | CNES CNES | Aug 2003 Mar 2006 | |
| Characteristics 5103/029 variants 01 to 05 are qualified 5103/030 variant 01 is qualified 5103/031 variant 01 is 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 and SMD.5 Operating Temperature Range (°C): -55 to +150 | | | | | | |
|   | | DIODES, SILICON, POWER RECTIFIER, HIGH EFFICIENCY, FAST RECOVERY, BASED ON TYPES BYW81, BYV 52 AND BYV54 | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 04-02 |
| | | | 274 A | March 2008 | 003-1 | |

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|---|--|---|--------------------|-----------------------------------|-----------------------------|----------------|
| Types covered by similarity : Variant 02 | | Remarks : Requalification testing will be initiated following the transfer of production from the München facility. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5010 | | Infineon Technologies AG München Germany | Qualification | DARA | Jun 1995 | |
| Detail ESCC 5513/017 | | | Extension | DLR | Jan 2000 | |
| | | | Extension | DLR | Jan 2004 | |
| Characteristics Maximum Ratings: $V_{R=}$ -50V $I_{FM=}$ 5.0 A @ $t_p=1.0 \mu s$, duty cycle =0.001% D.C Parameters: $I_{R1=}$ 10 μA 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: T1 Operating Temperature Range (°C): -55 to +175 | | | | | | |
|   | | DIODES, MICROWAVE, SILICON, PIN BASED ON TYPE BXY 42- MESA | | Current Validity of Qualification | | Page |
| | | | | Certificate No. 224 B | Valid Until January 2006 | 04-05 002-2 |

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|---|-----------------|--|--------------------|-----------------------------------|---------------|--------|
| Types covered by similarity : See next page | | Remarks : The manufacturer has not initiated the maintenance of qualification testing. New package BH155 introduced | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5010 | | Chelton Les Ulis France | Qualification | CNES | Mar 2000 | |
| Detail ESCC: See types covered by similarity. | | | Extension | CNES | Dec 2003 | |
| Characteristics | | | | | | |
| | <u>DH 50151</u> | <u>DH 50201</u> | <u>DH 50251</u> | | | |
| V _{Rmax.} | 150 V | 200 V | 250 V | | | |
| R _{SF} (Ω) _(max.) | < 2.0 | < 2.3 | < 2.4 | | | |
| τ _L (ns) _(min.) | > 160 | > 240 | > 265 | | | |
| Operating Temperature Range: -55 to +125 °C | | | | | | |
|  | | DIODES, MICROWAVE, SILICON, PIN, FAST SWITCHING | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 04-05 |
| | | | | 259 A | December 2005 | 002-4A |

Types covered by similarity

| ESCC Spec. No. | Component Type |
|-------------------|---|
| 5513/031 | DH 50151 to DH 50157, variants 01 to 49 |
| 5513/033 | DH 50201 to DH 50209, variants 01 to 63 |
| 5513/034 | DH 50251 to DH 50256, variants 01 to 36 |





DIODES,
MICROWAVE, SILICON,
PIN, FAST SWITCHING



Current Validity of Qualification

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|---|----------------------------------|---|--------------------|-----------------------|-----------------------------------|--------------|---------------|---------------|--|--|--|------------------|----------------------------------|---------------------------|--|--|--|--|----------------|--|--|--|--|--|----------------|--|--|--|--|-----------------|--------------------|------------------------------|--|--|--|--|--------------------|--------------------------------|--|--|--|-----------|-------------------------------|--|--|--|--|---|--|--|--|--|--|
| Types covered by similarity : Variants 01-08 are qualified | | Remarks : Requalification testing will be initiated following the transfer of production from the München facility. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5010 | | Infineon Technologies AG München Germany | Qualification | DARA | Oct 1996 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detail ESCC 5513/030 | | | Extension | DLR | Jan 2000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Extension | DLR | Jan 2004 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Characteristics</p> <table border="0"> <tr> <td></td> <td style="text-align: center;"><u>BXY 43</u></td> <td style="text-align: center;"><u>BXY 44</u></td> <td colspan="3"></td> </tr> <tr> <td>Maximum Ratings:</td> <td>$V_R = -150$ V (variants 01-04),</td> <td>-200 V (variants 05-08)</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>$I_F = 400$ mA</td> <td></td> <td colspan="3"></td> </tr> <tr> <td></td> <td>$P_D = 500$ mW</td> <td></td> <td colspan="3"></td> </tr> <tr> <td>D.C Parameters:</td> <td>$I_R = 10$ nA max.</td> <td>5 nA max. @ $V_R = -100$ V</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>$V_F = 1.0$ V max.</td> <td>1.05 V max. @ $I_F = 100$ mA</td> <td colspan="3"></td> </tr> <tr> <td>Packages:</td> <td colspan="5">T, T1, Teller, Pill, Flatpack</td> </tr> <tr> <td colspan="6">Operating Temperature Range: -55 to +150 °C</td> </tr> </table> | | | | | | | <u>BXY 43</u> | <u>BXY 44</u> | | | | Maximum Ratings: | $V_R = -150$ V (variants 01-04), | -200 V (variants 05-08) | | | | | $I_F = 400$ mA | | | | | | $P_D = 500$ mW | | | | | D.C Parameters: | $I_R = 10$ nA max. | 5 nA max. @ $V_R = -100$ V | | | | | $V_F = 1.0$ V max. | 1.05 V max. @ $I_F = 100$ mA | | | | Packages: | T, T1, Teller, Pill, Flatpack | | | | | Operating Temperature Range: -55 to +150 °C | | | | | |
| | <u>BXY 43</u> | <u>BXY 44</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Ratings: | $V_R = -150$ V (variants 01-04), | -200 V (variants 05-08) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | $I_F = 400$ mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | $P_D = 500$ mW | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D.C Parameters: | $I_R = 10$ nA max. | 5 nA max. @ $V_R = -100$ V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | $V_F = 1.0$ V max. | 1.05 V max. @ $I_F = 100$ mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Packages: | T, T1, Teller, Pill, Flatpack | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Temperature Range: -55 to +150 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|   | | DIODES, MICROWAVE, SILICON, PIN, PLANAR BASED ON TYPES BXY 43 AND 44 | | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Certificate No. | Valid Until | 04-05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 236 B | January 2006 | 003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|--|--|---|--|---|--|---------------|--------|
| Types covered by similarity : See next page | | Remarks : | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | |
| Generic ESCC 5010 Detail ESCC: See types covered by similarity. | | Tyco Electronics Ltd. M/A - COM Division Milton Keynes England | Qualification Extension Extension Extension | DRA DERA QinetiQ QinetiQ | Dec 1993 Oct 1997 Mar 2002 Feb 2006 | | |
| Characteristics | | | | | | | |
| Operating Temperature Range (°C): -65 to +125 and 150 | | | | | | | |
|   | | DIODES, MICROWAVE, SILICON, PIN AND VARACTORS | | | Current Validity of Qualification | | Page |
| | | | | | Certificate No. | Valid Until | 04-05 |
| | | | | | 200 C | February 2008 | 003-1A |

Types covered by similarity

| ESCC Spec. No. | Component Type and Qualified Range |
|----------------|---|
| 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 No.

