european space agency
agence spatiale européenne

FINAL ESA/SCC QUALIFIED PARTS LIST

Updated 15-Oct-2002

space components
coordination group

	General Information	
As affected		
Section/Page No.	**Description**	
Cover Page	Title	Revised
Page 2	Para. 3.1, 3.2: web address changed	Revised
Page 2	Para. 4: Final issue of QPL	Revised
Section 02	Index of Connectors	
02-05-001-1	MDM Series, Rectangular from ITT Cannon	Spec Revision
02-05-002-1	MTB Series, Rectangular from ITT Cannon	Spec Up Issue
Section 03	Index of Crystals	
03-01-002	TO-8 Can from C-MAC	Spec Up Issue
Section 08	Index of Microcircuits	
08-02-001-2B-C	Type CMOS B Series from ST Microelectronics	Amended

	General Information	
As affected		
Section/Page No.	**Description**	
Section 01	Index of Capacitors	Amended
01-01-006	Type II, High Voltage from AVX (N.I.)	Extended
01-04-001-2	Type CLR 79 from Arcotronics	Extended
01-05-001-1	Type HT86PS from Eurofarad	Amended
01-05-002-1	Type KM94S from Eurofarad	Added
01-05-003-1	Type PM94S from Eurofarad	Added
Section 02	Index of Connectors	Amended
02-04-001	SMA Series from Radiall	Extended
Section 04	Index of Diodes	Amended
04-01-005-1	Power Rectifier, 1N5615,& 1N5617 from Microsemi	Deleted
Section 10	Index of Resistors	Amended
10-09-001-1	Single & Double Layer from IRCA	Extended
Section 13	Index of Wires and Cables	Amended
13-01-008	PTFE, Polyimide / PFA Insulated,Type SPP from Gore	Extended
Section 14	Index of Miscellaneous	Amended
14-03-002	Microswitches, Series T3 from ABB CONTROL	Deleted

	General Information	
As affected		
Section/Page No.	**Description**	
Section 01	Index of Capacitors	
01-01-006	Type ll, High Voltage from AVX (N.I.)	Amended
01-02-003-1	Type l, High Frequency from Tekelec Temex	Amended
01-02-004-1	Type ll, Hight Voltage from AVX (N.I.)	Amended
01-03-004	Type TAJ from AVX (GB)	Spec Revision
01-04-001-2	Type CLR 79 from Arcotronics	Amended
Section 02	Index of Connectors	
02-01-001-1	D*M Series, Rectangular from ITT Cannon	Spec Revision
02-04-001	SMA Series from Radiall	Amended
02-05-001-1	MDM Series Rectangular from ITT Cannon	Spec Up Issue
Section 04	Index of Diodes	Amended
04-01-005-1	Power Rectifier,1N5615,1N5617 from Microsemi	Amended
Section 10	Index of Resistors	
10-08-001	Type CH*P HR from Vishay S.A. Sfernice	Amended
10-09-001-1	Single & Double Layer from IRCA	Amended
10-09-001-2	Single & Double Layer from Nicolitch	Amended
Section 13	Index of Wires and Cables	
13-01-008	PTFE, Polyimide/PFA Insulated, Type SPP from Gore	Amended
13-02-002-1	Coaxial, Triaxial, Balanced Shielded Line from Gore	Amended
Section 14	Index of Miscellaneous	
14-03-002	Microswtiches, Series T3 from ABB CONTROL	Amended

	General Information	
As affected	GEC-Marconi Materials Technology is now known as Bookham Technologies Plc	
Section/Page No.	**Description**	
Section 01	Index of Capacitors	
01-01-001	Type l. CLC from AVX/TPC	Amended
01-01-003-1	Type ll, CKR 05, CKR 06 from AVX/TPC	Amended
01-01-004-3	Type l, CCR 05, CCR 06 from AVX/TPC	Amended
01-02-001-1	Type l, from AVX /TPC	Amended
01-02-002-1	Type ll from AVX/TPC	Amended
01-03-004	Type TAJ from AVX(GB)	Amended
01-04-001-2	Type CLR 79 from Arcotronics	Amended
Section 02	Index of Connectors	
02-01-001-1	D*M Series, Rectangular from ITT Cannon	Amended
02-01-001-2	D*M Series, Rectangular from Framatome Connectors	Amended
02-02-001-1	D*MA Series, Rectangular from ITT Cannon	Amended
02-02-001-2	D*MA Series, Rectangular from Framatome Connectors	Amended
02-02-005	Series l, Circular, Crimp from Framatome Connectors	Spec Up Issue
02-02-006	Series ll, Circular, Crimp from Framatome Connectors	Spec Up Issue
02-02-007-1	Series lll, Circular, Crimp from Framatome Connectors	Spec Revision
02-04-001	SMA Series from Radiall	Amended
02-05-001-1	MDM Series, Rectangular from ITT Cannon	Amended
02-05-002-1	MTB Series, Rectangular from ITT Cannon	Amended
Section 03	Index of Crystals	
03-01-001-1	TO-5 Can from C-MAC (F)	Amended
03-01-002	TO-8 Can from C-MAC (F)	Amended
Section 04	Index of Diodes	Amended
04-01-005-1	Power Rectifier, 1N5802, 1N5804, 1N5617 from Microsemi	Amended
04-05-001-3	Schottky, BAS 70 from Infineon	Amended
04-05-002-2	PIN, BXY 42 from Infineon	Amended
04-05-002-3A	PIN, Ultra Fast Switching from Tekelec Temex	Amended
04-05-002-4A	PIN, Fast Switching from Tekelec Temex	Amended
04-05-003	PIN, BXY 43 and 44 from Infineon	Amended
04-05-003-2	Varactor, DH 267 from Tekelec Temex	Amended
Section 07	Index of Inductors	
07-01-001	Type MSCI 10000, 12000 from Microspire	Amended
Section 08	Index of Microcircuits	Amended
08-07-004-A	MMIC, GaAs Standard Cell from Bookham Technologies Plc	Amended
Section 09	Index of Relays	
09-01-005	Type E from LEACH	Amended
09-02-006	Type D from LEACH	Amended
09-03-002	Type GP3A from LEACH	Amended

Continued on next page.

	General Information	
Section/Page No.	**Description**	
Section 10	Index of Resistors	
10-02-006	Surface Mount, Type MS1 from Vishay Electronic (Selb)	Spec Up Issue
10-05-004-1	Types MSP B HR from Vishay S.A. Sfernice	Amended
10-08-001	Type CH*P HR from Vishay S.A. Sfernice	Amended
10-08-002	Chip, Type P HR from Vishay S.A. Sfernice	Spec Revision
10-09-001-1	Single & Double Layer from IRCA	Amended
Section 12	Index of Transistors	
12-03-006-1	Type 2N5672 from ST Microelectronics	Amended
12-03-007	Type 2N2880 from SEMELAB	Amended
12-10-001	Types BFY 193 from Infineon	Amended
12-10-002	Types BFY 405-450 from Infineon	Amended
12-15-001	Types CLY 32 from Infineon	Amended
12-16-001	Types CFY66 & 67 from Infineon	Amended
Section 13	Index of Wires and Cables	
13-01-004-2	Polyimide, Type MTV-BTV from Gore	Amended
13-01-008	PTFE, Polyimide/PFA Insulated, Type SPM from Gore	Amended

	General Information	
As affected		
Section/Page No.	**Description**	
Section 01	Index of Capacitors	
01-01-001	Type I, CLC from AVX/TPC	Amended
01-01-003-1	Type II, CKR 05, CKR 06 from AVX/TPC	Amended
01-01-004-3	Type I, CCR 05, CCR 06 from AVX/TPC	Amended
Section 03	Index of Crystals	
03-01-001-1	TO-5 Can from C-MAC (F)	Spec UpIssue
Section 04	Index of Diodes	Amended
04-01-002-2	Switching, 1N4148-1, 1N4150-1 from Microsemi	Extended
04-01-003-1	Switching, 1N6638 et al, 1N3595-1 from Microsemi	Extended
04-01-004-1	Switching 1N5802, 1N5804, 1N5806 from Microsemi	Extended
04-01-005-1	Power Rectifiers, 1N5615 and 1N5617 from Microsemi	Amended
Section 08	Index of Microcircuits	Amended
08-02-002-2B-C	Type 54HCMOS Series from ST Microelectronics	Spec Revision
Section 12	Index of Transistors	
12-01-002-3B	Types NPN from ST Microelectronics	Spec Revision
Section 13	Index of Wires and Cables	Amended
13-01-001-3	Polyimide, Types 3901002**B from Axon' Cable	Extended
13-01-004-3	Polyimide, Type 3901019**B from Axon' Cable	Added
Section 14	Index of Micellaneous	Amended
14-03-002	Microswitches, Series T3 from ABB Control	Amended

	General Information	
As affected		
Section/Page No.	**Description**	
Section 02	Index of Connectors	Amended
02-03-001-2	HE 801 Series from HYPERTAC UK	Extended
Section 04	Index of Diodes	Amended
04-05-003-1A-B	PIN and Varactors from Tyco M/A COM	Extended
04-05-002-1A-B	PIN from Tyco M/A COM	Deleted
Section 13	Index of Wires and Cables	Amended
13-01-005-2	Crosslinked PTFE, Type Silver-Plated Copper from Axon' Cable	Added
Section 14	Index of Miscellaneous	Amended
14-01-002-2	Passive Devices, RF Coaxial Loads, to 22Ghz from Radiall	Re-qualified
14-01-004	Passive Devices, RF Attenuators, Type R413	Re-qualified

	General Information	
As affected	M/A Com is now known as Tyco Electronics UK Ltd., M/A Com Division	
Section/Page No.	**Description**	
Section 01	Index of Capacitors	
01-01-005	Type ll High Capacitors from AVX (N.I.)	Spec Up Issue
01-02-002-1	Type ll from AVX/TPC	Spec Up Issue
01-03-004	Type TAJ from AVX (GB)	Spec Revision
01-08-001-1A-E	Concentric, Air from Tekelec Temex	Spec Revisions
Section 02	Index of Connectors	
02-02-003	DBAS Series, Circular from Deutsch	Spec Revisions
Section 04	Index of Diodes	Amended
04-05-002-1A-B	PIN from Tyco Electronics, M/A Com Div.	Amended
04-05-003-1B	PIN and Varactors from Tyco Electronics, M/A Com Div	Spec Revisions
Section 07	Index of Inductors	
07-01-001	Type MSCI 10000, 12000 from Microspire	Spec Revision
Section 08	Index of Microcircuits	
08-02-002-2B-F	54HCMOS Series from ST Microelectronics	Spec Revisions
Section 13	Index of Wires and Cables	Amended
13-01-001-1	Polyimide, FA-3901-1,FA 3901-2 from Draka Fileca	Spec Revision
13-01-001-2	Types 1871-1872 from Nexans	Spec Revision
13-01-001-3	Types 3901002**B from Axon Cable	Spec Revision
13-01-004-2	Polyimide, Type SPL from Gore	Spec Revision
13-01-005-1	Crosslinked PTFE Silver-Plated Copper from Tyco	Spec Revision
13-01-008	PTFE Polymide / PFA insulated ,Type SPP from Gore	Spec Revision
13-01-009	PTFE, Polymide/PFA Insulated, Type SPM from Gore	Spec Revision
13-01-010-1	Polyimide, Insulated, Shielded, SPLD Drain Wire from Gore	Spec Revision
13-01-011-1	ETFE Type Silver-Plated Copper, Lightweight from Tyco	Spec Revision

	General Information	
As affected	FRB Connectron is now known as Hypertac	
Section/Page No.	**Description**	
Section 01	Index of Capacitors	Amended
01-04-001-1	Type CLR 79 from Sprague	Deleted
01-08-001-1A-E	Concentric Air from Tekelec Temex	Extended
01-08-001-1B	Concentric Air from Tekelec Temex	Removed
Section 02	Index of Connectors	Amended
02-03-001-1	HE 801 Series from Hypertac	Extended
02-03-002-1	KMC Series from Hypertac	Extended
02-03-003-1	MHD Series from Hypertac	Extended
02-04-001	SMA Series from Radiall	Amended
Section 08	Index of Microcircuits	
08-02-002-2A-F	54HCMOS Series from ST Microelectronics	Spec Revisions
Section 10	Index of Resistors	Amended
10-05-002-1	Types RWR 80,81 from Vishay Sfernice	Extended
Section 11	Index of Thermistors	Amended
11-01-001	Type G*D* and *K3A* from Betatherm	Extended
Section 13	Index of Wires and Cables	Amended
13-01-001-1	Polyimide, FA-3901-1,FA 3901-2 from Draka Fileca	Extended
13-01-010-1	Polyimide, Insulated, Shielded, SPLD Drain Wire from Gore	Extended
13-01-011-1	ETFE Type Silver-Plated Copper, Lightweight from Tyco	Extended
Section 14	Index of Miscellanceous	
14-03-002	Microswitches, Series T3 from ABB CONTROL	Amended

	General Information	
As affected		
Section/Page No.	**Description**	
Section 08	Index of Microcircuits	Amended
08-02-002-2B-F	54HCMOS Series from ST Microelectronics	Spec Revisions
Section 09	Index of Relays	Amended
09-01-002	Type GP 5 from LEACH International Europe	Extended
09-02-002	Type GP 2 From LEACH International Europe	Extended
09-03-001	Type GP 250 from LEACH International Europe	Extended
Section 12	Index of Transistors	Amended
12-01-002-3A-B	Low Power, NPN from ST Microelectronics	Extended
12-01-003-1	Low Power, NPN Type 2N2369A from ST Microelectronics	Extended
12-02-002-3A-B	Low Power, PNP from ST Microelectronics	Extended
12-02-003-1	Low Power, PNP Type 2N 2894 from ST Microelectronics	Extended
12-03-001-2	High Power NPN Type 2N3440 from ST Microelectronics	Extended
Section 13	Index of Wires and Cables	Amended
13-01-005-1	PTFE, TypeSilver-Plated Copper from Tyco Electronics	Extended

TABLE OF CONTENTS

SCC

Qualified Parts List

1. FOREWORD

This document contains a list of components that have been qualified to the rules of the ESA/SCC Specification 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 ESA/SCC qualification status of a product provided such publicity or advertisement does not state or imply that the product is the only qualified one of that particular type, range or family.

2. PROCURORS' RESPONSIBILITY

When procuring ESA/SCC 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 ESA/SCC specifications. The procuror is advised to utilise the ESA/SCC 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/scc/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 ESA/SCC 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/scc/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 the last year. (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 ESA/SCC QPL is the final one. The next QPL will be issued as an ESCC document. Existing qualifications wil be carried forward into the ESCC System.

5. TABLE OF QUALIFIED COMPONENTS

Components qualified to the ESA/SCC specification 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

APPENDIX A

Qualified Components List

Section 01 Component Type: Capacitors

Sub -Section	Page No.	Cert.	Type Designation	Manufacturer
01-01			Ceramic, Fixed	
	01-01-001	14 G	Type I, CLC	AVX/TPC
	01-01-003-1	59 F	Type II, CKR 05, CKR 06	AVX/TPC
	01-01-004-3	194 C	Type I, CCR 05, CCR 06	AVX/TPC
	01-01-005	231 B	Type II, High Capacitance	AVX (N.I.)
	01-01-006	262 A	Type II, High Voltage	AVX (N.I.)
01-02			Ceramic, Fixed, Chip	
	01-02-001-1	109 E	Type I	AVX/TPC
	01-02-002-1	110 E	Type II	AVX/TPC
	01-02-003-1	249 A	Type I, High Frequency	Tekelec Temex
	01-02-004-1	264	Type II, High Voltage	AVX (N.I.)
01-03			Tantalum,(Solid), Fixed , Electrolytic	
	01-03-004	196 A	Type TAJ	AVX (GB)
01-04			Tantalum, (Non-Solid), Fixed, Electrolytic, Hermetically Sealed	
	01-04-001-2	173 D	Type CLR 79	Arcotronics
01-05			Fixed, Film	
	01-05-001-1	251 A	Type HT86PS, High Voltage	Eurofarad
	01-05-002-1	269	Type KM94S	Eurofarad
	01-05-003-1	270	Type PM94S	Eurofarad
01-08			Trimmer, Variable	
	01-08-001-1A to 1E	129 F	Concentric, Air	Tekelec Temex

Types covered by similarity :

All values covered by Detail Specifications listed below

Remarks :

Product availability to be confirmed.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3001	6	D	Aug 2001	AVX/TPC St Apollinaire France
Detail				
ESA/SCC 3001/001	4	A	May 1996	
3001/002	5	A	May 1996	
3001/003	5	A	May 1996	
3001/004	4	A	May 1996	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jan 1979
Extension	CNES	Sep 1981
Extension	CNES	Apr 1985
Extension	CNES	Sep 1988
Extension	CNES	Apr 1992
Extension	CNES	Jan 1995
Extension	CNES	May 1998
Extension	CNES	Nov 2000

Characteristics

Style	Model	Capacitance Range (pF)			Tol. (±%)	Rated Volt. (V)	Temp. Coeff. (±ppm/°C)
CLC904L	M104C	4.7	to	9.1	0.5/ 1pF	100	30
CLC904L	M104C	10	to	47	5,10	100	30
CLC905L	M105C	51	to	220	5	100	30
CLC908L	M108	240	to	680	5	100	30
CLC940L	M110C	750	to	910	5	100	30
CLC940L	M110C	1 000	to	4 700	5	63	30

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

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QPL

CAPACITORS,

CERAMIC, FIXED,TYPE I,

CLC

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-01
14 G	November 2002	001

Types covered by similarity :

All values covered by Detail Specifications listed below
and values with 20% Tolerance

Remarks :

Product availability to be confirmed.

Replacement for DLZ, Type II

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3001	6	D	Aug 2001	AVX/TPC St Apollinaire France
Detail				
ESA/SCC 3001/006	4	A	May 1996	
3001/008	4	A	May 1996	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Feb 1980
Extension	CNES	Apr 1983
Extension	CNES	Sep 1986
Requalification	CNES	Apr 1992
Extension	CNES	Jan 1995
Extension	CNES	May 1998
Extension	CNES	Nov 2000

Characteristics

Style	Model	Detail Spec.	Capacitance Range (pF)			Tol. (±%)	Rated Volt. (V)	Δc/c=P(θ)
CKR05	M205	3001/008	10	to	1 000	10	200	±15% at V=0
			1 200	to	10 000	10	100	
			12 000	to	100 000	10	50	
CKR06	M206	3001/006	1 200	to	10 000	10	200	+15%, -25%
			12 000	to	100 000	10	100	with nominal
			120 000	to	1 000 000	10	50	voltage applied

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

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QPL

CAPACITORS,

CERAMIC, FIXED, TYPE II,

CKR 05, CKR 06

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-01
59 F	November 2002	003-1

Types covered by similarity :

Remarks :
3001/018 values has according to the Detail Specification temperature coefficient of ±30 ppm/ °C except for values 1 to 9.1pF, which are ±60 ppm/°C

Product availability to be confirmed.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3001	6	D	Aug 2001	AVX/TPC Saint - Apollinaire FRANCE
Detail				
ESA/SCC 3001/018	3	B	Nov 1997	
3001/019	3	B	Nov 1997	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jan 1993
Extension	CNES	Jun 1995
Extension	CNES	May 1998
Extension	CNES	Nov 2000

Characteristics

Style	Detail Spec.	Capacitance Range (pF)			Tol. (±%)	Rated Volt. (V)	Values Series
CCR05	3001/018	1	to	9.1	0.1, 0.25,0.5pF	200	E24
		10	to	1 000	1, 2, 5, 10	200	E96
		1 100	to	3 900	1, 2, 5, 10	100	E48
		4 300	to	4 700	1, 2, 5 10	50	E24
CCR06	3001/019	360	to	2 200	1, 2, 5, 10	200	E12
		2 400	to	10 000	1, 2, 5, 10	100	E12
		11 000	to	18 000	1, 2, 5, 10	50	E24

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

SCC

QPL

CAPACITORS,
CERAMIC, FIXED, TYPE I,
BASED ON CCR05, CCR06

Current Validity of Qualification	
Certificate No.	Valid Until
194 C	November 2002

Page
01-01
004-3

Types covered by similarity :

± 20% tolerance

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3001	6	D	Aug 2001	AVX Limited
Detail				Larne
ESA/SCC 3001/030	2	-	Feb 2002	Northern Ireland

Nature of Approval	Supervising Authority	Date
Qualification	DRA	Jul 1996
Extension	DERA	Jul 1999
Extension	DERA	Jul 2001

Characteristics : E12 series

Qualified Range:

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

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

SCC

QPL

CAPACITORS,
CERAMIC, TYPE II, HIGH CAPACITANCE,
BASED ON CASE STYLES BR, CV, AND CH

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-01
231 B	July 2003	005

Types covered by similarity :

± 20% tolerance

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3001	6	D	Aug 2001	AVX Limited
Detail				Larne
ESA/SCC 3001/034	2	A	Jul 2001	Northern Ireland

Nature of Approval	Supervising Authority	Date
Qualification	DERA	Sep 2000
Extension	QinetiQ	Aug 2002

Characteristics : E12 series

Qualified Range:

Variants 01 to 22 are qualified
± 10% tolerance

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

SCC

QPL

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.	Valid Until	01-01
262 A	August 2004	006

Types covered by similarity

Variants 01, 03, and 06 are qualified

Remarks :
The size specified in the characteristics column has the following convention, i.e., the first two digits specify the length and the last two the width in hundredths of an inch. Therefore, 0805 indicates 0.08" by 0.05".
Product availability to be confirmed.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3009	6	C	Aug 2001	AVX/TPC St Apollinaire France
Detail				
ESA/SCC 3009/003	6	C	May 1998	
3009/004	6	D	May 1998	
3009/005	6	C	May 1998	
3009/006	6	D	May 1998	
3009/022	2	C	May 1998	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Feb 1983
Extension	CNES	Sep 1986
Requalification	CNES	Apr 1992
Extension	CNES	Jan 1995
Extension	CNES	Jun 1998
Extension	CNES	Nov 2000

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

Style	Model	Detail Spec.	Capacitance Range (pF)	Rated Volt. (V)	Tolerance(±%)	TC(ppm/°C)
0805	A112C	3009/003	4.7 to 9 100 10 to 1 000 1 000 to 1 500	25,50,100 25,50,100 25, 50	0.25 & 0.5 pF 1, 2, 5,10 1, 2, 5,10	±30
1206	A120C	3009/022	10 to 1 500 1 600 to 3 900	25,50,100 25, 50	1, 2, 5,10 1, 2, 5,10	±30
1210	A113C	3009/004	22 to 4 300 4 700 to 10 000	25,50,100 25, 50	1, 2, 5,10 1, 2, 5,10	±30
1812	A114C	3009/005	100 to 8 200 9 100 to 18 000	25,50,100 25, 50	1, 2, 5,10 1, 2, 5,10	±30
2220	A115C	3009/006	470 to 18 000 20 000 to 33 000	25,50,100 25, 50	1, 2, 5,10 1, 2, 5,10	±30

SCC

QPL

CAPACITORS,
CERAMIC, FIXED,
CHIP, TYPE I

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-02
109 E	November 2002	001-1

Types covered by similarity :

Variants 01, 03, and 06 are qualified

Remarks :
The size specified in the characteristics column has the following convention, i.e., the first two digits specify the length and the last two the width in hundredths of an inch. Therefore, 0805 indicates 0.08" by 0.05".
Product availability to be confirmed.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3009	6	C	Aug 2001	AVX/TPC St Apollinaire France
Detail				
ESA/SCC 3009/008	7	-	Feb 2002	
3009/009	7	-	Jun 2002	
3009/010	7	-	Jun 2002	
3009/011	7	-	Jun 2002	
3009/023	3	-	Jun 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Feb 1983
Extension	CNES	Sep 1986
Requalification	CNES	Oct 1992
Extension	CNES	Mar 1995
Extension	CNES	Jun 1998
Extension	CNES	Nov 2000

Characteristics:

Style	Model	Detail Spec.	Capacitance Range (pF)	Tol. (±%)	Rated Volt. (V)
0805	A112G	3009/008	390 to 3 300 390 to 27 000 390 to 47 000	5,10,20 5,10,20 5,10,20	100 50 25
1210	A113G	3009/009	1 000 to 33 000 15 000 to 100 000 15 000 to 220 000	5,10,20 5,10,20 5,10,20	100 50 25
1812	A114G	3009/010	2 700 to 68 000 47 000 to 220 000 47 000 to 470 000	5,10,20 5,10,20 5,10,20	100 50 25
2220	A115G	3009/011	10 000 to 150 000 100 000 to 470 000 100 000 to 1 000 000	5,10,20 5,10,20 5,10,20	100 50 25
1206	A120G	3009/023	1000 to 10 000 1000 to 47 000 1000 to 68 000	5,10,20 5,10,20 5,10,20	100 50 25

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

SCC

QPL

CAPACITORS,
CERAMIC, FIXED,
CHIP, TYPE II

Current Validity of Qualification	
Certificate No.	Valid Until
110 E	November 2002

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01-02
002-1

Types covered by similarity :
3009/035: variants 01, 02, 03, 04 ,05
3009/036: variants 01, 02, 03, 04 ,05, 06, 07

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3009	6	C	Aug 2001	TEKELEC TEMEX Pessac France
Detail				
ESA/SCC 3009/035	1	-	Jul 1998	
3009/036	1	-	Jul 1998	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Aug 1998
Extension	CNES	Jan 2001

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

Capacitance Range (pF)	Tol.(±)	TC (ppm/°C)	3009/036 U_R	3009/035 U_R
0.1 to 0.2	0.1 pF	100± 30	500	50
0.3	0.1, 0.25 pF		500	-
0.3 to 0.4	0.1, 0.25 pF		-	50
0.4 to 6.2	0.1, 0.25, 0.5 pF		500	-
0.5 to 6.2	0.1, 0.25, 0.5 pF		-	50
6.8 to 9.1	0.1,0.25 pF; 5,10, 20 %	100± 30	500	50
10 to 100	1, 2, 5,10, 20%			
110 to 200	1, 2, 5,10, 20%	100± 30	300	-
220 to 470	1, 2, 5,10, 20%		200	
510 to 620	1, 2, 5,10, 20 %	100± 30	100	-
680 to 1000	1, 2, 5,10, 20 %		50	

QPL

CAPACITORS,
CERAMIC, FIXED, CHIP,
TYPE I, MULTIPLE LAYER, HIGH FREQUENCY,
BASED ON TYPES CHA AND CHB

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-02
249 A	January 2003	003-1

Types covered by similarity :

± 20% tolerance

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3009	6	C	Aug 2001	AVX Limited Larne
Detail ESA/SCC 3009/034	1	B	Apr 1999	Northern Ireland

Nature of Approval	Supervising Authority	Date
Qualification	DERA	Feb 2001

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

QPL

CAPACITORS, FIXED, CHIP,
CERAMIC, TYPE II, HIGH VOLTAGE,
BASED ON 1812 AND 1825

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-02
264	February 2003	004-1

Types covered by similarity :

Variants 03, 04, 06, 07, 13, 14, 16 and 17

Remarks :
Maintenance activities ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer	Nature of Approval	Supervising Authority	Date
Generic	Issue	Rev.	Date				
ESA/SCC 3012	2	C	Jul 2002	AVX Ltd	Qualification	DRA	Jun 1993
Detail				Paignton			
ESA/SCC 3012/001	2	-	Jun 2002	England	Extension	DERA	Apr 2001

Characteristics

0.47µF, 50V to 220µF, 4V
Case sizes C, D, N and E

QPL

CAPACITORS, LEADLESS SURFACE MOUNTED, TANTALUM,

SOLID ELECTROLYTE, TYPE TAJ

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-03
196 A	April 2002	004

Types covered by similarity : 20 % tolerance

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3003	3	B	Apr 1999	ARCOTRONICS Towcester England
Detail				
ESA/SCC 3003/005	2	B	Sep 1992	

Nature of Approval	Supervising Authority	Date
Qualification	RAE	Sep 1990
Extension	DRA	Aug 1993
Extension	DERA	Nov 1997
Extension	DERA	Feb 2000
Extension	QinetiQ	Aug 2002

Characteristics

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

QPL

CAPACITORS,

TANTALUM, NON-SOLID, ELECTROLYTIC, FIXED,

CLR 79

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-04
173 D	August 2004	001-2

Types covered by similarity :

All values defined by the ESA/SCC Detail Specification
20% tolerance by variant where applicable

Remarks : Maintenance of qualification is to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3006	4	D	Dec 2000	EUROFARAD Lagny sur Marne France
Detail				
ESA/SCC 3006/022	1	B	Jun 2000	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Aug 1998
Extension	CNES	Jan 2001

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

QPL

CAPACITORS, FIXED, RECONSTITUTED MICA, HIGH VOLTAGE,
BASED ON TYPE HT86PS

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-05
251 A	January 2003	001-1