200 C



Valid Until



February 2008

Page

04-05

003-1B

| | | | | | | | |
|--|--|--|--|---|-----------------------------------|--------------------------|----------------|
| Types covered by similarity : The variants are based on the following types Variants 10 to 16: DH 267 Variants 30 to 36: DH 256 Variants 50 to 56: DH 294 | | Variants 20 to 26: DH 292 Variants 40 to 46: DH 252 | | Remarks : Maintenance of qualification testing is underway. Maintenance activity covers qualification of new processes. | | | |
| Procurement Specifications Issues in effect on certification date | | 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 | |
| Characteristics Maximum Ratings : $V_R = -15$ to $+45$ V $I_F = 250$ to 1000 mA at $T_{amb} = +75$ °C $P_{tot} = 0.5$ to 1.25 W at T_{amb} $C_{j\ max.}$ ranges from 0.4 pF to 7.2 pF Six new variants of packages introduced (M206) Operating Temperature Range (°C): -55 to $+150$ | | | | | | | |
|   | | DIODES, MICROWAVE, SILICON, MULTIPLIER VARACTOR BASED ON TYPES DH 267 AND DH 294 | | | Current Validity of Qualification | | Page |
| | | | | | Certificate No. 225 B | Valid Until June 2005 | 04-05 003-2 |

| Types covered by similarity : | | Remarks : Maintenance of qualification testing is underway. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------------|--|--------------------|-----------------------|-----------------------------------|-----------------|-----------------------|----------------------|----------|------|----------|----------|--------|----------|----------|--------|----------|----------|--------|----------|----------|--------|----------|----------|--------|----------|----------|-------|----------|----------|-------|----------|
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5010 Detail ESCC: 5512/023 | | Chelton Les Ulis France | Qualification | CNES | Jun 2003 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Characteristics: Operating Temperature Range (°C): -55 to +155 Maximum Ratings : $V_R = -20$ at $I_R=10\mu A$ and $T_{amb}= +25$ °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th><u>Variants</u></th> <th><u>CT(typ.) (-4V)</u></th> <th><u>Based on Type</u></th> </tr> </thead> <tbody> <tr><td>01 to 09</td><td>1 pF</td><td>DH 76010</td></tr> <tr><td>10 to 18</td><td>1.5 pF</td><td>DH 76015</td></tr> <tr><td>19 to 27</td><td>2.2 pF</td><td>DH 76022</td></tr> <tr><td>28 to 36</td><td>3.3 pF</td><td>DH 76033</td></tr> <tr><td>37 to 45</td><td>4.7 pF</td><td>DH 76047</td></tr> <tr><td>46 to 54</td><td>6.8 pF</td><td>DH 76068</td></tr> <tr><td>55 to 63</td><td>10 pF</td><td>DH 76100</td></tr> <tr><td>64 to 72</td><td>15 pF</td><td>DH 76150</td></tr> </tbody> </table> | | | | | | <u>Variants</u> | <u>CT(typ.) (-4V)</u> | <u>Based on Type</u> | 01 to 09 | 1 pF | DH 76010 | 10 to 18 | 1.5 pF | DH 76015 | 19 to 27 | 2.2 pF | DH 76022 | 28 to 36 | 3.3 pF | DH 76033 | 37 to 45 | 4.7 pF | DH 76047 | 46 to 54 | 6.8 pF | DH 76068 | 55 to 63 | 10 pF | DH 76100 | 64 to 72 | 15 pF | DH 76150 |
| <u>Variants</u> | <u>CT(typ.) (-4V)</u> | <u>Based on Type</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01 to 09 | 1 pF | DH 76010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 to 18 | 1.5 pF | DH 76015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 to 27 | 2.2 pF | DH 76022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 to 36 | 3.3 pF | DH 76033 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 to 45 | 4.7 pF | DH 76047 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46 to 54 | 6.8 pF | DH 76068 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 to 63 | 10 pF | DH 76100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 64 to 72 | 15 pF | DH 76150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|   | | DIODES, MICROWAVE, SILICON, HYPER-ABRUPT JUNCTION TUNING VARACTOR, BASED ON TYPES DH 76xxx | | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Certificate No. | Valid Until | 04-05 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 273 | June 2005 | 003-3 | | | | | | | | | | | | | | | | | | | | | | | | | |

Section 05

Component Type: Filters

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

Types covered by certificate

| Style | Detail Spec. | Variants | Capacitance Range (nF) | Rated Current (A) | Rated Voltage (V) |
|---------|--------------|----------|----------------------------------|-------------------|-------------------|
| SFP 040 | 3008/014 | 01 to 40 | 0.75, 0.16, 1.6, 2.4, 4.32, 44.8 | 10 (DC & 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 35.20 | 10 | 35 to 200 |
| SFP 100 | 3008/028 | 01 to 06 | 0.16 to 1 312.0 | 10 | 50 to 300 |
| SFP 060 | 3008/030 | 01 to 28 | 2.4 to 89.6 | 10 | 35 to 500 |

| Style | Detail Spec. | Variants | Capacitance Range (pF) | Rated Current (A) | Rated Voltage (V) |
|---------|--------------|----------|------------------------|-------------------|-------------------|
| SFC 030 | 3008/020 | 01 to 12 | 470 to 22 000 | 1.0 to 5.0 | 25 to 200 |
| SFC 060 | 3008/026 | 01 to 06 | 680 to 220 000 | 10 | 25 to 200 |
| SFC 100 | 3008/027 | 01 to 06 | 1000 to 1 000 000 | 10 | 25 to 200 |
| SFC 035 | 3008/031 | 01 to 06 | 470 to 22 000 | 10 | 25 to 200 |
| SFC 040 | 3008/032 | 01 to 12 | 470 to 22 000 | 10 | 25 to 200 |
| SFC 060 | 3008/033 | 01 to 12 | 680 to 220 000 | 10 | 25 to 200 |

| Style | Detail Spec. | Variants | Capacitance Range (nF) | Rated Current (A) | Rated Voltage (V) |
|---------|--------------|----------|------------------------|-------------------|-------------------|
| SFL 100 | 3008/029 | 01 to 48 | 17.6 to 1 600 | 5, 10, 15 | 40 to 300 |



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

Current Validity of Qualification

Certificate No.
252 C

Valid Until
March 2008

Page

05-01
001 B

Section 06

Component Type: Fuses

| Sub-Section | Page No. | Cert. | Type Designation | Manufacturer |
|-------------|----------|-------|---|--------------|
| | | | Currently there are no qualified sources of fuses | |

Section 07

Component Type: Inductors

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

Types covered by similarity : Remarks :

| Procurement Specifications Issues in effect on certification date | | 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 |

Characteristics Variants 01 to 04 are qualified

| Series No. | Range (μ H) | Tolerance ($\pm\%$) | $Q_{min.}$ | Min. SRF f_r (MHz) | Max. DCR, R_{dc} (Ω) | Rated DC Current, I_R (mA) | Case Size |
|------------|------------------|-----------------------|------------|-------------------------|------------------------------------|------------------------------------|-----------|
| 10k | 0.0101 - 10 | 2.0, 5.0, 10 | 60 - 42 | 1000- 33 | 0.025 - 3.3 | 750 - 87 | A |
| 12k | 12 - 1000 | 10 | 42 - 12 | 26 - 1.5 | 2.0 - 120 | 110 - 15 | B |
| 20K | 0.010 - 1000 | 10 | 60 - 30 | 1000 - 1.7 | 0.04 - 80 | 1000 - 25 | C |

Dielectric Withstanding Voltage (DWV): 200 Vrms
Operating Temperature Range ($^{\circ}$ C): -55 to +125



INDUCTORS,
FIXED, RF, MINIATURE,
MOULDED, SURFACE MOUNT,
BASED ON SERIES MSC1 10K, 12K, AND 20K

| Current Validity of Qualification | | Page |
|-----------------------------------|---------------|-------|
| Certificate No. | Valid Until | 07-01 |
| 241 C | December 2007 | 001 |

Types covered by similarity :

Remarks : Proposal for maintenance of qualification testing is underway. Completion is expected in November 2006.

| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|---------------------------------|--------------------|-----------------------|----------|
| Generic ESCC 3201 Detail ESCC 3201/009 | Microspire Illange France | Qualification | CNES | Apr 2004 |

Characteristics Variants 01 to 05 are qualified

| Series No. | Range (µH) | Tolerance (±%) | Max. DC Resistance, R _{dc} (mΩ) | 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 |

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



INDUCTORS, POWER,
 MOULDED, SURFACE MOUNT,
 BASED ON SERIES SESI

Current Validity of Qualification

Certificate No.