Types covered by similarity :

All values defined by the ESA/SCC 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	Issue	Rev.	Date				
ESA/SCC 3006	4	D	Dec 2000	EUROFARAD Lagny sur Marne France	Qualification	CNES	Aug 2002
Detail							
ESA/SCC 3006/023	1	-	Oct 2000				

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

SCC

QPL

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

Current Validity of Qualification	
Certificate No.	Valid Until
269	August 2004

Types covered by similarity :

All values defined by the ESA/SCC 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 ESA/SCC 3006	Issue 4	Rev. D	Date Dec 2000	EUROFARAD Lagny sur Marne France	Qualification	CNES	Aug 2002
Detail ESA/SCC 3006/024	1	-	Oct 2000				

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

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

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

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

QPL

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

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-05
270	August 2004	003-1

Types covered by similarity : As described by ESA/SCC Detail Specification 3010/004

Variants	Mfr Designation	Variants	Mfr Designation
01	AT 5200	04	AT 8052
02	AT 5202	05	AT 5276
03	AT 5201	06	AT 5205

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3010	3	-	Apr 1999	TEKELEC Pessac France
Detail				
ESA/SCC 3010/004	4	B	Feb 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Nov 1985
Extension	CNES	Dec 1988
Extension	CNES	May 1991
Extension	CNES	Nov 1993
Extension	CNES	Sep 1996
Extension	CNES	Jan 1999
Extension	CNES	Dec 2001

Characteristics

Detail Spec.	Capacitance Range (pF)			Body Diameter (mm)	Temp Coeff. (ppm/°C)
3010/004	1	to	10	7.6	±15

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

QPL

CAPACITORS,

CONCENTRIC TRIMMERS, VARIABLE

Current Validity of Qualification		Page
Certificate No.	Valid Until	01-08
129 F	December 2003	001-1A

Types covered by similarity : As described by ESA/SCC Detail Specification 3010/008

Variants	Mfr. Designation
01	AT 5500
02	AT 5502
03	AT 5501

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3010	3	-	Apr 1999	TEKELEC Pessac France
Detail				
ESA/SCC 3010/008	3	B	Feb 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Nov 1985
Extension	CNES	Dec 1988
Extension	CNES	May 1991
Extension	CNES	Nov 1993
Extension	CNES	Sep 1996
Extension	CNES	Jan 1999
Extension	CNES	Dec 2001

Characteristics

Detail Spec.	Capacitance Range (pF)			Body Diameter (mm)	Temp Coeff. (ppm/°C)
3010/008	1	to	20	8	±30

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

QPL

CAPACITORS,

CONCENTRIC, TRIMMERS, VARIABLE

Current Validity of Qualification	
Certificate No.	Valid Until
129 F	December 2003

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01-08

001-1C

Types covered by similarity : As described by ESA/SCC Detail Specification 3010/010 (left),3010/011 (right)

Variants	Mfr Designation	Variants	Mfr Designation
01	AT 5700	01	AT 5750
02	AT 5702	02	AT 5752
03	AT 5701	03	AT 5751
04	AT 8050	04	AT 5753

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3010	3	-	Apr 1999	TEKELEC Pessac France
Detail				
ESA/SCC 3010/010	3	B	Feb 2002	
3010/011	3	B	Feb 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Nov 1985
Extension	CNES	Dec 1988
Extension	CNES	May 1991
Extension	CNES	Nov 1993
Extension	CNES	Sep 1996
Extension	CNES	Jan 1999
Extension	CNES	Dec 2001

Characteristics

Detail Spec.	Capacitance Range (pF)			Body Diameter (mm)	Temp. Coeff. (ppm/°C)
3010/010	0.8	to	6	6.2	±15
3010/011	1	to	10	6.2	±50

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

QPL

CAPACITORS,

CONCENTRIC, TRIMMERS, VARIABLE

Current Validity of Qualification

Certificate No.	Valid Until
129 F	December 2003

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01-08

001-1D

Types covered by similarity : As described by ESA/SCC Detail Specifications 3010/012 (left), 3010/013 (right)

Variants	Mfr Design	Variants	Mfr Design
01	AT 5800	01	AT 5850
02	AT 5802	02	AT 5852
03	AT 5801	03	AT 5851
04	AT 8051	04	AT 5853
05	AT 5805	05	AT 5855

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3010	3	-	Apr 1999	TEKELEC Pessac France
Detail				
ESA/SCC 3010/012	3	B	Feb 2002	
3010/013	3	B	Feb 2002	

Characteristics

Detail Spec.	Capacitance Range (pF)			Body Diameter (mm)	Temp. Coeff. (ppm/°C)
3010/012	0.6	to	3.5	4.6	±50
3010/013	0.6	to	5	4.6	±50

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

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Nov 1985
Extension	CNES	Dec 1988
Extension	CNES	May 1991
Extension	CNES	Nov 1993
Extension	CNES	Sep 1996
Extension	CNES	Jan 1999
Extension	CNES	Dec 2001

QPL

CAPACITORS,

CONCENTRIC, TRIMMERS, VARIABLE

Current Validity of Qualification

Certificate No.	Valid Until
129 F	December 2003

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001-1E

Section 02 Component Type: Connectors

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
02-01			Multipin, Solder Contacts	
	02-01-001-1	71 H	D*M Series, Rectangular	ITT Cannon
	02-01-001-2	155 E	D*M Series, Rectangular	Framatome Connectors
02-02			Multipin, Crimp Contacts	
	02-02-001-1	72 H	D*MA Series, Rectangular	ITT Cannon
	02-02-001-2	156 D	D*MA Series, Rectangular	Framatome Connectors
	02-02-003	25 H	DBAS Series, Circular	Deutsch
	02-02-005	220 B	Series I, Circular, Crimp	Framatome Connectors
	02-02-006	221 B	Series II, Circular, Crimp	Framatome Connectors
	02-02-007-1	222 B	Series III, Circular, Miniature	Framatome Connectors
	02-02-008	223 A	Series III, Hermatic	Framatome Connectors
02-03			Printed Circuit Board	
	02-03-001-1	99 G	HE 801 Series	HYPERTAC
	02-03-001-2	217 C	HE 801 Series	HYPERTAC UK
	02-03-002-1	149 E	KMC Series	HYPERTAC
	02-03-003-1	250 A	MHD Series	HYPERTAC
02-04			R.F. Coaxial	
	02-04-001	68 G	SMA Series	Radiall
02-05			Micro-miniature, Crimp Contacts	
	02-05-001-1	140 F	MDM Series, Rectangular	ITT Cannon
	02-05-002-1	141 F	MTB Series, Rectangular	ITT Cannon

Types covered by similarity :
Range defined in the corresponding ESA/SCC Detail Specifications.

Remarks : Maintenance activites ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	ITT CANNON Dole
Detail				
ESA/SCC 3401/001	7	A	Feb 2000	France
3401/004	1	B	May 1991	
3401/040	1	B	Jul 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Feb 1981
Extension	CNES	Jun 1983
Extension	CNES	Sep 1986
Extension	CNES	Oct 1988
Extension	CNES	Jun 1989
Extension	CNES	Sep 1991
Extension	CNES	Apr 1994
Extension	CNES	Jan 1997
Extension	CNES	Jan 2000

Characteristics

Range of Contacts: 9, 15, 25, 37 and 50 contacts size 20 for standard arrangements
5W1 to 47W1 combined contact arrangements
15,26,44,62, and 78 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

QPL

CONNECTORS,
ELECTRICAL, SOLDER AND WIRE WRAP CONTACTS,
RECTANGULAR RECEPTACLE AND PLUG,
BASED ON TYPE D*M

Current Validity of Qualification	
Certificate No.	Valid Until
71 H	January 2002

Types covered by similarity :
Complete range as defined in the Detail Specifications

Remarks : Maintenance activites ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	Framatome Connectors International Marolles en Brie France
Detail				
ESA/SCC 3401/001	7	A	Feb 2000	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Sep 1988
Extension	CNES	Apr 1991
Extension	CNES	Jan 1994
Extension	CNES	Jul 1996
Extension	CNES	Oct 1997
Extension	CNES	Mar 2000

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

QPL

CONNECTORS,
ELECTRICAL, SOLDER AND WIRE WRAP CONTACTS,
NON-REMOVABLE, RECTANGULAR RECEPTACLE AND PLUG
BASED ON TYPE D*M

Current Validity of Qualification	
Certificate No.	Valid Until
155 E	March 2002

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02-01
001-2

Types covered by similarity :

Range defined in the corresponding ESA/SCC Detail Specification

Remarks : Maintenance activities ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	ITT CANNON Dole France
Detail				
ESA/SCC 3401/002	5	A	Feb 2000	
3401/005	4	C	Feb 2000	
3401/020	2	A	Feb 2000	
3401/021	2	B	Feb 2000	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Feb 1981
Extension	CNES	Jun 1983
Extension	CNES	Sep 1986
Extension	CNES	Oct 1988
Extension	CNES	Jun 1989
Extension	CNES	Sep 1991
Extension	CNES	Apr 1994
Extension	CNES	Jan 1997
Extension	CNES	Jan 2000

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, and 78 contacts size 22** for high density contact arrangements

**Accepts wire sizes AWG # 22 to 26 (standard bucket: variants 07 to 08)

Range of Contacts: 9, 15, 25, 37, 50 contacts : Standard Contact Arrangements

Gold-plated non-magnetic coating

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

Connector Savers: For usage with above connector range

QPL

CONNECTORS,
ELECTRICAL, CRIMP CONTACTS,
RECTANGULAR RECEPTACLE AND PLUG,
BASED ON TYPE D*MA

Current Validity of Qualification	
Certificate No.	Valid Until
72 H	January 2002

Types covered by similarity :
Complete range as defined in the Detail Specifications

Remarks : Maintenance activities ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	Framatome Connectors International
Detail				Marolles en Brie
ESA/SCC 3401/002	5	A	Feb 2000	France
3401/005	4	C	Feb 2000	
3401/020	2	A	Feb 2000	
3401/021	2	B	Feb 2000	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Sep 1988
Extension	CNES	Apr 1991
Extension	CNES	Jan 1994
Extension	CNES	Jul 1996
Extension	CNES	Mar 2000

Characteristics
Connectors:-
Accepts wire sizes AWG # 20 to 24 (standard bucket, varants 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

SCC

QPL

CONNECTORS AND CONNECTOR SAVER,
ELECTRICAL, CRIMP CONTACTS, REMOVABLE,
RECTANGULAR RECEPTACLE AND PLUG,
BASED ON TYPE D*MA

Current Validity of Qualification	
Certificate No.	Valid Until
156 D	March 2002

Types covered by similarity :
See ESA/SCC Detail Specification 3401/008,3401/009

Remarks :

Maximum Ratings are stated for one isolated contact.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	Cie DEUTSCH Evreux France
Detail				
ESA/SCC 3401/008	5	A	Mar 2002	
3401/009	3	C	Mar 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jul 1979
Extension	CNES	Nov 1982
Extension	CNES	Nov 1985
Extension	CNES	Oct 1989
Extension	CNES	Apr 1992
Extension	CNES	Aug 1994
Extension	CNES	Feb 1997
Extension	CNES	May 1999
Extension	CNES	Aug 2001

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 20, 16, 12 and 8
Operating Temperature Range (°C): -65 to +200

SCC

QPL

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

Current Validity of Qualification	
Certificate No.	Valid Until
25 H	August 2003

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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
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	Framatome Connectors International
Detail				Marolles en Brie
ESA/SCC 3401/052	2	-	Jun 2002	France
3401/058	1	A	May 1995	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	May 1995
Extension	CNES	Mar 1998
Extension	CNES	Jul 2001

Characteristics

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

Other arrangements with contact sizes: 20, 16, 12, 8

Receptacle and Plug Shell Sizes: 09,11,13,15,17,19,21,23,25

Contact Size	Ratings (A)
8	46.0
12	23.0
16	13.0
20	7.5

Operating temperature range (° C): -65 to +200 °C

QPL

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.	Valid Until	02-02
220 B	July 2003	005

Types covered by similarity :

For contact, variants 01 to 08 are qualified

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	Framatome Connectors International Marolles en Brie France
Detail				
ESA/SCC 3401/044	2	-	Jun 2002	
3401/045	1	A	Mar 1995	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	May 1995
Extension	CNES	Mar 1998
Extension	CNES	Jul 2001

Characteristics

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

Other arrangements with contact sizes: 20, 16, 12,

Receptacle and Plug shell sizes: 08,10,12,14,16,18,20,22,24

Contact Size	Ratings (A)
12	23.0
16	13.0
20	7.5

Operating temperature range (° C): -65 to +200 °C

SCC

QPL

CONNECTORS,
ELECTRICAL, CIRCULAR, BAYONET COUPLING,
REMOVABLE CRIMP CONTACTS,
BASED ON TYPE MIL-C-38999, SERIES II

Current Validity of Qualification	
Certificate No.	Valid Until
221 B	July 2003

Types covered by similarity :

3401/058 crimp contacts and 3401/066 triax contacts to be mounted in 3401/056 connectors
3401/070 connector receptacles with PCB contacts

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	Framatome Connectors International
Detail				Marolles en Brie
ESA/SCC 3401/056	3	A	Jun 2002	France
3401/058	1	A	May 1995	
3401/066	1	-	Feb 2000	
3401/070	1	-	June 2000	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	May 1995
Extension	CNES	Mar 1998
Extension	CNES	Jul 2001

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)

Crimp Contact Size	Ratings (A)	PCB Contact Size	Ratings (A)
4	80.0	16	10.0
8	46.0	20	5.0
12	23.0	22	3.0
16	13.0		
20	7.5		
22	5.0		

Operating temperature range (° C): -65 to +200 °C

QPL

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.	Valid Until	02-02
222 B	July 2003	007-1

Types covered by similarity :	Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer	Nature of Approval	Supervising Authority	Date
Generic	Issue	Rev.	Date				
ESA/SCC 3401	7	B	Apr 1999	Framatome Connectors International Marolles en Brie France	Qualification	CNES	May 1995
Detail					Requalification	CNES	Jul 2001
ESA/SCC 3401/057	2	A	Sept 2001				

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

Contact Size	Ratings (A)
20	5.0
22D	3.0

Receptacle (contacts # 8, 12, 16, 20, 22D) and Feedthrough (contacts # 8, 12, 16)
Operating temperature range (° C): -65 to +200 oC