276

Valid Until

April 2006

Page



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 K | 4000 B Series | ST Microelectronics |
| | 08-02-002-2 A to F | 190 F | 54HCMOS Series | ST Microelectronics |

| | | | | | | |
|--|--|--|--------------------|-----------------------------------|---------------|--------|
| Types covered by similarity : See next pages | | Remarks : Refer to: https://escies.org/public/escs/comp_no.html for information concerning the ESCC Component Number and its marking. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 9000 Detail ESCC: See types covered by similarity | | ST Microelectronics Rennes France | Qualification | ESTEC | Apr 1981 | |
| | | | Extension | CNES | Jan 1981 | |
| | | | Extension | CNES | Dec 1984 | |
| | | | Extension | CNES | May 1987 | |
| | | | Extension | CNES | Apr 1990 | |
| Characteristics | | | Extension | CNES | Oct 1992 | |
| Package Types: | | | Extension | CNES | Apr 1995 | |
| Ceramic Dual-in-Line | | | Extension | CNES | Apr 1997 | |
| Ceramic Flat Pack | | | Extension | CNES | Apr 1999 | |
| Leadless Chip Carrier | | | Extension | CNES | May 2001 | |
| SOIC 14, 16, 24 | | | Extension | CNES | Nov 2002 | |
| | | | Extension | CNES | Nov 2005 | |
|   | | MICROCIRCUITS, DIGITAL, C-MOS-B, 4000 B SERIES | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 08-02 |
| | | | | 73 K | November 2007 | 001-2A |

Types covered by similarity

| ESCC Spec. No. | Description | 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 |
| 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 |



QPL

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

Current Validity of Qualification

Certificate No.

73 K

Valid Until

November 2007

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08-02

001-2B

Types covered by similarity

| ESCC Spec. No. | Description | Component Type |
|-------------------|--|-------------------|
| 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 |
| 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 |



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

Current Validity of Qualification

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November 2007

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08-02

001-2C

Types covered by similarity

| ESCC Spec. No. | Description | Component Type |
|-------------------|--|-------------------|
| 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 |
| 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 |



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

Current Validity of Qualification

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08-02

001-2D

Types covered by similarity

| ESCC Spec. No. | Description | Component Type |
|-------------------|---|-------------------|
| 9408/011 | Dual 1-of-4 decoder/demultiplexer | 4555B |
| 9408/025 | Dual 1-of-4 decoder/demultiplexers (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-line-to-1-line data selector/multiplexer with 3-state output | 40257B |



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

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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 Issues in effect on certification date | | 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 | |
| Characteristics Qualified Packages: - 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 krad. | | | | | | |
|   | | MICROCIRCUITS, DIGITAL, MONOLITHIC, HIGH SPEED CMOS, 54HC AND 54HCT SERIES | | | Current Validity of Qualification | Page |
| | | Certificate No. 190 F | Valid Until November 2007 | 08-02 002-2A | | |

Types covered by similarity

| ESCC Spec. No. | Description | Component Type | Note |
|-------------------|--|----------------|------|
| 9201/105 | Quad 2-input NAND gate | 54HC00 | 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 |



QPL

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

Current Validity of Qualification

Certificate No.

190 F

Valid Until

November 2007

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08-02

002-2B

Types covered by similarity

| ESCC Spec. No. | Description | Component Type | Note |
|-------------------|--|----------------|------|
| 9306/048 | Dual J-K positive edge triggered flip-flop with preset and clear | 54HC109 | 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 |
| 9306/043 | 8-bit PISO shift register | 166 | 1 |
| 9306/052 | Hex D-type edge-triggered flip-flop with clear | 174 | 1 |



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

Current Validity of Qualification

Certificate No.

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Valid Until

November 2007

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08-02

002-2C

Types covered by similarity

| ESCC Spec. No. | Description | Component Type | Note |
|-------------------|---|----------------|------|
| 9203/052 | Quad D-type edge-triggered flip-flop with clear | 54HC175 | 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 |
| 9202/075 | 4-bit binary full adder with fast carry | 283 | 1 |
| 9401/052 | Hex bus buffer with 3-state output | 365 | 1 |



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

Current Validity of Qualification

Certificate No.

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Valid Until

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08-02

002-2D

Types covered by similarity

| ESCC Spec. No. | Description | Component Type | Note |
|-------------------|--|----------------|------|
| 9401/044 | Hex bus buffer with 3-state output | 54HC367 | 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 |



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

Current Validity of Qualification

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08-02

002-2E

Types covered by similarity

| ESCC Spec. No. | Description | Component Type | Note |
|-------------------|---|----------------|------|
| 9401/037 | Hex buffer/converter with inverted output | 54HC4049 | 1 |
| 9401/038 | Hex buffer/converter | 4050 | 1 |
| 9408/064 | Analogue multiplexer/demultiplexer | 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 | 54HCT74 | 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 | |



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

Current Validity of Qualification

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08-02



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 H | Type GP5 | LEACH |
| | 09-01-005 | 239 B | Type E | LEACH |
| 09-02 | | | Latching, 28Vdc Contact Rating | |
| | 09-02-002 | 13 H | Type GP2 | LEACH |
| | 09-02-006 | 240 B | Type D | LEACH |
| 09-03 | | | Latching, 50Vdc Contact Rating | |
| | 09-03-001 | 93 G | Type GP250 | LEACH |

| | | | | | | |
|--|--|---|--------------------|-----------------------------------|------------------------------|------------------|
| Types covered by similarity : Variants 01 to 08 are qualified Coil Voltages 6 and 12 Vdc | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3601 | | LEACH International Europe Niort France | Qualification | CNES | Apr 1978 | |
| Detail ESCC 3601/003 | | | Extension | CNES | Oct 1980 | |
| | | | Extension | CNES | Jan 1984 | |
| | | | Extension | CNES | Oct 1986 | |
| | | | Extension | CNES | Jul 1992 | |
| | | | Extension | CNES | Jun 1995 | |
| | | | Extension | CNES | Dec 1998 | |
| | | | Extension | CNES | Nov 2001 | |
| Characteristics Contact Rating : 2 A at 28 Vdc Contact Configuration: 2PDT Package Type: Half-crystal can Coil Voltage 26.5 Vdc Operating Temperature Range (°C): -65 to +125 | | | Extension | CNES | Jun 2005 | |
|   | | RELAY, NON-LATCHING, ELECTROMAGNETIC, TYPE GP 5 | | Current Validity of Qualification | | Page |
| | | | | Certificate No. 02 H | Valid Until June 2007 | 09-01 002 |

| | | | | | | |
|--|--|--|---|-----------------------------------|--|-------|
| Types covered by similarity : | | Remarks : The manufacturer has not initiated the maintenance of qualification testing. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3601 Detail ESCC 3601/012 | | LEACH International Europe Niort France | Qualification Extension Extension | CNES CNES CNES | Apr 1997 Sep 2000 Jan 2004 | |
| Characteristics: Variants 01 to 11 are qualified Contact Rating : 1 A at 28 Vdc Contact Configuration: 2PDT 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 No. | Valid Until | 09-01 |
| | | | 239 B | January 2006 | 005 | |

Types covered by similarity :

Variants 01 to 08 are qualified
Coil Voltages 6 and 12 Vdc



Remarks :



| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|---|---|--|--|
| Generic ESCC 3602 Detail ESCC 3602/003 | LEACH International Europe Niort France | Qualification Extension Extension Extension Extension | CNES CNES CNES CNES | Jan 1979 Feb 1981 Jan 1984 Oct 1986 Jul 1992 |
| Characteristics Contact Rating : 2 A at 28 Vdc Contact Configuration: 2PDT Package Type: half-size crystal can Coil Voltage: 26.5 Vdc Operating Temperature Range (°C): -65 to +125 | | Extension Extension Extension Extension | CNES CNES CNES CNES | Jun 1995 Dec 1998 Nov 2001 Jun 2005 |



RELAY,
LATCHING, ELECTROMAGNETIC,
TYPE GP 2

| Current Validity of Qualification | | Page |
|-----------------------------------|------------------------------|------------------|
| Certificate No. 13 H | Valid Until June 2007 | 09-02 002 |

| | | | | | | |
|---|--|--|---|-----------------------------------|--|-------|
| Types covered by similarity : | | Remarks : The manufacturer has not initiated the maintenance of qualification testing. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3602 Detail ESCC 3602/019 | | LEACH International Europe Niort France | Qualification Extension Extension | CNES CNES CNES | Apr 1997 Sep 2000 Jan 2004 | |
| Characteristics: Variants 01-11 are qualified Contact Rating: 1 A at 28 Vdc Contact Configuration: 2PDT Package Type: 1/6 crystal can Coil Voltage: 6, 12 and 26.5 Vdc Operating Temperature Range (°C): -65 to +125 | | | | | | |
|   | | RELAY, LATCHING, ELECTROMAGNETIC, TYPE D | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 09-02 |
| | | | 240 B | January 2006 | 006 | |

| | | | | | | | |
|--|--|---|--------------------|-----------------------|-----------------------------------|-------------|-------|
| Types covered by similarity : Variants 01 to 08 are qualified Coil Voltage 12 Vdc | | Remarks : | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | |
| Generic ESCC 3602 | | LEACH International Europe Niort France | Qualification | ESTEC | Feb 1982 | | |
| Detail ESCC 3602/010 | | | 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 | | |
| Characteristics Contact Rating: 2 A at 50 Vdc (100 000 ops) Contact Configuration: 2PDT Package Type: half-crystal can Coil Voltage: 26.5 Vdc Operating Temperature Range (°C): -65 to +125 | | | | | | | |
|   | | RELAY, LATCHING, ELECTROMAGNETIC, TYPE GP 250 | | | Current Validity of Qualification | | Page |
| | | | | | Certificate No. | Valid Until | 09-03 |
| | | | 93 G | June 2007 | 001 | | |

Section 10

Component Type: Resistors

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

Types covered by similarity :
 Tolerances: $\pm 0.02, 0.05, 0.1, 0.2, 0.5, 1\%$
 Variants 03, 04, 08

Remarks :

| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|--------------------|-----------------------|----------|
| Generic ESCC 4001 | Vishay S.A. Division Sfernice Nice France | Qualification | CNES | Dec 1983 |
| Detail ESCC 4001/011 | | Extension | CNES | Oct 1986 |
| | | 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 | | |

Characteristics: Variants 03, 04, 07, 08 are qualified Values: E192 series

| Style | Detail Spec. | Variant | Range (Ω) | Tol. (%) | TC (ppm/ $^{\circ}\text{C}$) | Power Rating (W) | Max. Voltage (V) |
|----------------|--------------|---------|--------------------|--|---|---|------------------|
| RNC 90 (RS92N) | 4001/011 | 07 | 50 - 100k | 0.02 0.05 0.1 0.2 0.5 1.0 | $\pm 5, \leq 125^{\circ}\text{C}$ $\pm 10, \leq 125^{\circ}\text{C}$ $\pm 10, >125^{\circ}\text{C}$ and $\leq 175^{\circ}\text{C}$ | 0.5 @ 70°C 0.3 @ 125°C | 300 |

Operating Temperature Range ($^{\circ}\text{C}$): - 55 to + 175



RESISTORS,
 FIXED, FILM,
 NON HERMETICALLY SEALED,
 BASED ON TYPE RNC 90

| Current Validity of Qualification | | Page |
|-----------------------------------|---------------------------|--------------|
| Certificate No. 116 J | Valid Until April 2008 | 10-04 001 |

Types covered by similarity :
 Variants 01, 02, and 03 are qualified

Tolerances: $R \leq 100\Omega$ $\pm 0.1/0.05\%$ TC : ± 25 ppm/ $^{\circ}\text{C}$
 $100 < R \leq 250\Omega$ $\pm 0.1/0.05/0.02\%$
 $R > 250\Omega$ $\pm 0.1/0.05/0.02/0.01\%$.

Remarks :

| Procurement Specifications Issues in effect on certification date | | 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 |

Characteristics

| Style | Range (Ω) | Tol. ($\pm\%$) | TC (ppm/ $^{\circ}\text{C}$) | Critical R (Ω) | Limiting Voltage (V) | Type Variant |
|-------|--------------------|---------------------|-------------------------------|-------------------------|----------------------|--------------|
| 0603 | 50 - 0.2M | 0.01, 0.02 and 0.05 | ± 10 | 12.25k | 35 | 01 |
| 0805 | 50 - 0.25M | 0.01, 0.02 and 0.05 | ± 10 | 45k | 75 | 02 |
| 1206 | 50 - 1.0M | 0.01, 0.02 and 0.05 | ± 10 | 40k | 100 | 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

Certificate No.
 265 B

Valid Until
 February 2008

Page
 10-08
 002

| | | | | | | |
|--|--|--|--|---|--|-------|
| Types covered by similarity : | | Remarks : Planning for the maintenance of qualification is underway. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 4009 Detail ESCC 4009/002 | | IRCA RICA Division Vittorio Veneto Italy | Qualification Extension Extension Extension Extension Extension Extension Extension | ESTEC ESTEC ESTEC ESTEC ESTEC ESTEC ESTEC | Apr 1992 May 1994 Mar 1996 Feb 1998 Apr 2000 Aug 2002 Dec 2004 | |
| Characteristics Single layer and double layer heaters Maximum Ohmic density: 200 ■/cm ² Tolerances: ±2, 3, 5, 10 % Resistance range: 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/°C) : 175 Operating temperature range (°C): -65 to +200 | | | | | | |
|   | | RESISTORS, HEATERS, FLEXIBLE SINGLE AND DOUBLE LAYER | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 10-09 |
| | | | 184 F | December 2006 | 001-1 | |

Types covered by similarity : Remarks :



| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|--|--------------------|-----------------------|----------|
| Generic ESCC 4005 | | Vishay S.A. Division Sfernice Nice France | Qualification | CNES | Oct 1996 |
| Detail ESCC 4005/003 | | | Extension | CNES | Apr 1999 |
| | | | Extension | CNES | Jul 2001 |
| | | | Extension | CNES | Dec 2003 |
| | | | Extension | CNES | Feb 2006 |

Characteristics: Variants 01 to 07 in 6, 8, 9 and 10 pin packages are qualified

| Detail Spec. | Range (Ω) | Tolerance | TC ($10^{-6}/^{\circ}\text{C}$) | Power Rating of Resistors (mW) | Limiting Element Voltage (U_L) |
|--------------|--------------------|---|-----------------------------------|---|------------------------------------|
| 4005/003 | 46.4 to 1.0 M | $R \leq 100\Omega, \pm 2.0\%$ $R > 100\Omega, \pm 2.0\%$ | ± 150 | 180 for individual R 100 for parallel Rs | 100 V |