SCC

QPL

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 A	July 2003	008

Types covered by similarity : All variants are qualified

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	HYPERTAC Saint-Aubin-Lès-Elbeuf France
Detail				
ESA/SCC 3401/016	6	A	Nov 2000	
3401/017	3	A	Apr 1998	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Nov 1982
Extension	CNES	May 1985
Extension	CNES	May 1988
Extension	CNES	Apr 1991
Extension	CNES	Jan 1994
Extension	CNES	Mar 1996
Extension	CNES	Mar 1998
Extension	CNES	Jan 2002

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

SCC

QPL

CONNECTORS,
ELECTRICAL, REMOVABLE CONTACTS, CRIMP
WIRE-WRAP SOLDER AND SAVER, PRINTED CIRCUIT BOARD,
BASED ON TYPE HE 801

Current Validity of Qualification	
Certificate No.	Valid Until
99 G	January 2004

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001-1

Types covered by similarity :
See ESA/SCC Detail Specifications listed below

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	HYPERTAC LTD London England
Detail				
ESA/SCC 3401/016	6	A	Nov 2000	
3401/017	3	A	Apr 1998	

Nature of Approval	Supervising Authority	Date
Qualification	DRA	Jul 1994
Extension	DRA	Nov 1996
Extension	DERA	Nov 1998
Extension	QinetiQ	Apr 2002

Characteristics

Shell specifications and sizes: 3401/016
Range of components:
17 to 160 way connectors
PCB, 90^0, 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 $^{+}125$

QPL

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 C	April 2004	001-2

Types covered by similarity :

As defined in Table 1(a) of ESA/SCC Detail Specifications listed below

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3401	Issue 7	Rev. B	Date Apr 1999	HYPERTAC Saint-Aubin-Lès-Elbeuf France
Detail ESA/SCC 3401/039	4	-	Apr 1998	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Mar 1987
Extension	CNES	May 1990
Extension	CNES	Jan 1993
Extension	CNES	Oct 1995
Extension	CNES	Mar 1998
Extension	CNES	Jan 2002

Characteristics

3 rows 26, 44, 62, 80, 98, 144 contacts

Contact Ratings: 2 A (1 contact)

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

QPL

CONNECTORS,
ELECTRICAL, NON-REMOVABLE SOLDER AND
WIRE-WRAP CONTACTS AND SAVERS, PRINTED CIRCUIT BOARD,
BASED ON TYPE KMC

Current Validity of Qualification	
Certificate No.	Valid Until
149 E	January 2004

Types covered by similarity :

As defined in Table 1(a) of ESA/SCC Detail Specification

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3401	Issue 7	Rev. B	Date Apr 1999	HYPERTAC Saint-Aubin-Lès-Elbeuf France
Detail ESA/SCC 3401/065	1	B	Jan 2001	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Aug 1998
Extension	CNES	Jan 2002

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

SCC

QPL

CONNECTORS AND SAVERS,
ELECTRICAL, RECTANGULAR, NON-REMOVABLE,
PRINTED CIRCUIT BOARD CONTACTS,
BASED ON TYPE MHD

Current Validity of Qualification	
Certificate No.	Valid Until
250 A	January 2004

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003-1

Types covered by similarity :
See ESA/SCC detail specifications

- Hermetically sealed receptacle

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3402	8	A	Apr 1999	RADIALL La Verpilliere France
Detail				
ESA/SCC 3402/001	5	-	May 1997	
3402/002	5	-	May 1997	
3402/003	5	-	May 1997	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Feb 1981
Extension	CNES	Apr 1983
Extension	CNES	Apr 1986
Extension	CNES	Nov 1989
Extension	CNES	Jul 1992
Extension	CNES	Nov 1994
Extension	CNES	May 1998
Extension	CNES	Aug 2002

Characteristics

Frequency Range 0-18 GHz
3402/001 Pin contact (Plug)
3402/002 Socket contact (Receptacle)
3402/003 Adapters

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

QPL

CONNECTORS,
RF, COAXIAL, SOLDER AND CRIMP CONTACTS,
MALE, FEMALE ADAPTORS AND CONNECTING PIECES,
BASED ON TYPE SMA

Current Validity of Qualification		Page
Certificate No.	Valid Until	02-04
68 G	August 2004	001

Types covered by similarity :

Remarks : Maintenance activities ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	ITT CANNON Dole France
Detail				
ESA/SCC 3401/029	3	B	Sep 2002	
3401/041	3	-	Jul 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Oct 1986
Extension	CNES	Oct 1988
Extension	CNES	Jun 1989
Extension	CNES	Sep 1991
Extension	CNES	Apr 1994
Extension	CNES	Jan 1997
Extension	CNES	Oct 1999

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 Plated Shells
Operating Temperature Range (°C): $^{-}$55 to $^{+}$125

QPL

CONNECTORS,
ELECTRICAL, CRIMP CONTACT,
RECTANGULAR, MICROMINIATURE,
BASED ON TYPE MDM

Current Validity of Qualification	
Certificate No.	Valid Until
140 F	October 2001

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Types covered by similarity :

Remarks : Maintenance activities ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3401	7	B	Apr 1999	ITT CANNON Dole France
Detail				
ESA/SCC 3401/031	2	-	Sep 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Oct 1986
Extension	CNES	Oct 1988
Extension	CNES	Jun 1989
Extension	CNES	Sep 1991
Extension	CNES	Apr 1994
Extension	CNES	Jan 1997
Extension	CNES	Oct 1999

Characteristics

Shell sizes : 5 through 81
Terminations : Wire sizes AWG 26 and 28 and AWG 25, uninsulated solid gold-plated wire

Max. rating for 1 isolated contact:- AWG 26 and uninsulated wire terminal: 2.5 A
AWG 28 : 1.5 A

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

SCC

QPL

CONNECTORS,
ELECTRICAL, CRIMP CONTACTS, SINGLE-IN-LINE,
MICROMINIATURE,
BASED ON TYPE MTB

Current Validity of Qualification		Page
Certificate No.	Valid Until	02-05
141 F	October 2001	002-1

Types covered by similarity :

Remarks : Maintenance activities ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3501	5	-	Jun 2002	C-MAC Frequency Products Argenteuil France
Detail				
ESA/SCC 3501/001	3	C	May 2000	
ESA/SCC 3501/008	3	B	May 2000	
ESA/SCC 3501/011	2	A	May 2000	
ESA/SCC 3501/012	2	-	Jun 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Oct 1979
Extension	CNES	Jun 1983
Extension	CNES	Oct 1986
Extension	CNES	Jul 1989
Extension	CNES	Jan 1995
Extension	CNES	Nov 1996
Extension	CNES	Apr 2000

Characteristics

TO-5 Can (T 807)

Frequency Range: 15 - 140 MHz

QPL

CRYSTALS,

TO-5 CAN

Current Validity of Qualification		Page
Certificate No.	Valid Until	03-01
33 F	April 2002	001-1

Types covered by similarity :

Remarks : Maintenance activities ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3501	5	-	Jun 2002	C-MAC Frequency Products Argenteuil France
Detail				
ESA/SCC 3501/002	4	B	May 2000	
ESA/SCC 3501/009	2	C	Jun 2001	
ESA/SCC 3501/019	2	-	Sep 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Oct 1979
Extension	CNES	Jun 1983
Extension	CNES	Oct 1986
Extension	CNES	Jul 1989
Extension	CNES	Jan 1995
Extension	CNES	Apr 1997
Extension	CNES	Apr 2000

Characteristics

TO-8 Can (T 1507)

Frequency Range: 2.5 - 20 MHz

QPL

CRYSTALS,

TO-8 CAN

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Certificate No.	Valid Until	03-01
34 F	April 2002	002

Section 04 Component Type: Diodes

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
04-01			Small Signal	
	04-01-002-2	197 D	Switching, 1N4148-1, 1N4150-1	Microsemi
	04-01-003-1	247 C	Switching, 1N6638 et al, 1N3595-1	Microsemi
	04-01-004-1	261 B	Switching, 1N5802, 1N5804, 1N5806	Microsemi
04-05			Microwave, Silicon	
	04-05-001-3	227 A	Schottky, BAS 70	Infineon
	04-05-002-2	224 A	PIN, BXY 42	Infineon
	04-05-002-3A-B	258	PIN, Ultra Fast Switching	Tekelec Temex
	04-05-002-4A-B	259	PIN, Fast Switching	Tekelec Temex
	04-05-003	236 A	PIN, BXY 43 and 44	Infineon
	04-05-003-1A-B	200 B	PIN and Varactors	Tyco M/A Com
	04-05-003-2	225 A	Varactor, DH 267	Tekelec Temex

Types covered by similarity :

1N4151-1

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 5000	9	A	Dec 2000	Microsemi Ireland Ennis Ireland
Detail				
ESA/SCC 5101/023	2	A	Apr 1999	
ESA/SCC 5101/024	2	A	Apr 1999	
ESA/SCC 5101/025	2	-	Sep 1998	

Nature of Approval	Supervising Authority	Date
Qualification	ESTEC	Nov 1993
Extension	ESTEC	Jan 1996
Extension	ESTEC	Jan 1998
Extension	ESTEC	Apr 2000
Extension	ESTEC	Jun 2002

Characteristics

Variants 02 are qualified

QPL

DIODES,

SILICON, SWITCHING,

BASED ON TYPES 1N4148-1, 1N4150-1

Current Validity of Qualification		Page
Certificate No.	Valid Until	04-01
197 D	June 2004	002-2

Types covered by similarity :

1N6639, 1N6640, 1N6641, 1N6642, 1N6643, and
1N6639US, 1N6640US, 1N6641US0, 1N6642US, 1N6643US, and 1N3595US-1

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 5000	9	A	Dec 2000	Microsemi Ireland Ennis Ireland
Detail				
ESA/SCC 5101/026	1	-	May 1997	
ESA/SCC 5101/027	1	-	May 1997	
ESA/SCC 5101/028	1	A	Jan 1998	

Nature of Approval	Supervising Authority	Date
Qualification	ESTEC	Jan 1998
Extension	ESTEC	Apr 2000
Extension	ESTEC	Jun 2000
Extension	ESTEC	Jun 2002

Characteristics

For 5101/026: Variants 01, 02, and 03 in DO 35 package are qualified
Variants 04, 05, and 06 in MELF package are qualified
For 5101/027: Variants 01, 02, and 03 in DO 35 package are qualified
Variants 04, 05, and 06 in MELF package are qualified
For 5101/028: Variant 01 in DO 35 package is qualified
Variant 02 in MELF package is qualified

QPL

DIODES,

SILICON, SWITCHING,

BASED ON TYPES 1N6638 AND 1N3595-1

Current Validity of Qualification		Page
Certificate No.	Valid Until	04-01
247 C	June 2004	003-1

Types covered by similarity :

1N5802, 1N5804, and 1N5802US, 1N5804US

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 5000	9	A	Dec 2000	Microsemi Ireland Ennis Ireland
Detail				
ESA/SCC 5101/014	4	-	Nov 1998	

Nature of Approval	Supervising Authority	Date
Qualification	ESTEC	May 2000
Extension	ESTEC	Jun 2000
Extension	ESTEC	Jun 2002

Characteristics

Variants 07, 08 and 09 in A packages are qualified

Variants 10, 11 and 12 in MELF packages are qualified

Operating Temperature (^{0}C): $^-$ 65 to $^+$175

QPL

DIODES,

SILICON, SWITCHING,

BASED ON TYPES 1N5806 AND 1N5806US

Current Validity of Qualification	
Certificate No.	Valid Until
261 B	June 2004

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04-01

004-1

Types covered by similarity :

Variant 02: BAS 70-B

Remarks : No maintenance activities initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 5010 Detail ESA/SCC 5512/020	Issue 5 1	Rev. C -	Date Jun 2001 Mar 1995	Infineon Technologies AG München Germany

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Sep 1995
Extension	DLR	Jan 2000

Characteristics

Maximum Ratings: V_R = -70 V
I_F = 70 mA
I_{FSM} = 85 mA_{pk} @ t<10 ms, duty cycle=10%

D.C Parameters: I_R = 100 nA max @ V_R= -56 V
at room temp. V_{BR}= 70 V min @ I_R= -10 µA

V_{F1}= 0.44 V max. @ I_F=1.0 mA
V_{F2}= 0.78 V max. @ I_F=10 mA
V_{F3}= 1.00 V max. @ I_F=15 mA

Package: T1, HPAC-140, $R_{TH(J-C)}$=100 CW^{-1}

Operating Temperature Range (°C): $^{-}$55 to $^{+}$150

QPL

DIODES,

MICROWAVE, SILICON, SCHOTTKY, GENERAL PURPOSE,

BASED ON TYPE BAS 70

Current Validity of Qualification		Page
Certificate No.	Valid Until	04-05
227 A	January 2002	001-3

Types covered by similarity :

Variant 02

Remarks : No maintenance activities initiated

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 5010	5	C	Jun 2001	Infineon Technologies AG München Germany
Detail		-		
ESA/SCC 5513/017	2		Jun 1994	

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Jun 1995
Extension	DLR	Jan 2000

Characteristics

Maximum Ratings: V_R= -50V
I_{FM}= 5.0 A @ tp=1.0 µs, 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

QPL

DIODES,

MICROWAVE, SILICON, PIN

BASED ON TYPE BXY 42- MESA

Current Validity of Qualification	
Certificate No.	Valid Until
224 A	January 2002

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Types covered by similarity : See next page

Remarks : No maintenance activities initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer	Nature of Approval	Supervising Authority	Date
Generic ESA/SCC 5010 Detail ESA/SCC: See types covered by similarity.	Issue 5	Rev. C	Date Jun 2001	TEKELEC TEMEX Montreuil France	Qualification	CNES	Mar 2000

Characteristics

	DH 50033	DH 50052	DH 50071	DH 50101
$V_{Rmax.}$	30 V	50 V	70 V	100 V
$R_{SF}\ (\Omega)_{(max.)}$	< 1.8	< 1.6	< 2.0	< 1.9
$\tau_L\ (ns)_{(max.)}$	> 40	> 60	> 100	> 300

Operating Temperature Range: $^{-}55$ to $^{+}125\ ^{o}C$

SCC

QPL

DIODES,
MICROWAVE, SILICON,
PIN, ULTRA FAST SWITCHING

Current Validity of Qualification		Page
Certificate No.	Valid Until	04-05
258	March 2002	002-3A

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Component Type
5513/032	1	-	Jul 97	DH 50033 to DH 50037, variants 01 to 35
5513/036	1	-	Jul 97	DH 50052 to DH 50057, variants 01 to 42
5513/037	1	-	Jul 97	DH 50071 to DH 5077, variants 01 to 49
5513/038	1	-	Jul 97	DH 50101 to DH 50107, variants 01 to 49