Operating Temperature Range ($^{\circ}\text{C}$): -55 to +125

Values: E48 series

| | | | | |
|--|---|-----------------------------------|----------------------------------|----------------------|
|  ESCC <small>European Space Components Coordination</small>  | RESISTORS, NETWORKS, THICK FILM, SINGLE-IN-LINE PACKAGES | Current Validity of Qualification | | Page 10-10 001 |
| | | Certificate No. 235 D | Valid Until February 2008 | |

Section 11

Component Type: Thermistors

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

Section 12

Component Type: Transistors



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



QPL

SECTION: 12-**: INDEX OF TRANSISTORS

REP005 Updated on 15-Oct-06

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------|--|----------------------------|--------------------|-----------------------------------|-------------------------------|----------------------|-----------------|----------------|---------------|---------------|---------------|---------------|---------------|-----------------|--------------------------|----|----|----------------------------|-----|-----|-----|-----|----|--------------------------|----|----|----------------------------|----|----|----|----|----|
| Types covered by similarity : 2N3019 | | | | Remarks : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5000 Detail Please refer to the next page. | | ST Microelectronics Rennes France | | Qualification | CNES | Sep 1996 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Sep 1997 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Aug 1998 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Nov 1999 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Nov 2001 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Dec 2003 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Extension | CNES | Mar 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Characteristics Maximum Ratings: <table border="0" style="width:100%; text-align:center;"> <tr> <td><u>2N2222A</u></td> <td><u>2N2484</u></td> <td><u>2N2219A</u></td> <td><u>2N5551</u></td> <td><u>2N3700</u></td> <td><u>2N3019</u></td> <td><u>2N5154</u></td> <td><u>BUX 77</u></td> <td><u>2N 2920A</u></td> </tr> <tr> <td>V_{CBO} (V): 75</td> <td>60</td> <td>75</td> <td>BV_{CBO} (V): 180</td> <td>140</td> <td>140</td> <td>100</td> <td>100</td> <td>60</td> </tr> <tr> <td>V_{CEO} (V): 40</td> <td>60</td> <td>40</td> <td>BV_{CEO} (V): 160</td> <td>80</td> <td>80</td> <td>80</td> <td>80</td> <td>60</td> </tr> </table> Packages : TO-18, TO-39, TO-66, TO-77, TO-257, LCCC3, LCCC6 and SMD.5 Operating Temperature Range (°C): - 65 to + 200 | | | | | | | <u>2N2222A</u> | <u>2N2484</u> | <u>2N2219A</u> | <u>2N5551</u> | <u>2N3700</u> | <u>2N3019</u> | <u>2N5154</u> | <u>BUX 77</u> | <u>2N 2920A</u> | 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 |
| <u>2N2222A</u> | <u>2N2484</u> | <u>2N2219A</u> | <u>2N5551</u> | <u>2N3700</u> | <u>2N3019</u> | <u>2N5154</u> | <u>BUX 77</u> | <u>2N 2920A</u> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | |
|   | | TRANSISTORS, LOW AND HIGH POWER, NPN | | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Certificate No. 233 F | Valid Until March 2008 | 12-01 002-3 A | | | | | | | | | | | | | | | | | | | | | | | | | | |

Types covered by this certificate

| ESCC Spec. 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, SMD.5 | 01, 02, 04, 05, 06 |
| 5203/016 | BUX 77ESY | TO-257 | 06, 07 |
| 5207/002 | 2N 2920A | TO-77, and LCCC6 | 06, 09, 12, 15 |
| 5201/011 | 2N3019 | TO-39 | 03, 04 |



TRANSISTORS,
 LOW AND HIGH POWER,
 NPN



Current Validity of Qualification



Certificate No.
 233 F

Valid Until
 March 2008

Page

12-01
 002-3 B

| | | | | | | |
|---|--|--|--|--|--|-------|
| Types covered by similarity : | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5000 Detail ESCC 5201/006 | | ST Microelectronics Rennes France | Qualification Requalification Extension Extension Extension Extension Extension Extension Extension Extension | CNES CNES CNES CNES CNES CNES CNES CNES CNES | Feb 1983 Jul 1987 Apr 1990 Aug 1992 Jun 1995 Sep 1996 Sep 1997 Nov 1999 Nov 2001 Dec 2003 Mar 2006 | |
| 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 $T_{amb} + 25^\circ C$; BV_{CBO} : 40 V; BV_{CEO} : 15 V; I_C : 500 mA, 10 μ sec pulse Package Types: TO-18 and LCCC3 Operating Temperature Range ($^\circ C$): -65 to +200 | | | | | | |
|   | | TRANSISTORS, LOW POWER, NPN, TYPE 2N 2369A | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 12-01 |
| | | | | 106 K | March 2008 | 003-1 |

| Types covered by similarity : 2N3350, 2N4033 | | Remarks : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------------|--|--------------------|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------------|----|----|----|----|----|-----|-----|-----|------------------------|----|----|----|----|----|----|----|-----|--|--|--|--|
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Generic ESCC 5000 Detail Please refer to the next page. | | ST Microelectronics Rennes France | Qualification | CNES | Sep 1996 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Extension | CNES | Sep 1997 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Extension | CNES | Aug 1998 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Extension | CNES | Nov 1999 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Extension | CNES | Nov 2001 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Extension | CNES | Jan 2004 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Extension | CNES | Mar 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Characteristics Maximum Ratings: <table border="1"> <thead> <tr> <th></th> <th><u>2N2905A</u></th> <th><u>2N2907A</u></th> <th><u>2N3350</u></th> <th><u>2N3810</u></th> <th><u>2N4033</u></th> <th><u>2N5153</u></th> <th><u>BUX 78</u></th> <th><u>2N5401</u></th> </tr> </thead> <tbody> <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> </tbody> </table> Packages : TO-18, TO-39, TO-77, TO-78, TO-257, LCCC3, LCCC6 and SMD.5 Operating Temperature Range (°C): -65 to +200 | | | <u>2N2905A</u> | <u>2N2907A</u> | <u>2N3350</u> | <u>2N3810</u> | <u>2N4033</u> | <u>2N5153</u> | <u>BUX 78</u> | <u>2N5401</u> | BV _{CBO} (V): | 60 | 60 | 60 | 60 | 80 | 100 | 100 | 160 | BV _{CEO} (V): | 60 | 60 | 45 | 60 | 80 | 80 | 80 | 150 | | | | |
| | <u>2N2905A</u> | <u>2N2907A</u> | <u>2N3350</u> | <u>2N3810</u> | <u>2N4033</u> | <u>2N5153</u> | <u>BUX 78</u> | <u>2N5401</u> | | | | | | | | | | | | | | | | | | | | | | | | |
| BV _{CBO} (V): | 60 | 60 | 60 | 60 | 80 | 100 | 100 | 160 | | | | | | | | | | | | | | | | | | | | | | | | |
| BV _{CEO} (V): | 60 | 60 | 45 | 60 | 80 | 80 | 80 | 150 | | | | | | | | | | | | | | | | | | | | | | | | |
|   | | TRANSISTORS, LOW AND HIGH POWER, PNP | | Current Validity of Qualification | | Page | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Certificate No. | Valid Until | 12-02 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 234 F | March 2008 | 002-3 A | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Types covered by this certificate

| ESCC Spec. No. | Component Type | Package | Qualified Variants |
|----------------|----------------|----------------------|--------------------|
| 5202/002 | 2N 2905A | TO-39 | 01, 02 |
| 5202/001 | 2N 2907A | TO-18 and LCCC3 | 01, 02, 04, 05 |
| 5202/014 | 2N 5401 | TO-18 and LCCC3 | 01, 02, 04, 05 |
| 5204/002 | 2N 5153 | TO-39, TO-257, SMD.5 | 01, 02, 04, 05, 06 |
| 5204/006 | BUX 78ESY | TO-257 | 06, 07 |
| 5207/005 | 2N 3810 | TO-78, and LCCC6 | 02, 05, 07, 09 |
| 5207/003 | 2N 3350 | TO-77, and LCCC6 | 02, 03, 04, 05 |
| 5202/008 | 2N4033 | TO-39, and LCCC3 | 01, 02, 04, 05 |



TRANSISTORS,
LOW AND HIGH POWER,
PNP

Current Validity of Qualification

Certificate No.

234 F



Valid Until



March 2008

Page

12-02

002-3 B

| | | | | | | |
|---|--|---|------------------------------|-----------------------|-----------------------------------|------|
| Types covered by similarity : All variants are qualified (BFY 405, 420, and 450) | | Remarks : Requalification testing will be initiated following the transfer of production from the München facility. . | | | | |
| Procurement Specifications Issues in effect on certification date | | 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 | |
| Characteristics for BFY 450: | | | | | | |
| V_{CEO} (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 | | | | | | |
| Package: "Micro-X" Total Power Dissipation (P_{tot})= 450 mW Operating Temperature Range (°C): $T_{op} = - 65$ to + 175 | | | | | | |
|  European Space Components Coordination  | | TRANSISTORS, MICROWAVE, SMALL SIGNAL, BIPOLAR BASED ON TYPE BFY 450 | | | Current Validity of Qualification | Page |
| | | Certificate No. 245 B | Valid Until December 2005 | | 12-10 002 | |

| | | | | | | |
|--|--|---|---------------------------------|--------------------------------|-----------------------------------|--|
| Types covered by similarity : | | Remarks : Requalification testing will be initiated following the transfer of production from the München facility. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 5010 Detail ESCC 5614/006 | | Infineon Technologies AG München Germany | Qualification Extension | DLR DLR | Nov 1997 Jan 2000 | |
| Characteristics for CLY 32: V_{DS} (V) max. 14 V_{DG} (V) max.: 16 V_{GS} (V) max.: -6.0 P_O (dBm) min. 32 @ $V_{DS}=9.0$ V, $f=2.0$ GHz, $P_{IN}=21$ dBm, power matched η_{add} (%) min. 45 @ $V_{DS}=9.0$ V, $f=2.0$ GHz, $P_{IN}=21$ dBm, power matched Package: "MWP 25" Total Power Dissipation (P_{tot})= 7.5 W Channel Temperature Range (°C): $T_{ch} = -65$ to $+175$ | | | | | | |
|   | | TRANSISTORS, MICROWAVE, METAL SEMICONDUCTOR FIELD EFFECT, POWER, GALLIUM ARSENIDE BASED ON TYPE CLY 32 | | | Current Validity of Qualification | |
| | | Certificate No. 246 A | Valid Until January 2002 | Page 12-15 001-1 | | |

Types covered by similarity :
All variants are qualified

Remarks : Requalification testing will be initiated following the transfer of production from the München facility.

| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|--------------------|-----------------------|----------|
| Generic ESCC 5010 | Infineon Technologies AG München Germany | Qualification | DARA | Apr 1994 |
| Detail ESCC 5613/002 | | Extension | DLR | Jan 2000 |
| ESCC 5613/004 | | Extension | DLR | Dec 2003 |



Characteristics (@ 12 GHz):

| | | NFmin.(dB) | Ga (dB) |
|-----------------|----------------|------------|---------|
| 5613/002 | variants 1 & 3 | 0.8 | 10 |
| lattice matched | variants 2 & 4 | 1.0 | 9.5 |
| 5613/004 | variants 1 & 3 | 0.8 | 11 |
| pseudo-morphic | variants 2 & 4 | 1.0 | 10.5 |

Package: "MICRO-X"

Total Power Dissipation (P_{tot})=200 mW derated from +31 °C



Storage Temperature Range (°C): $T_{stg} = -65$ to +150



| | | | | |
|--|--|-----------------------------------|----------------------------------|------------------|
|   | <p>TRANSISTORS, HIGH ELECTRON MOBILITY, GALLIUM ARSENIDE, MICROWAVE, LOW NOISE, SMALL SIGNAL, BASED ON TYPES CFY 66 and CFY 67</p> | Current Validity of Qualification | | Page |
| | | Certificate No. 213 B | Valid Until December 2005 | 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 L | Polyimide, Types FA-3901-1, FA 3901-2 | Draka Fileca |
| | 13-01-001-2 | 09 L | Polyimide, Types 1871-1872 | Nexans |
| | 13-01-001-3 | 132 H | Polyimide, Types 3901002**B | Axon' Cable |
| | 13-01-003 | 08 L | PTFE, Types MTV-BTV | Nexans |
| | 13-01-004-1 | 138 F | Polyimide, Type SPC | Gore |
| | 13-01-004-2 | 219 F | Polyimide, Type SPL | Gore |
| | 13-01-004-3 | 268 A | Polyimide, Type 3901019**B | Axon' Cable |
| | 13-01-005-1 | 159 G | Crosslinked PTFE, Type Silver-Plated Copper | Tyco Electronics |
| | 13-01-005-2 | 267 B | Crosslinked PTFE, Type Silver-Plated Copper | Axon' Cable |
| | 13-01-008 | 215 F | PTFE, Polyimide / PFA Insulated, Type SPP | Gore |
| | 13-01-009 | 216 E | PTFE, Polyimide / PFA Insulated, Shielded, Type SPM | Gore |
| | 13-01-010-1 | 229 E | Polyimide, Insulated, Shielded, Type SPLD, Drain Wire | Gore |
| | 13-01-011-1 | 257 B | Crosslinked Modified ETFE, Type Silver-Plated Copper, Lightweight | Tyco Electronics |
| 13-02 | | | Coaxial, RF, Flexible | |
| | 13-02-001 | 24 M | PTFE/Polyimide, Type 50 CIS | Nexans |
| | 13-02-002-1 | 255 C | Coaxial, Triaxial, Balanced Shielded Line | Gore |

| | | | | | | |
|--|---------------|--|--------------------|-----------------------------------|-------------|-------|
| Types covered by similarity : FA 3901-1 Variants 24 to 47 are qualified FA 3901-2 Variants 31 to 73 are qualified | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | 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 | |
| Characteristics Voltage Rating, maximum (Vrms): 600 Temperature Range (°C): -100 to +200 | | | 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 | | | | |
|   | | WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION, BASED ON TYPES FA 3901-1, FA 3901-2 | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 13-01 |
| 07 L | February 2008 | 001-1 | | | | |

| | | | | | |
|--|---|---------------------------------|-----------------------------------|-----------------------|----------|
| Types covered by similarity : | | Remarks : | | | |
| 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 | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | |
| Generic ESCC 3901 | | Nexans Draveil France | Qualification | CNES | Jan 1979 |
| Detail ESCC 3901/001 | | | Extension | CNES | Sep 1981 |
| 3901/002 | | | 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 | |
| Characteristics Voltage Rating, maximum (Vrms) : 600 Temperature Range (°C): -100 to +200 | | | | | |
|   | WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION, BASED ON TYPES 1871 - 1872 | | Current Validity of Qualification | | Page |
| | | | Certificate No. | Valid Until | 13-01 |
| | | 09 L | November 2007 | 001-2 | |

| | | | | | | |
|---|--|---|--|-----------------------|-----------------------------------|----------------|
| Types covered by similarity : | | Remarks : Maintenance of qualification activities are in progress- planning is to be confirmed. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3901 Detail ESCC 3901/001 3901/002 | | AXON' CABLE Montmirail France | Qualification | ESTEC | Dec 1985 | |
| Characteristics Voltage Rating, maximum (Vrms) : 600 Temperature Range(°C): -100 to +200 | | | 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 | |
| | | |   | | Current Validity of Qualification | |
| | | Certificate No. 132 H | | | Valid Until October 2006 | 13-01 001-3 |
| WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION, BASED ON TYPES 3901001**B and 3901002**B | | | | | | |