Types covered by similarity : See next page

Remarks : No maintenance activities initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer	Nature of Approval	Supervising Authority	Date
Generic ESA/SCC 5010 Detail ESA/SCC: See types covered by similarity.	Issue 5	Rev. C	Date Jun 2001	TEKELEC TEMEX Montreuil France	Qualification	CNES	Mar 2000

Characteristics

	DH 50151	DH 50201	DH 50251	DH 50401
$V_{Rmax.}$	150 V	200 V	250 V	400 V
R_{SF} $(\Omega)_{(max.)}$	< 2.0	< 2.3	< 2.4	< 2.5
τ_L (ns) $_{(min.)}$	> 160	> 240	> 265	> 560

Operating Temperature Range: $^{-}$55 to $^{+}$125 ^{o}C

QPL

DIODES,
MICROWAVE, SILICON,
PIN, FAST SWITCHING

Current Validity of Qualification		Page
Certificate No.	Valid Until	04-05
259	March 2002	002-4A

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Component Type
5513/031	1	-	Jul 97	DH 50151 to DH 50157, variants 01 to 49
5513/033	1	-	Jul 97	DH 50201 to DH 50209, variants 01 to 63
5513/034	1	-	Jul 97	DH 50251 to DH 50256, variants 01 to 36
5513/035	1	-	Jul 97	DH 50401 to DH 50405, variants 01 to 23

Types covered by similarity :

Variants 01-08 are qualified

Remarks : No maintenance activities initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 5010	5	C	Jun 2001	Infineon Technologies AG München Germany
Detail				
ESA/SCC 5513/030	1	B	Jun 1997	

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Oct 1996
Extension	DLR	Jan 2000

Characteristics

	BXY 43	BXY 44
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 ^{o}C

QPL

DIODES,

MICROWAVE, SILICON, PIN, PLANAR

BASED ON TYPES BXY 43 AND 44

Current Validity of Qualification		Page
Certificate No.	Valid Until	04-05
236 A	January 2002	003

Types covered by similarity : See next page	Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 5010 Detail ESA/SCC: See types covered by similarity.	Issue 5	Rev. C	Date Jun 2001	Tyco Electronics Ltd. M/A - COM Division Milton Keynes England

Nature of Approval	Supervising Authority	Date
Qualification	DRA	Dec 1993
Extension	DERA	Oct 1997
Extension	QinetiQ	Mar 2002

Characteristics

Operating Temperature Range (^{0}C): -65 to +125 and 150

QPL

DIODES,
MICROWAVE, SILICON,
PIN AND VARACTORS

Current Validity of Qualification		Page
Certificate No.	Valid Until	04-05
200 B	March 2004	003-1A

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Component Type and Qualified Range
5513/007	1	A	Feb 02	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	1	A	Feb 02	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	1	A	Feb 02	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	1	A	Feb 02	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	1	A	Feb 02	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	1	C	May 00	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	1	B	May 00	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	1	A	May 00	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	1	A	May 00	ML4336 to ML4343, variants 01-02, 06-08, 12-14, 18-20, 24-26, 30-32, 36-38, 42-44, 48
5512/006	1	A	May 00	ML4351 to ML4354, variants 01-02, 05-06, 09-13, 16-17, 20-24, 27-28, 31-35, 38-39, 42-44
5512/007	1	A	May 00	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

Types covered by similarity :

Variants 01 to 03: DH 252, 256, and 292

Remarks : Maintenance activities completed.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 5010	Issue 5	Rev. C	Date Jun 2001	TEKELEC TEMEX Montreuil France
Detail ESA/SCC: 5512/016	1	A	Dec 1997	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jun 1995
Extension	CNES	Aug 1998

Characteristics

Maximum Ratings : V_R = 15 to 40 V
I_F = 100 & 200 mA

D.C. Parameters: I_R= 20 nA max. @ V_R= 10 V
V_F= 0.9 V @ I_F=10 mA

Operating Temperature Range (^{0}C): $^-$55 to $^+$150

QPL

DIODES,

MICROWAVE, SILICON, MULTIPLIER VARACTOR

BASED ON TYPE DH 267

Current Validity of Qualification	
Certificate No.	Valid Until
225 A	August 2000

Page

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

Types covered by similarity : Refer to next page

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer	Nature of Approval	Supervising Authority	Date
Generic ESA/SCC 3008 Detail Refer to types covered by similarity	Issue 4	Rev. A	Date Apr 1999	EUROFARAD Lagny sur Marne France	Qualification Extension	CNES CNES	Aug 1998 Apr 2001

Characteristics

All variants specified in the Detail Specifications are qualified

Operating Temperature Range (^{0}C): $^{-}$55 to $^{+}$125

QPL

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

Current Validity of Qualification		Page
Certificate No.	Valid Until	05-01
252 A	April 2003	001 A

Types covered by certificate

Style	Detail Spec.	Issue	Revision	Date	Variants	Capacitance Range (nF)	Rated Current (A)	Rated Voltage (V)
SFP 040	3008/014	1	B	Aug 1995	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	1	-	Jun 1996	01 to 14	2.4 to 89.6	10	35 to 500
SFP 035	3008/025	1	-	Jun 1996	01 to 20	2.4 to 35.20	10	35 to 200
SFP 100	3008/028	1	A	Apr 1997	01 to 06	0.16 to 1 312.0	10	50 to 300
SFP 060	3008/030	1	-	Jun 1996	01 to 28	2.4 to 89.6	10	35 to 500

Style	Detail Spec.	Issue	Revision	Date	Variants	Capacitance Range (pF)	Rated Current (A)	Rated Voltage (V)
SFC 030	3008/020	1	A	Apr 1997	01 to 12	470 to 22 000	1.0 to 5.0	25 to 200
SFC 060	3008/026	1	A	Apr 1997	01 to 06	680 to 220 000	10	25 to 200
SFC 100	3008/027	1	A	Apr 1997	01 to 06	1000 to 1 000 000	10	25 to 200
SFC 035	3008/031	1	A	Apr 1997	01 to 06	470 to 22 000	10	25 to 200
SFC 040	3008/032	1	A	Apr 1997	01 to 12	470 to 22 000	10	25 to 200
SFC 060	3008/033	1	A	Apr 1997	01 to 12	680 to 220 000	10	25 to 200

Style	Detail Spec.	Issue	Revision	Date	Variants	Capacitance Range (nF)	Rated Current (A)	Rated Voltage (V)
SFL 100	3008/029	1	B	Sep 1998	01 to 48	17.6 to 1 600	5, 10, 15	40 to 300

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

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
07			Fixed, RF	
	07-01-001	241 A	Type MSCI 10000, 12000	Microspire

Types covered by similarity :

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3201	Issue 3	Rev. C	Date Apr 1999	Microspire Illange France
Detail ESA/SCC 3201/008	2	A	Feb 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Apr 1997
Extension	CNES	Nov 2000

Characteristics Variants 01 and 02 are qualified

Series No.	Range (uH)	Qmin.	Test Frequency, ft (MHz)	Min. SRF fr (MHz)	Max. DCR, Rdc (Ω)	Rated DC Current, IR (mA)	Case Size
10k	0.0101 - 10	60 - 42	150 - 7.9	1000- 33	0.025 - 3.3	750 - 87	A
12k	12 - 1000	37 - 12	2.5 - 0.79	26 - 1.5	2.0 - 120	110 - 15	B

Tolerance (±%): 10
Dielectric Withstanding Voltage (DWC): 200 Vrms
Operating Temperature Range (^{0}C): $^-$55 to $^+$125

QPL

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

Current Validity of Qualification		Page
Certificate No.	Valid Until	07-01
241 A	November 2002	001

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
08-02			Digital C-MOS	
	08-02-001-2 A to E	73 I	4000 B Series	ST Microelectronics
	08-02-002-2 A to F	190 D	54HCMOS Series	ST Microelectronics
08-07			Capability Approval	
	08-07-004-A to D	248	MMIC, GaAs Standard Cell	Bookham

Types covered by similarity : See next pages	Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 9000 Detail ESA/SCC: See types covered by similarity	Issue 10	Rev. A	Date Dec 2000	ST Microelectronics Rennes France

Characteristics

Package Types:

Ceramic Dual-in-Line

Ceramic Flat Pack

Leadless Chip Carrier

Nature of Approval	Supervising Authority	Date
Qualification	ESTEC	Apr 1981
Extension	CNES	Jan 1981
Extension	CNES	Dec 1984
Extension	CNES	May 1987
Extension	CNES	Apr 1990
Extension	CNES	Oct 1992
Extension	CNES	Apr 1995
Extension	CNES	Apr 1997
Extension	CNES	Apr 1999
Extension	CNES	May 2001

SCC

QPL

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

Current Validity of Qualification	
Certificate No.	Valid Until
73 I	May 2003

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Description	Component Type
9201/041	5	A	May 01	Quad 2-input NOR gate	4001B
9201/042	4	-	Jun 01	Dual 4-input NOR gate	4002B
9202/039	3	-	Apr 01	4-bit full adder	4008B
9201/043	4	-	Jun 01	Quad 2-input NAND gate	4011B
9201/044	3	-	Jun 01	Dual 4-input NAND gate	4012B
9203/023	2	C	Jul 00	Dual 'D'-type flip-flop	4013B
9306/014	3	-	Apr 01	8-stage synchronous static shift register	4014B
9306/015	3	-	Apr 01	Dual 4-stage static shift register with serial input/parallel input	4015B
9202/050	3	-	Jul 01	Quad bilateral switch	4016B
9204/020	4	-	Apr 01	Decade counter/divider	4017B
9204/021	3	-	Apr 01	Presettable divide-by-N counter	4018B
9202/051	3	-	Apr 01	Quad AND/OR select gate	4019B
9204/022	4	-	Apr 01	14-stage ripple carry binary counter/divider	4020B
9306/016	3	-	May 01	8-stage static shift register	4021B
9204/023	3	-	Apr 01	Octal counter/divider	4022B
9201/045	3	-	Jun 01	Triple 3-input NAND gates	4023B
9204/024	3	-	Jul 01	7-stage ripple carry binary counter/divider	4024B
9201/046	3	-	Jul 01	Triple 3-input NOR gate	4025B
9406/001	3	-	Apr 01	Ripple carry decade counter/divider	4026B
9203/022	4	-	Apr 01	Dual J-K master slave flip-flop	4027B
9205/010	2	C	Jun 95	BCD-to-decimal or binary-to-octal decoder	4028B
9204/025	3	-	Apr 01	Presettable up/down counter binary or BCD decade	4029B
9201/047	3	-	Jul 01	Quad 2-input exclusive OR gates	4030B
9306/017	3	-	May 01	64-stage static shift register	4031B

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Description	Component Type
9306/025	3	-	Apr 01	8-stage static bidirectional parallel/serial input/output bus register with 3 state output	4034B
9306/018	3	-	May 01	4-bit universal shift register	4035B
9204/026	3	-	Apr 01	12-stage ripple carry binary counter/divider	4040B
9202/040	3	-	Jul 01	Quad true/complement buffer with unbuffered outputs	4041UB
9202/041	3	-	Apr 01	Quad clocked "D" latch	4042B
9202/042	3	-	Apr 01	Quad NOR 3- state R/S latches	4043B
9202/043	3	-	Apr 01	Quad NAND 3-state R/S latch	4044B
9202/044	3	-	Jun 01	Micropower phase-locked loop	4046B
9207/003	3	-	Jul 01	Low power monostable/astable multivibrator	4047B
9202/045	3	-	Apr 01	Hex buffer/converter (inverting type)	4049UB
9202/046	3	-	Apr 01	Hex buffer/converter (non-inverting type)	4050B
9202/047	3	-	Apr 01	Analogue multiplexer/demultiplexer	4051B
9202/048	3	-	Apr 01	Analogue multiplexer/demultiplexer	4052B
9202/049	3	-	Apr 01	Triple 2-channel analogue multiplexer/demultiplexer	4053B
9209/001	4	-	Apr 01	4-bit magnitude comparator	4063B
9204/052	3	-	Apr 01	14-stage ripple-carry binary counter/divider and oscillator	4060B
9408/005	3	A	May 01	Quad bilateral switch	4066B
9408/009	2	C	Apr 01	Analogue multiplexer/demultiplexer	4067B
9201/061	3	-	Jul 01	8-input NAND gate	4068B
9401/010	3	-	Jul 01	Hex inverter	4069UB
9201/048	4	-	Jul 01	Quad exclusive OR gate	4070B
9201/063	3	A	May 01	Quad 2-input OR gate	4071B
9201/082	3	-	Jul 01	Dual 4-input OR gate	4072B
9201/064	4	-	July 01	Triple 3-input AND gate	4073B

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Description	Component Type
9201/065	3	-	Jul 01	Triple 3-input OR gate	4075B
9306/022	4	-	Jun 01	4-bit "D"-type register with 3-state output	4076B
9201/055	3	C	May 01	Quad exclusive NOR gate	4077B
9201/062	2	C	May 01	8-input OR/NOR gate	4078B
9201/052	4	C	May 01	Quad 2-input AND gate	4081B
9201/066	2	C	May 01	Dual 4-input AND gate	4082B
9201/067	2	C	May 01	Dual 2-wide 2-input AND/OR inverter gate	4085B
9409/002	2	C	May 01	Quad 2-input NAND gate with Schmitt trigger input	4093B
9306/026	3	-	Apr 01	8-stage shift and store bus register with synchronous serial outputs and 3-state parallel output	4094B
9206/003	4	-	Apr 01	Dual monostable multivibrator	4098B
9202/058	3	-	Apr 01	8-bit addressable latch	4099B
9401/006	4	-	Jun 01	Strobed hex inverter/buffer	4502B
9401/030	3	-	Jun 01	Hex non-inverting buffers with 3-state output	4503B
9202/063	2	B	Apr 01	Dual 4-bit latch with 3-state output	4508B
9408/006	3	-	Jun 01	8-channel multiplexer with 3-state output	4512B
9408/012	2	B	Apr 01	4-bit latch/4-to-16 decoder	4514B
9205/011	3	B	Apr 01	4-bit latch /4-to-16 line decoder	4515B
9204/045	3	-	Jun 01	Synchronous quad presettable up/down binary counter	4516B
9204/028	3	-	Jun 01	Dual binary up counter	4520B
9202/065	3	-	Jun 01	8-bit priority encoder	4532B
9207/007	2	-	Apr 01	Dual monostable multivibrator with reset	4538B

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Description	Component Type
9408/011	3	-	Jul 01	Dual 1-of-4 decoder/demultiplexer	4555B
9408/025	3	-	Jun 01	Dual 1-of-4 decoder/demultiplexers (output low on select)	4556B
9204/036	3	-	Jun 01	Presettable 8-bit synchronous down-counter	40103B
9306/033	4	-	May 01	FIFO register with 3-state output	40105B
9409/005	2	C	May 01	Hex Schmitt-trigger	40106B
9401/013	2	C	May 01	Dual 2-input NAND buffer/driver	40107B
9407/003	2	C	Jun 95	Quad low-to-high 3-state voltage level shifter	40109B
9204/054	3	-	Jun 01	Programmable 4-bit binary counter with asynchronous clear	40161B
9204/046	3	-	Jun 01	Programmable 4-bit binary counter with synchronous clear	40163B
9203/038	3	-	Apr 01	Hex 'D'-type flip-flop	40174B
9204/041	3	-	Jun 01	Presettable binary up/down counter (dual clock with reset)	40193B
9408/017	3	-	May 01	Quad 2-line-to-1-line data selector/multiplexer with 3-state output	40257B

Types covered by similarity : See next pages

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 9000 Detail ESA/SCC: See types covered by similarity.	Issue 10	Rev. A	Date Dec 2000	ST Microelectronics Rennes France

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Nov 1992
Extension	CNES	Apr 1995
Extension	CNES	Apr 1997
Extension	CNES	Apr 1999
Extension	CNES	May 2001

Characteristics

Qualified Packages:
- Ceramic Dual In Line
- Ceramic Flat Pack
- Leadless Chip Carrier

NOTES
1. These parts have successfully passed radiation testing to 50 krads.