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|--|--|--|--------------------|-----------------------------------|----------------------------------|------------------|
| Types covered by similarity : Variants 01 to 78 are qualified - MTV - BTV - MTV/G - BTV/G - MTV/BF/G - BTV/BF/G | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | 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 | |
| Characteristics Voltage Rating, maximum, (Vrms): 600 Temperature Range, (°C): -100 to +200 | | | | | | |
|   | | WIRES AND CABLES, LOW FREQUENCY, PTFE/POLYIMIDE INSULATION, BASED ON TYPES MTV-BTV | | Current Validity of Qualification | | Page |
| | | | | Certificate No. 08 L | Valid Until November 2007 | 13-01 003 |

Types covered by similarity :
 Variants 01-66 are qualified

Remarks :



| Procurement Specifications Issues in effect on certification date | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|--------------------|-----------------------|----------|
| Generic ESCC 3901 Detail ESCC 3901/009 | W.L. Gore & Co Pleinfeld Germany | Qualification | DLR | Aug 1986 |
| | | Extension | ESTEC | Dec 1988 |
| | | Extension | DARA | Jul 1991 |
| | | Extension | DARA | Aug 1993 |
| | | Extension | DARA | Feb 1996 |
| | | Extension | DLR | Feb 1998 |
| | | Requalification | DLR | Nov 2004 |



Characteristics
 Voltage Rating, maximum, (Vrms): 600
 Temperature Range, (°C): -150 to +150







WIRES AND CABLES,
 LOW FREQUENCY, POLYIMIDE INSULATION
 BASED ON TYPE SPC 2110



| Current Validity of Qualification | | Page |
|-----------------------------------|---------------|-------|
| Certificate No. | Valid Until | 13-01 |
| 138 F | November 2006 | 004-1 |


| | | | | | | |
|--|--|---|--------------------|---------------------------------|-----------------------------------|------|
| Types covered by similarity : Variants 1-94 are qualified | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3901 | | W.L. Gore & Co Pleinfeld Germany | Qualification | DARA | Nov 1994 | |
| Detail ESCC 3901/019 | | | Extension | DARA | Nov 1996 | |
| | | | Extension | DLR | Oct 1998 | |
| | | | Extension | DLR | Oct 2000 | |
| | | | Extension | DLR | Nov 2002 | |
| | | | Extension | DLR | Nov 2004 | |
| | | | Extension | DLR | Oct 2006 | |
| Characteristics Voltage Rating, maximum, (Vrms): 600 Temperature Range, (°C): -200 to +200 | | | | | | |
|   | | WIRES AND CABLES, LOW FREQUENCY, POLYIMIDE INSULATION BASED ON TYPE SPL | | | Current Validity of Qualification | Page |
| | | Certificate No. 219 F | | Valid Until October 2008 | 13-01 004-2 | |



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|--|--|---|--------------------|-----------------------------------|-----------------------------------|--------------------|
| Types covered by similarity : Variants of construction AWG 12 to 28 | | Remarks : Maintenance of qualification activities are in progress- planning is to be confirmed. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3901 | | AXON' CABLE Montmirail France | Qualification | CNES | Jun 2002 | |
| Detail ESCC 3901/019 | | | Extension | CNES | Sep 2004 | |
| 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 TYPE 3901019**B | | Current Validity of Qualification | | Page |
| | | | | Certificate No. 268 A | Valid Until September 2006 | 13-01 004-3 |



| | | | | | | |
|--|--|--|--------------------|-----------------------------------|---------------|-------|
| Types covered by similarity : AWG 28 based variants are not qualified: variants 02, 12, 22, 32, 42, 52, 62 and 72 | | Remarks : This product is not intended for manned space applications. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3901 | | Tyco Electronics Dorcan, Swindon England | Qualification | RAE | Feb 1989 | |
| Detail ESCC 3901/012 | | | Extension | RAE | Jul 1992 | |
| | | | Extension | DRA | Mar 1995 | |
| | | | Extension | DERA | Sep 1997 | |
| | | | Extension | DERA | Oct 1999 | |
| | | | Extension | QinetiQ | Nov 2001 | |
| | | | Extension | QinetiQ | Nov 2003 | |
| | | | Extension | QinetiQ | Nov 2007 | |
| Characteristics Maximum voltage: 600 Vrms Operating temperature range (°C): -100 to +200 | | | | | | |
|   | | WIRES AND CABLES, LOW FREQUENCY, 600V, SILVER-PLATED COPPER, EXTRUDED CROSSLINKED FLUOROPOLYMER INSULATION, BASED ON TYPE 55/995X | | Current Validity of Qualification | | Page |
| | | | | Certificate No. | Valid Until | 13-01 |
| | | | | 159 G | November 2007 | 005-1 |



| | | | | | | |
|--|--|--|--------------------|-----------------------------------|-----------------------------------|--------------------------------|
| Types covered by similarity : All variants based on qualified variants | | Remarks : This product is not intended for manned space applications. Maintenance of qualification activities are in progress- planning is to be confirmed. | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3901 | | AXON' CABLE Montmirail France | Qualification | CNES | Mar 2002 | |
| Detail ESCC 3901/012 | | | Extension | CNES | Feb 2003 | |
| | | | Extension | CNES | Sep 2004 | |
| Characteristics Variant 03 (AWG 26), 06 (AWG 20), and 54 (2 cores AWG 24 with shield) are qualified Wire code ISO 2635, 006 Voltage Rating, maximum (Vrms) : 600 Temperature Range(°C): -100 to +200 | | | | | | |
|   | | WIRES AND CABLES, LOW FREQUENCY, 600V, SILVER-PLATED COPPER, EXTRUDED CROSSLINKED FLUOROPOLYMER INSULATION BASED ON TYPE P515643A | | | Current Validity of Qualification | |
| | | Certificate No. 267 B | | Valid Until September 2006 | | Page 13-01 005-2 |