QPL

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

Current Validity of Qualification		Page
Certificate No.	Valid Until	08-02
190 D	May 2003	002-2A

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Description	Component Type	Note
9201/105	2	-	Nov 01	Quad 2-input NAND gate	54HC00	1
9201/113	1	C	Feb 02	Quad 2-input NOR gate	02	1
9201/114	1	C	Feb 02	Quad 2-input NAND gate with open drain output	03	1
9401/033	1	B	Oct 01	Hex inverter	04	1
9201/106	1	C	Feb 02	Quad 2-input positive AND gate	08	1
9201/107	1	C	Feb 02	Triple 3-input NAND gate	10	1
9201/117	1	C	Feb 02	Triple 3-input AND gate	11	1
9409/007	1	B	Dec 01	Hex Schmitt trigger inverter	14	1
9201/118	1	C	Feb 02	Dual 4-input NAND gate	20	1
9201/108	1	C	Feb 02	Dual 4-input AND gate	21	1
9201/109	1	C	Feb 02	Triple 3-input NOR gate	27	1
9201/110	1	C	Feb 02	8-input NAND gate	30	1
9201/111	1	C	Feb 02	Quad 2-input OR gate	32	1
9203/071	1	C	Oct 01	Dual negative-edge triggered J-K flip-flops with clear	73	1
9203/050	2	-	Dec 01	Dual D-type flip-flop with preset and clear	74	1
9203/065	1	C	May 02	Quad 4-bit bistable D-Type latch	75	1
9209/004	1	C	May 02	4-bit magnitude comparator	85	1
9201/119	2	-	Nov 01	Quad 2-input exclusive OR gate	86	1
9203/072	1	B	Oct 01	Dual J-K negative-edge triggered flip-flop with direct clear	107	1

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Description	Component Type	Note
9306/048	2	-	Mar 02	Dual J-K positive edge triggered flip-flop with preset and clear	54HC109	1
9203/051	2	-	Mar 02	Dual J-K negative edge triggered flip-flop with preset and clear	112	1
9207/006	1	C	May 02	Dual positive or negative edge Schmitt-retriggerable monostable multivibrator with clear	123	1
9401/039	1	C	Nov 01	Quad bus buffer with 3 state output	125	1
9401/046	1	B	Nov 01	Quad bus buffer with 3 state output	126	1
9201/120	1	B	Oct 01	Quad 2-input NAND gate with Schmitt-trigger input	132	1
9205/013	1	C	May 02	3-to-8 line decoder/demultiplexer with address latch and inverted output	137	1
9408/046	1	C	Jan 02	3-to-8 line decoder/demultiplexer with inverted output	138	1
9205/017	1	C	May 02	Dual 2 to 4 line decoder/demultiplexer with inverted output	139	1
9410/017	1	C	Dec 01	8-line to 3-line priority encoder	148	1
9408/054	1	C	Jan 02	8-line to 1-line data selector/multiplexer	151	1
9408/038	1	C	Jan 02	Dual 4-line to 1-line data selectors/multiplexer	153	1
9205/023	1	B	Feb 02	4-to-16 line decoder/demultiplexer with inverted output	154	1
9408/057	1	C	Jan 02	Quad 2-line to 1-line data selector/multiplexer	157	1
9408/059	1	C	Dec 01	Quad 2-line to 1-line data selector/multiplexer with inverted output	158	1
9204/062	1	C	Dec 01	Synchronous presettable 4-bit decade counter with direct clear	160	1
9204/059	1	C	Dec 01	Asynchronous 4-bit binary counter	161	1
9204/073	1	C	Dec 01	Synchronous 4-bit binary counter	163	1
9306/041	1	B	Oct 01	8-bit SIPO shift register	164	1
9306/042	1	C	Dec 01	8-bit PISO shift register	165	1
9306/043	1	C	Dec 01	8-bit PISO shift register	166	1
9306/052	1	C	Dec 01	Hex D-type edge-triggered flip-flop with clear	174	1

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Description	Component Type	Note
9203/052	1	C	Dec 01	Quad D-type edge-triggered flip-flop with clear	54HC175	1
9204/066	1	C	Jan 02	Synchronous 4-bit up/down binary counter	191	1
9204/065	1	C	Jan 02	Synchronous 4-bit up/down binary counter (dual clock with clear)	193	1
9306/047	1	C	Dec 01	4-bit PIPO shift register	194	1
9306/053	1	C	Dec 01	4-bit PIPO shift register with overriding clear	195	1
9205/021	1	B	Jun 95	3-line to 8-line decoder/demultiplexer with address latch	237	1
9401/034	1	B	Mar 02	Octal bus buffer with inverted 3-state output	240	1
9401/035	2	-	Mar 02	Octal bus buffer with 3-state output	241	1
9405/011	1	B	Nov 01	Quad bus transceiver with inverted 3-state output	242	1
9405/012	1	B	Nov 01	Quad bus transceiver with 3-state output	243	1
9401/048	1	B	Mar 02	Octal bus buffer with 3-state output	244	1
9405/013	1	B	Mar 02	Octal bus transceiver with 3-state output	245	1
9408/048	2	-	Mar 02	1-to-8 data selector/multiplexer with 3-state output	251	1
9408/058	1	C	Dec 01	Dual 4-line to 1-line data selector/multiplexer with 3-state output	253	1
9408/047	1	C	Dec 01	Quad 2-line to 1-line data selector/multiplexer with 3-state output	257	1
9203/053	1	B	Mar 02	Octal D-type edge-triggered flip-flop with clear	273	1
9208/003	1	B	Oct 01	9-bit odd/even parity generator/checker	280	1
9202/075	1	C	Dec 01	4-bit binary full adder with fast carry	283	1
9401/052	1	C	Mar 02	Hex bus buffer with 3-state output	365	1

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Description	Component Type	Note
9401/044	1	C	Mar 02	Hex bus buffer with 3-state output	54HC367	1
9203/059	1	B	Mar 02	Octal D-type transparent latch with 3-state output	373	1
9203/060	2	-	Mar 02	Octal D-type edge-triggered flip-flop with 3-state output	374	1
9201/121	1	B	Oct 01	Quad 2-input exclusive OR-gate	386	1
9204/074	1	C	Oct 01	Dual 4-bit negative edge-triggered binary counter	393	1
9401/049	1	B	Mar 02	Octal bus buffer with inverted 3-state output	540	1
9401/047	1	B	Mar 02	Octal bus buffer with 3-state output	541	1
9202/072	1	B	Feb 02	Octal D-type transparent latch with 3-state output	573	1
9203/054	2	-	Mar 02	Octal D-type edge-triggered flip-flop with 3-state output	574	1
9204/071	1	C	Jan 02	8-bit binary counter with 3-state output register	590	1
9306/051	2	-	Mar 02	8-bit shift register with 3-state output register	595	1
9306/054	1	C	Mar 02	8-bit PISO shift register	597	1
9209/005	1	B	Mar 02	8-bit identify comparator	688	1
9201/130	1	B	Oct 01	Dual 4-input NOR gate	4002	1
9204/070	1	C	Dec 01	Asynchronous negative-edge-triggered 14-bit binary counter	4020	1
9204/069	1	C	Dec 01	Asynchronous negative edge-triggered 12-bit binary counter	4040	1

Types covered by similarity

ESA/SCC Spec. No.	Issue	Rev.	Date	Description	Component Type	Note
9401/037	1	C	Mar 02	Hex buffer/converter with inverted output	54HC4049	1
9401/038	1	C	Mar 02	Hex buffer/converter	4050	1
9408/064	2	-	Mar 02	Analogue multiplexer/demultiplexer	4051	1
9408/065	2	-	Mar 02	Analogue multiplexer/demultiplexer (triple 2-channel)	4053	1
9204/076	1	C	Jan 02	Asynchronous negative-edge-triggered 14-bit binary counter and oscillator	4060	1
9408/052	1	B	Nov 01	Quad bilateral switch	4066	1
9201/124	1	B	Oct 01	Dual 4-input OR gate	4072	1
9201/129	1	B	Oct 01	Triple 3-input OR gate	4075	1
9201/123	1	B	Oct 01	8-input OR/NOR gate	4078	1
9306/050	1	C	Jan 02	8-bit SIPO shift latch register with 3-state output	4094	1
9205/019	2	B	Feb 02	4-to-16 line decoder/latch	4514	1
9203/070	1	C	Oct 01	Dual D-type flip-flop with preset and clear	54HCT74	1
9401/045	1	B	Mar 02	Octal buffer with inverted 3-state output	240	1
9402/009	1	B	Mar 02	Octal bus buffer with 3-state output	244	1
9405/014	1	B	Mar 02	Octal bus transceiver with 3-state output	245	1
9203/064	1	B	Mar 02	Octal D-type transparent latch with 3-state output	373	1
9203/066	1	B	Mar 02	Octal D-type edge-triggered flip-flop with 3-state output	374	1
9401/055	1	A	Jun 94	Hex inverter (single stage) with unbuffered output	54HCU04	

Types covered by similarity :	Remarks : Detail Specifications to be developed according to device design. Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer	Nature of Approval	Supervising Authority	Date
Generic ESA/SCC 9010 Detail ESA/SCC (see remarks)	Issue 1	Rev. C	Date Dec 2000	Bookham Technologies Plc Caswell England	Capability Approval	DERA	Jun 1998

Characteristics

See Capability Abstract

QPL

MICROCIRCUITS,

ANALOGUE,

GAAS, MMIC, STANDARD CELL, F20 PROCESS,

CAPABILITY APPROVAL

Current Validity of Qualification		Page
Certificate No.	Valid Until	08-07
248	June 2000	004 A

CAPABILITY ABSTRACT

The F20 (IS and IG) analogue standard cell MMIC process is based on direct ion implantation of semi-insulating GaAs substrates. FETs are fabricated utilising 0.5 µm gate lengths and TiPtAu gate metal. A composite silicon nitride/polyimide dielectric system combines with two levels of interconnect metal to form complex components and circuit topologies without the need for air bridges. Through GaAs vias are used for device grounding. The F20 process is suitable for microwave applications in radiation intensive environments.

BASIC F20 TECHNOLOGY INFORMATION

Two Level Metal and dielectric, ion implant substrates

Operating Temperature	:	$T_{ch\ max.}$ +150 ° C
Storage Temperature	:	- 65 ° C to +150 ° C
Max. Operating Frequency	:	> 200 GHz
RF Output Power	:	250 mW/mm gate width (IG)
	:	300 mW/mm gate width (IS)
Max. Power Dissipation (FET)	:	1 W/mm gate width (IG)
	:	2 W/mm gate width (IS)
Max. Power Dissipation (die)	:	0.5 W/mm^2
Max. Die Size	:	12.7 mm x 12.7 mm
Total Dose Tolerance	:	< 100 kRad(Si)
	:	simulation supported to 80 kRad(Si)
Radiation Latch-up	:	≤140 MeV/(mg/cm^2)
SEU Tolerance	:	LET ≥54 MeV/(mg/cm^2)
ESD protection	:	≤ 1kV
Design Style	:	Standard cell
Cell Library	:	F20 Foundry 3
Application	:	Small signal analogue
Design Systems	:	CADENCE, WAVEMAKER
Simulators	:	LIBRA, LINMIC, HARMONICA, HPMDS, MMICAD
Packages	:	Custom, ceramic, metal

F20 CELL LIBRARY

FETs: (pie) gate 1, 2, 4 or 6 finger. Finger widths 50 μm to 175 μm in 1 μm steps
Maximum ratings:
IG: Vds 6V/Vgs -8V or Vds 6V/Vgd -8V; 1 W/mm gate width; $T_{ch.}$ 150 ° C
IS: Vds 6V/Vgs -10V or Vds 6V/Vgd -10V; 2 W/mm gate width; $T_{ch.}$ 150 ° C

Inductors: 1-10 turn planar, 1-5 turn stacked; 18 nH maximum
Maximum current rating: 10A/mm line width (Planar)

Capacitors: Silicon nitride dielectric 0.5 to 59 pF, silicon nitride/polyimide composite dielectric 0.06 - 2.5 pF.
Maximum rating: 15V

Resistors: Implanted 10 Ohm to 10K Ohm

Transmission: Characteristic impedance 40 Ohm to 110 Ohm

Lines: Maximum current rating: 10A/mm line width

RADIATION RESISTANCE

There is no discernible change in device performance during or following irradiation from either a 3 MeV electron source at a maximum rate of 5×10^4 Gy (Si) · s^{-1} to a total dose of 1 KGy or a 300 MeV proton source to a total dose of 1 KGy or following irradiation using a 1.2 MeV gamma-photon source at 1.5 Gy (Si) · s^{-1} to a total dose of 10 KGy. Irradiation from a 4 MeV electron source at 5×10^2 Gy (Si) · min^{-1} to a total dose of 10 KGy results in less than 0.8% change in device performance.