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|--|---|--|-----------------------------------|-----------------------|----------|
| Types covered by similarity : | | Remarks : | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
| Generic ESCC 3901 Detail ESCC 3901/017 | | W.L. Gore & Co Pleinfeld Germany | Qualification | DARA | Jul 1994 |
| | | | Extension | DARA | Sep 1996 |
| | | | Extension | DLR | Aug 1998 |
| | | | Extension | DLR | Aug 2000 |
| | | | Extension | DLR | Aug 2002 |
| | | | Extension | DLR | Nov 2004 |
| | | | Extension | DLR | Aug 2006 |
| Characteristics Voltage Rating, maximum, (Vrms): 600V Temperature Range, (°C): -200 to +200 Expanded PTFE, extruded polyimide/fluorthermoplast insulation | | | | | |
|   | POWER WIRES FOR CRIMPING, LOW FREQUENCY, BASED ON TYPE SPP | | Current Validity of Qualification | | Page |
| | | | Certificate No. | Valid Until | 13-01 |
| | | 215 F | | August 2008 | 008 |

| | | | | | | |
|--|--|---|--------------------|-----------------------------------|----------------------------------|------------------|
| Types covered by similarity : Variants 01 to 88 are qualified. | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3901 | | W.L. Gore & Co Pleinfeld Germany | Qualification | DARA | Jul 1994 | |
| Detail ESCC 3901/018 | | | Extension | DARA | Sep 1997 | |
| | | | Extension | DLR | Aug 1999 | |
| | | | Extension | DLR | Aug 2001 | |
| | | | Extension | DLR | Aug 2003 | |
| | | | Extension | DLR | Nov 2005 | |
| Characteristics Voltage Rating, maximum, (Vrms): 600 Temperature Range, (°C): -200 to +200 Expanded PTFE, polyimide / FEP, sintered PTFE insulated wires. Expanded PTFE, extruded polyimide / fluorothermoplast insulated cables, shielded and jacketed. | | | | | | |
|  | | <p style="text-align: center;">WIRES AND CABLES, LOW FREQUENCY, INSULATED, POLYIMIDE/FLUOROTHERMOPLAST, BASED ON TYPE SPM</p> | | Current Validity of Qualification | | Page |
| | | | | Certificate No. 216 E | Valid Until November 2007 | 13-01 009 |

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|--|--|---|--------------------|----------------------------------|-----------------------------------|------|
| Types covered by similarity : All variants (01 to 41) are qualified | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3901 | | W.L. Gore & Co Pleinfeld Germany | Qualification | DARA | Feb 1996 | |
| Detail ESCC 3901/021 | | | Extension | DLR | Feb 1998 | |
| | | | Extension | DLR | Feb 2000 | |
| | | | Extension | DLR | Feb 2002 | |
| | | | Extension | DLR | Feb 2004 | |
| | | | Extension | DLR | Feb 2006 | |
| 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 No. 229 E | | Valid Until February 2008 | 13-01 010-1 | |

| | | | | | | | |
|--|--|--|--------------------|-----------------------|-----------------------------------|-------------|-------|
| Types covered by similarity : 3901/020: All variants (01 - 80) 3901/022: All variants (01 - 24) | | Remarks : | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | |
| Generic ESCC 3901 Detail ESCC 3901/020 ESCC 3901/022 | | Tyco Electronics Dorcan, Swindon England | Qualification | DERA | Oct 1999 | | |
| | | | Extension | QinetiQ | Jan 2002 | | |
| | | | Extension | QinetiQ | Jan 2005 | | |
| Characteristics Wires and Cables variants consists of 1, 2, 3, and 4 cores with and without jackets and shields 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. Maximum voltage: 600 Vrms Operating temperature range (°C): -100 to +200 | | | | | | | |
|   | | WIRES AND CABLES, LOW FREQUENCY, 600V, SILVER-PLATED COPPER, EXTRUDED CROSSLINKED MODIFIED ETFE, LIGHTWEIGHT | | | Current Validity of Qualification | | Page |
| | | | | | Certificate No. | Valid Until | 13-01 |
| | | | 257 B | January 2007 | 011-1 | | |

| | | | | | | |
|--|--|--|--------------------|-----------------------------------|-------------------------------|--------------------|
| Types covered by similarity : Variants 03 to 06, 10 to 12, 13, and 20 to 25 are qualified | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3902 | | W.L. Gore & Co Pleinfeld Germany | Qualification | DLR | Jan 1999 | |
| Detail ESCC 3902/002 | | | Extension | DLR | Feb 2001 | |
| | | | Extension | DLR | Feb 2003 | |
| | | | Extension | DLR | Mar 2005 | |
| Characteristics Variants encompass coaxial, triaxial, and balanced shielded line Operating Voltage (Continuous), maximum ratings, (Vrms): Variant 03 180 Variants 04, 10, 21, 22, 23, 24 200 Variants 06, 25 250 All Other Variants 300 AWG Range: 20, 22, 24, 26, 28, 30 dependent on variant Temperature Range, (°C): -200 to +180 | | | | | | |
|   | | WIRES AND CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL, TRIAXIAL AND SYMMETRIC | | Current Validity of Qualification | | Page |
| | | | | Certificate No. 255 C | Valid Until March 2007 | 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 C | Coaxial Loads, to 22 GHz | Radiall |
| | 14-01-004 | 178 D | Attenuators, Type R413 | Radiall |
| 14-03 | | | Switches | |
| | 14-03-003 | 275 A | Thermostatic, Bimetallic | COMEPA |

Types covered by similarity : Remarks :

| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date |
|--|--|-------------------------------------|--------------------|-----------------------|----------|
| Generic ESCC 3403 | | RADIALL La Verpillière France | Qualification | CNES | Jul 1992 |
| Detail ESCC 3403/006 | | | Extension | CNES | Jun 1997 |
| | | | Extension | CNES | Jan 2002 |
| | | | Extension | CNES | Apr 2005 |

Characteristics
Operating Temperature Range (°C): -55 to +125



| 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)≤18.4 | 18.4<f(GHz)≤22 |
| 1 | 1.05 | 1.10 | 1.15 | 1.20 |
| 2 | 1.05 | 1.15 | 1.20 | 1.25 |



PASSIVE DEVICES, R.F. COAXIAL LOADS, 0 - 22 GHZ
BASED ON TYPE R4404

| Current Validity of Qualification | | Page |
|-----------------------------------|---------------------------|----------------|
| Certificate No. 185 C | Valid Until April 2007 | 14-01 002-2 |

| | | | | | | | |
|--|--|--|--------------------|-----------------------|-----------------------------------|---------------------------|--------------|
| Types covered by similarity : Variants 01 to 31 | | Remarks : | | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | | |
| Generic ESCC 3403 | | RADIALL La Verpillière France | Qualification | CNES | Jan 1991 | | |
| Detail ESCC 3403/005 | | | Extension | CNES | Jan 1994 | | |
| | | | Extension | CNES | Jun 1997 | | |
| | | | Extension | CNES | Mar 2002 | | |
| | | | Extension | CNES | Apr 2005 | | |
| Characteristics Frequency range (GHz): 0 - 22 Attenuation (dB): 0 - 20 Temperature range (°C): -55 to +125 | | | | | | | |
|   | | R.F. ATTENUATORS FIXED, COAXIAL BASED ON TYPE R413 | | | Current Validity of Qualification | | Page |
| | | | | | Certificate No. 178 D | Valid Until April 2007 | 14-01 004 |

| | | | | | | |
|---|--|---|--------------------|-----------------------------------|--------------------------------|------------------|
| Types covered by similarity : Variants 01 to 06 are qualified | | Remarks : | | | | |
| Procurement Specifications Issues in effect on certification date | | Manufacturer | Nature of Approval | Supervising Authority | Date | |
| Generic ESCC 3702 | | COMEPA BAGNOLET France | Qualification | CNES | March 2004 | |
| Detail ESCC 3702/001 | | | Re-qualification | CNES | August 2005 | |
| Characteristics Range Of Components: Grade 1 and Grade Y Maximum Ratings: Rated Current (I _R): 4 A (30 V _{dc} resistive) Operating Temperature Range (°C): -50 to +150 | | | | | | |
|   | | SWITCHES, THERMOSTATIC, BIMETALLIC, SPST, OPENING CONTACT, BASED ON TYPE Th 47 | | Current Validity of Qualification | | Page |
| | | | | Certificate No. 275 A | Valid Until August 2007 | 14-03 003 |