PACKING DENSITY AND CHIP SIZES

The packing density depends on circuit function but is ultimately limited by the need to maintain the minimum layer spacing defined in the Design Manual and the maximum T_{ch} of 150 ° C. The maximum circuit array size is 127 mm x 127 mm which is also the maximum chip size. Chip size is also limited by a maximum aspect ratio of 3:1.

DIE ATTACH, WIRE BONDING AND PACKAGING

Dieattach is by Au/Sn (80:20) eutectic solder bonding. The maximum permissible time/temperature exposure of a chip during die or wire bonding is 2 minutes at 310 ° C.

Wire bonding is by gold wire and thermocompression bonding with a maximum bond tool loading for 1" Au wire of 50g.

Packaging, die attach and wire bonding are carried out in an inert gas atmosphere. The maximum die size utilised to date is 6.9 x 2.3 mm. Package types used for either test vehicles or MMICs have included 16 pin side-brazed DILs, 20-way metal/ceramic microwave packages and 14-way Cu/Mo/ceramic packages.

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
09-01			Non-Latching, 28Vdc Contact Rating	
	09-01-002	02 G	Type GP5	LEACH
	09-01-005	239 A	Type E	LEACH
09-02			Latching, 28Vdc Contact Rating	
	09-02-002	13 G	Type GP2	LEACH
	09-02-006	240 A	Type D	LEACH
09-03			Latching, 50Vdc Contact Rating	
	09-03-001	93 F	Type GP250	LEACH
	09-03-002	04 G	Type GP3A	LEACH

Types covered by similarity :
ariants 01 to 08 are qualified
Coil Voltages 6 and 12 Vdc

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3601	5	-	Apr 1999	LEACH International Europe Niort France
Detail				
ESA/SCC 3601/003	6	B	Jan 2001	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Apr 1978
Extension	CNES	Oct 1980
Extension	CNES	Jan 1984
Extension	CNES	Oct 1986
Extension	CNES	Jul 1992
Extension	CNES	Jun 1995
Extension	CNES	Dec 1998
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

SCC

QPL

RELAY,
NON-LATCHING, ELECTROMAGNETIC,
TYPE GP 5

Current Validity of Qualification		Page
Certificate No.	Valid Until	09-01
02 G	November 2003	002

Types covered by similarity :

Remarks : Maintenance acitivites to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3601	5	-	Apr 1999	LEACH International Europe Niort France
Detail				
ESA/SCC 3601/012	2	B	Jan 2001	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Apr 1997
Extension	CNES	Sep 2000

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

QPL

RELAY,
NON-LATCHING, ELECTROMAGNETIC,
TYPE E

Current Validity of Qualification		Page
Certificate No.	Valid Until	09-01
239 A	September 2002	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
Generic	Issue	Rev.	Date	
ESA/SCC 3602	5	-	Apr 1999	LEACH International Europe Niort France
Detail				
ESA/SCC 3602/003	5	B	Jan 2001	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jan 1979
Extension	CNES	Feb 1981
Extension	CNES	Jan 1984
Extension	CNES	Oct 1986
Extension	CNES	Jul 1992
Extension	CNES	Jun 1995
Extension	CNES	Dec 1998
Extension	CNES	Nov 2001

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

QPL

RELAY,
LATCHING, ELECTROMAGNETIC,
TYPE GP 2

Current Validity of Qualification

Certificate No.	Valid Until
13 G	November 2003

Types covered by similarity :

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3602	5	-	Apr 1999	LEACH International Europe Niort France
Detail			Jan 2001	
ESA/SCC 3602/019	3	-		

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Apr 1997
Extension	CNES	Sep 2000

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

QPL

RELAY,
LATCHING, ELECTROMAGNETIC,
TYPE D

Current Validity of Qualification		Page
Certificate No.	Valid Until	09-02
240 A	September 2002	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
Generic	Issue	Rev.	Date	
ESA/SCC 3602	5	-	Apr 1999	LEACH International Europe Niort France
Detail				
ESA/SCC 3602/010	3	C	Jan 2001	

Nature of Approval	Supervising Authority	Date
Qualification	ESTEC	Feb 1982
Extension	CNES	Jul 1984
Extension	CNES	Sep 1987
Extension	CNES	Jul 1992
Extension	CNES	Jun 1995
Extension	CNES	Dec 1998
Extension	CNES	Nov 2001

Characteristics

Contact Rating: 2 A at 50 Vdc (50 000 ops)
4 A pp, 56 Vrms, 20 kHz (50 000 ops)
Contact Configuration: 2PDT
Package Type: half-crystal can
Coil Voltage: 26.5 Vdc
Operating Temperature Range (°C): $^{-}$65 to $^{+}$125

SCC

QPL

RELAY,
LATCHING, ELECTROMAGNETIC,
TYPE GP 250

Current Validity of Qualification		Page
Certificate No.	Valid Until	09-03
93 F	November 2003	001

Types covered by similarity :
Variants 01 to 08 are qualified
Coil Voltages 6 and 12 Vdc

Remarks : Maintenance activities ongoing.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3602	Issue 5	Rev. -	Date Apr 1999	LEACH International Europe Niort France
Detail ESA/SCC 3602/005	5	B	Jun 2002	

Nature of Approval	Supervising Authority	Date
Qualification	ESTEC	Apr 1978
Extension	ESTEC	Feb 1981
Extension	ESTEC	Feb 1983
Extension	ESTEC	Dec 1985
Extension	CNES	Jul 1989
Extension	CNES	Jul 1992
Extension	CNES	Sep 1995
Extension	CNES	Oct 1999

Characteristics

Contact Rating: 10 A 50 Vdc (100 000 ops)
50 A 50 Vdc (500 ops)

Contact Configuration: 2PDT
Coil Voltage: 26 Vdc

Operating Temperature Range (°C): $^{-}$65 to $^{+}$125

QPL

RELAY,
LATCHING, ELECTROMAGNETIC,
TYPE GP 3A

Current Validity of Qualification		Page
Certificate No.	Valid Until	09-03
04 G	October 2001	002

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
10-02			Fixed, Film	
	10-02-001	94 H	Solid Core, Types RLR 05, 07, 20	Vishay S.A. Sfernice
	10-02-006	256 A	Surface Mount, Type MS1	Vishay Electronic (Selb)
10-03			Fixed, Film, High Stability, Non-Hermetic	
	10-03-002-4	95 H	Solid Core, Types RNC 50,55,60	Vishay S.A. Sfernice
10-04			Fixed, Film, High Precision	
	10-04-001	116 G	Type RNC 90	Vishay S.A. Sfernice
10-05			Fixed ,Wirewound	
	10-05-002-1	147 E	Types RWR 80, 81	Vishay S.A. Sfernice
	10-05-003-1	198 C	Types RER 60, 65	Vishay S.A. Sfernice
	10-05-004-1	263	Types MSP B HR	Vishay S.A. Sfernice
10-08			Chip	
	10-08-001	242 B	Type CH*P HR	Vishay S.A. Sfernice
	10-08-002	265	Type P HR	Vishay S.A. Sfernice
10-09			Flexible, Foil, Heaters	
	10-09-001-1	184 E	Single & Double Layer	IRCA
	10-09-001-2	237 B	Single & Double Layer	Nicolitch
10-10			Network	
	10-10-001	235 B	Single-in-Line	Vishay S.A. Sfernice

Types covered by similarity :
Tolerance: 2%
Value Series: E24

Remarks :

The qualified range for RLR07 has been extended to 4.7M.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4001	7	-	Apr 1999	Vishay S.A. Division Sfernice Nice France
Detail				
ESA/SCC 4001/005	4	B	Jul 1999	
4001/006	4	A	Jan 1998	
4001/007	4	A	Jan 1998	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Feb 1982
Extension	CNES	Jul 1984
Extension	CNES	Feb 1987
Extension	CNES	May 1990
Extension	CNES	Jan 1993
Extension	CNES	Mar 1994
Extension	CNES	Sep 1996
Extension	CNES	Jan 1999
Extension	CNES	Jul 2001

Characteristics

Style	Detail Spec.	Range (Ω)	Tol. (%)	TC (ppm/°C)	Power Rating (W)	Max. Voltage (V)
RLR 05	4001/005	1.0 - 1M	1	100	0.125	200
RLR 07	4001/006	1.0 - 4.7 M	1	100	0.25	250
RLR 20	4001/007	4.22 - 4.7 M	1	100	0.5	350

Operating Temperature Range (°C): -55 to +150
Value Series : E96

QPL

RESISTORS,
FILM, FIXED, METAL OXIDE,
NON HERMETICALLY SEALED,
BASED ON TYPES RLR 05, 07, 20

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-02
94 H	July 2003	001

Types covered by similarity :

Tolerance (± %) = 0.1, 0.5, 1.0

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4001	7	-	Apr 1999	VISHAY ELECTRONIC Division DRALORIC Selb Germany
Detail				
ESA/SCC 4001/022	2	-	Jun 2002	

Nature of Approval	Supervising Authority	Date
Qualification	DLR	Oct 1999
Extension	DLR	Oct 2001

Characteristics : Critical R= 160 kΩ

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

Range (Ω)			Tol. (±%)	TC (±ppm/°C)	Value Series
43.2	-	1.0 M	0.1	50	E96
10.0	-	1.0 M	0.5		
2.2	-	5.11 M	1.0		
43.2	-	1.0 M	0.1	25	E96
10.0	-	1.0 M	0.5		
10.0	-	1.0 M	1.0		
43.2	-	0.221 M	0.1	15	E96
10.0	-	0.511 M	0.5		

SCC

QPL

RESISTORS,

FILM, FIXED, SURFACE MOUNT, NON-HERMETICALLY SEALED,

BASED ON TYPE MS1

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-02
256 A	October 2003	006

Types covered by similarity :
Tolerance: 1%

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4001	7	-	Apr 1999	Vishay S.A. Division Sfernice Nice France
Detail				
ESA/SCC 4001/001	4	C	Apr 1999	
4001/002	4	B	Apr 1999	
4001/009	3	C	Apr 1999	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Mar 1982
Extension	CNES	Jul 1984
Extension	CNES	Jul 1986
Extension	CNES	Feb 1990
Extension	CNES	Jan 1993
Requalification	CNES	Jan 1994
Extension	CNES	Sep 1996
Extension	CNES	Jan 1999
Extension	CNES	Jul 2001

Characteristics

Style	Detail Spec.	Range (Ω)	Tol. (%)	TC (ppm/°C)
RNC 50	4001/009	1.0 - 48.7	0.5	50
		49.9 - 1M		25, 50
RNC 55	4001/001	1.0 - 9.76	0.5	50
&	&	10 - 1M		25,50
RNC 60	4001/002	1.05 - 4.7M		50

Value Series: E96

Operating Temperature Range (°C): -55 to +175

SCC

QPL

RESISTORS,
FILM, FIXED,
HIGH STABILITY, NON HERMETICALLY SEALED,
BASED ON TYPES RNC 50, 55, 60

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-03
95 H	July 2003	002-4

Types covered by similarity :

Tolerances: ± 0.02, 0.05, 0.1, 0.2, 0.5, 1%

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4001	7	-	Apr 1999	Vishay S.A. Division Sfernice Nice France
Detail				
ESA/SCC 4001/011	4	-	Jun 1996	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Dec 1983
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

Characteristics: Variants 03, 04, 07, 08 are qualified

Style	Detail Spec.	Variant	Range (Ω)	Tol. (%)	TC (ppm/°C)	Power Rating (W)	Max. Voltage (V)
RNC 90 (RS92N)	4001/011	03 04 07 08	33 - 100k 33 - 100k 33 - 100k 33 - 100k	0.02 0.05 0.5 1.0	±5, ≤ 125°C ±10, ≤ 125°C ±10, >125°C ±10, ≤175°C	0.5 @70°C 0.3 @125°C	300

Operating Temperature Range (°C): - 55 to + 175
Values: E192 series

QPL

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

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-04
116 G	July 2003	001

Types covered by similarity :

Variant 05 of 4002/003 and 4002/005 are qualified.
Tolerances: (±)1, 2 and 5%.
Temperature Coefficient :±50 ppm/°C for 1.0 < Rn < 10, and ±100 ppm/°C for Rn ≤1.0

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4002	4	C	Apr 1999	Vishay S.A. Division Sfernice Nice France
Detail				
ESA/SCC 4002/003	3	C	Apr 1999	
4002/005	2	B	Apr 1999	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Dec 1986
Extension	CNES	Jan 1991
Extension	CNES	Nov 1993
Extension	CNES	Feb 1996
Extension	CNES	Apr 1999
Extension	CNES	Jan 2002

Characteristics

Inductively wound: coated and moulded variants for 4002/003 and 4002/005

Style	Detail Spec.	Range (Ω)	Tol. (%)	TC (ppm/°C)	Power Rating (W)	Max. Voltage (V)	Type Variants
RWR 80 (RLP 2)	4002/003	0.5 - 2.2 K	0.5	30, ≥10 Ω	2	120	05
RWR 81 (RLP 1)	4002/005	0.5 - 1 K	0.5	30, ≥10 Ω	1	50	05

Operating Temperature Range (°C): $^{-}$55 to $^{+}$275

QPL

RESISTORS,

WIRE-WOUND POWER, FIXED,

BASED ON TYPES RWR 80, 81

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-05
147 E	January 2004	002-1

Types covered by similarity :

Remarks : Variant 02 not qualified

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4003	5	A	Apr 1999	Vishay S.A. Division Sfernice Nice France
Detail				
ESA/SCC 4003/001	3	B	Nov 1996	
4003/002	3	A	Jan 1997	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Nov 1993
Extension	CNES	Feb 1996
Extension	CNES	Jan 1999
Extension	CNES	Apr 2001

Characteristics

Style	Detail Spec.	Range (Ω)	Tol. (±%)	ppm/oC (±)	Power Rating (W)
RER 60	4003/001	1.0 - 1.0 k	0.5, 1	30-50	5
RER 65	4003/002	1.0 - 2.0k	0.5, 1	30-50	10

ESCC QPL

RESISTORS,
FIXED, WIRE-WOUND, CHASSIS-MOUNTED
BASED ON TYPES RER 60, RER 65

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-05
198 C	April 2003	003-1

Types covered by similarity :
Variants 01, 02, 03 (inductively wound) are qualified

Tolerances: 1, 2, and 5%.
Temperature Coefficient to ± 50 and 100 ppm/°C for values less than 5.0 Ω (for information only)

Remarks : Maintenance activities are underway.

Procurement Specifications Issues in effect on certification date				Manufacturer	Nature of Approval	Supervising Authority	Date
Generic	Issue	Rev.	Date				
ESA/SCC 4002	4	C	Apr 1999	Vishay S.A. Division Sfernice Nice France	Qualification	CNES	Sep 2000
Detail							
ESA/SCC 4002/009	1	-	Mar 1999				

Characteristics

Inductively wound, precision, surface mount

Style	Range (Ω)	Tol. (%)	TC (ppm/°C)	Power Rating (W)	Max. Voltage (V)	Type Variant
MSP 1 B	0.5 - 1.0 K	0.5	30, >10 Ω	1.0	50	01
MSP 2 B	0.5 - 2.2 K	0.5	30, >10 Ω	2.0	120	02
MSP 3 B	0.1 - 4.12 K	0.5	30, >10 Ω	2.5	200	03

Operating Temperature Range (°C): $^{-}$55 to $^{+}$200

SCC

QPL

RESISTORS,

WIRE-WOUND, FIXED, SURFACE MOUNT,

BASED ON TYPE MSP B HR

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-05
263	September 2002	004-1

Types covered by similarity :

Remarks :
TC ±100 ppm/°C for values ≥10 Ω
TC ±200 ppm/°C for values 1 Ω to 10 Ω
Qualified product is currently not available.
Validation of a new product is underway.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4001	7	-	Apr 1999	Vishay S.A. Division Sfernice Nice France
Detail				
ESA/SCC 4001/016	1	A	Jan 2001	
4001/017	1	A	Jan 2001	
4001/018	1	A	Jan 2001	
4001/019	1	A	Jan 2001	
4001/020	1	B	Sept 2001	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jul 1997
Extension	CNES	Jan 2000
Extension	CNES	Nov 2000

Characteristics: Variants 01 and 03 are qualified

Style	Detail Spec.	Range (Ω)	Tolerance (±%)	TC (±10-6/°C)
CHP HR 0505	4001/016	1 - 1 M	1,2	100, 200
CHP HR 0705	4001/017	1 - 1 M	1,2	100, 200
CHP HR 0805	4001/018	1 - 1 M	1,2	100, 200
CHP HR 1010	4001/019	1 - 1 M	1,2	100, 200
CHP HR 1206	4001/020	1 - 1 M	1,2	100, 200

Value Series E96
Operating Temperature Range (°C): - 55 to + 155

SCC

QPL

RESISTORS,
FIXED, FILM, CHIP,
BASED ON TYPE CHP HR

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-08
242 B	November 2002	001

Types covered by similarity :
Variants 01, 02, 03, and 04 are qualified

Tolerances: R ≤ 100 ±0.05 %
100 <R≤250 ±0.05, 0.02 %
R > 250 ±0.01, 0.05, 0.02 %.

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4001	7	-	Apr 1999	Vishay S.A. Division Sfernice Nice France
Detail				
ESA/SCC 4001/023	1	B	Jun 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	May 2001

Characteristics

Style	Range (Ω)	Tol. (±%)	TC (ppm/°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
2010	50 - 3.0M	0.01, 0.02 and 0.05	±10	45k	150	04

Operating Temperature Range (°C): -55 to155

Lead material is Type 'E' with Type '4' finish

SCC

QPL

RESISTORS,

FILM, FIXED, CHIP, THIN FILM

BASED ON TYPE P HR

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-08
265	May 2003	002

Types covered by similarity :

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 4009	Issue 3	Rev. B	Date Apr 1999	IRCA RICA Division Vittorio Veneto Italy
Detail ESA/SCC 4009/002	1	-	Jan 1998	

Nature of Approval	Supervising Authority	Date
Qualification	ESTEC	Apr 1992
Extension	ESTEC	May 1994
Extension	ESTEC	Mar 1996
Extension	ESTEC	Feb 1998
Extension	ESTEC	Apr 2000
Extension	ESTEC	Aug 2002

Characteristics

Single layer and double layer heaters
Maximum Ohmic density: 200 /cm2
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 $^{+}200$

QPL

RESISTORS,
HEATERS,
FLEXIBLE SINGLE AND DOUBLE LAYER

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-09
184 E	August 2004	001-1

Types covered by similarity :

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4009	3	B	Apr 1999	Nicolitch Evry France
Detail				
ESA/SCC 4009/001	3	B	Nov 1995	
4009/002	1	A	Jul 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Dec 1996
Extension	CNES	Dec 1998
Extension	CNES	Jan 2001

Characteristics

Single layer and double layer heaters
Maximum Ohmic density: 200 Ω/cm2
Tolerances: ±2, 3, 5, 10 %
Resistance range: 1 Ω to 5000 Ω
Maximum Heating Side Dimension: 60 cm
Terminal Lead: 24, 26, 28, 30 AWG
Temperature coefficient: (10^{-6}/°C) : 175

Operating temperature range (°C): $^{-}65$ to $^{+}200$

SCC

QPL

RESISTORS,
HEATERS,
FLEXIBLE SINGLE AND DOUBLE LAYER

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-09
237 B	January 2003	001-2

Types covered by similarity :

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4005	4	-	Apr 1999	Vishay S.A. Division Sfernice Nice France
Detail				
ESA/SCC 4005/003	2	-	Jan 1999	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Oct 1996
Extension	CNES	Apr 1999
Extension	CNES	Jul 2001

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

Detail Spec.	Range (Ω)	Tolerance	TC (10-6/°C)	Power Rating of Resistors (mW)	Limiting Element Voltage (UL)
4005/003	46.4 to 1.0 M	R≤ 100Ω, ± 2.0 Ω R> 100Ω,± 2.0 %	±150	180 for individual R 100 for parallel Rs	100 V

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

Values: E48 series

QPL

RESISTORS,
NETWORKS, THICK FILM,
SINGLE-IN-LINE PACKAGES

Current Validity of Qualification		Page
Certificate No.	Valid Until	10-10
235 B	July 2003	001

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
11-01			NTC	
	11-01-001	266 A	Type G*D* and *K3A*	Betatherm

Types covered by similarity :

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 4006	3	A	Apr 1999	Betatherm Ireland Galway Ireland
Detail				
ESA/SCC 4006/013	1	B	Feb 2002	
ESA/SCC 4006/014	1	C	Feb 2002	

Nature of Approval	Supervising Authority	Date
Qualification	ESTEC	July 2001
Extension	ESTEC	Jan 2002

Characteristics

4006/013: Variants 01 to 05 are qualified

4006/014: Variants 01 to 05 are qualified

Operating Temperature Range (°C): -55 to 115 for 4006/013 and 0 to160 for 4006/014

QPL

THERMISTORS,

(THERMALLY SENSITIVE RESISTORS), NTC,

BASED ON TYPES *G*D AND *K3A*

Current Validity of Qualification		Page
Certificate No.	Valid Until	11-01
266 A	July 2003	001

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
12-01			Low Power, NPN	
	12-01-002-3A-B	233 D	Types NPN	ST Microelectronics
	12-01-003-1	106 H	Type 2N2369A	ST Microelectronics
12-02			Low Power, PNP	
	12-02-002-3A-B	234 D	Types PNP	ST Microelectronics
	12-02-003-1	142 G	Type 2N2894	ST Microelectronics
12-03			High Power, NPN	
	12-03-001-2	107 G	Type 2N3440	ST Microelectronics
	12-03-006-1	143 E	Type 2N5672	ST Microelectronics
	12-03-007	253	Type 2N2880	SEMELAB
12-10			RF/Microwave, NPN, Low Power, Low Noise	
	12-10-001	230 A	Types BFY 193	Infineon
	12-10-002	245 A	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 A	Types CFY66 & 67, High Electron Mobility, Low Noise	Infineon

Types covered by similarity :

2N3019

Remarks :

The qualified range is outlined in the table on the next page.
2N3019 is introduced by similarity to 2N3700.
Package LCCC6 is introduced as a 2N2920A variant.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 5000 Detail Please refer to the next page.	Issue 9	Rev. A	Date Dec 2000	ST Microelectronics Rennes France

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Sep 1996
Extension	CNES	Sep 1997
Extension	CNES	Aug 1998
Extension	CNES	Nov 1999
Extension	CNES	Nov 2001

Characteristics

Maximum Ratings:

	2N2222A	2N2484	2N2219A		2N5551	2N3700	2N3019	2N5154	BUX 77	2N 2920A
V_{CBO} (V):	75	60	75	BV_{CBO} (V):	180	140	140	100	100	60
V_{CEO} (V):	40	60	40	BV_{CEO} (V):	160	80	80	80	80	60

Packages : TO-18, TO-39, TO-66, TO-77, TO-257, LCCC3 and LCCC6

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

QPL

TRANSISTORS,

LOW AND HIGH POWER,

NPN

Current Validity of Qualification		Page
Certificate No.	Valid Until	12-01
233 D	November 2003	002-3 A

Types covered by this certificate

ESA/SCC Spec. No.	Issue	Rev.	Date	Component Type	Package
5201/001	5	B	Jun 1999	2N 2484	TO-18, LCCC3
5201/002	4	C	Jan 2001	2N 2222A	TO-18, LCCC3
5201/019	1	B	May 2002	2N 5551	TO-18, LCCC3
5201/003	5	C	Aug 1996	2N 2219 A	TO-39
5201/004	4	D	Aug 1998	2N 3700	TO-18, LCCC3
5203/010	4	-	Jan 1998	2N 5154, BFX 34	TO-39, TO-257
5203/016	4	-	Jan 1998	BUX 77	TO-66, gold or nickel plated, TO-257
5207/002	6	C	Feb 2000	2N 2920A	TO-77, and LCCC6
5201/011	2	-	Jan 2001	2N3019	TO-39

Types covered by similarity :

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 5000	Issue 9	Rev. A	Date Dec 2000	ST Microelectronics Rennes France
Detail ESA/SCC 5201/006	3	B	Jun 1999	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Feb 1983
Requalification	CNES	Jul 1987
Extension	CNES	Apr 1990
Extension	CNES	Aug 1992
Extension	CNES	Jun 1995
Extension	CNES	Sep 1996
Extension	CNES	Sep 1997
Extension	CNES	Nov 1999
Extension	CNES	Nov 2001

Characteristics

h_{FE} min/max: 40/120 at I_C = 10 mA
t_{on}: 12 ns
$V_{CE\ SAT}$: 0.5V at I_C = 100 mA
t_{off} : 18 ns
Maximum Ratings:
P_D: 360 mW at T_{amb} + 25° C;
BV_{CBO}: 40 V;
BV_{CEO} : 15 V;
I_C : 500 mA, 10 µsec pulse
Package Types: TO-18 and LCCC3
Operating Temperature Range (°C): -65 to +200

QPL

TRANSISTORS,

LOW POWER, NPN,

TYPE 2N 2369A

Current Validity of Qualification

Certificate No.	Valid Until
106 H	November 2003

Page

12-01

003-1

Types covered by similarity :

2N3350, 2N4033

Remarks :

The qualified range is oultined in the table on the next page.
2N3350 and 2N4033 are introduced to the qualified domain.
Package LCCC6 is introduced to the qualified domain.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 5000 Detail Please refer to the next page.	Issue 9	Rev. A	Date Dec 2000	ST Microelectronics Rennes France

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Sep 1996
Extension	CNES	Sep 1997
Extension	CNES	Aug 1998
Extension	CNES	Nov 1999
Extension	CNES	Nov 2001

Characteristics

Maximum Ratings:

	2N2905A	2N2907A	2N3350	2N3810	2N4033	2N5153	BUX 78	2N5401
BV_{CBO} (V):	60	60	60	60	80	100	100	160
BV_{CEO} (V):	60	60	45	60	80	80	80	150

Packages : TO-78, TO-66, TO-39, TO-18, TO-257, LCCC3 and LCCC6
Operating Temperature Range (°C): $^{-}$65 to $^{+}$200

QPL

TRANSISTORS,

LOW AND HIGH POWER,

PNP

Current Validity of Qualification		Page
Certificate No.	Valid Until	12-02
234 D	November 2003	002-3 A

Types covered by this certificate

ESA/SCC Spec. No.	Issue	Rev.	Date	Component Type	Package
5202/002	5	D	Aug 1996	2N 2905A	TO-39
5202/001	6	C	Jun 1999	2N 2907A	TO-18 and LCCC3
5202/014	1	A	Jun 1999	2N 5401	TO-18 and LCCC3
5204/002	4	-	Jan 1998	2N 5153	TO-39, TO-257
5204/006	4	-	Jan 1998	BUX 78	TO-66, gold or nickel plated, TO-257
5207/005	6	B	Nov 1999	2N 3810	TO-78, and LCCC6
5207/003	3	C	Feb 2000	2N 3350	TO-77, and LCCC6
5202/008	3	A	Jan 2001	2N4033	TO-39, and LCCC3

Types covered by similarity :	Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 5000	9	A	Dec 2000	ST Microelectronics Rennes France
Detail				
ESA/SCC 5202/004	3	B	Jun 1999	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jul 1987
Extension	CNES	Apr 1990
Extension	CNES	Aug 1992
Extension	CNES	Jun 1995
Extension	CNES	Sep 1996
Extension	CNES	Sep 1997
Extension	CNES	Nov 1999
Extension	CNES	Nov 2001

Characteristics

h_{FE} min/max: 40/150 at I_C = -30 mA
t_{on}: 60 ns
$V_{CE\ SAT}$: -0.2 V at I_C = -3 mA
t_{off} : 90 ns
Maximum Ratings:
P_D: 360 mW at T_{amb} + 25° C;
BV_{CBO}: -12 V;
BV_{CEO} : -12 V;
I_C : -0.2 A continuous
Package Types: T0-18 and LCCC3
Operating Temperature Range (°C): -55 to +175

QPL

TRANSISTORS,

LOW POWER, PNP,

TYPE 2N 2894

Current Validity of Qualification		Page
Certificate No.	Valid Until	12-02
142 G	November 2003	003-1

Types covered by similarity :

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 5000	Issue 9	Rev. A	Date Dec 2000	ST Microelectronics Rennes France
Detail ESA/SCC 5203/011	4	-	Aug 1996	

Characteristics

$h_{FE(dc)}$ min/max: 40/160 at I_C = 20 mA
$V_{CE\ SAT}$: 0.5 V at I_C = 50 mA
Maximum Ratings:
P_D: 5 W at T_{case} + 25° C;
BV_{CBO}: 300 V;
BV_{CEO} : 250 V;
I_C : 1 A
Package Type: TO-39 Case
Operating Temperature Range (°C): -65 to +200

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Feb 1983
Requalification	CNES	Jul 1987
Extension	CNES	Apr 1990
Extension	CNES	Mar 1993
Extension	CNES	Jun 1995
Extension	CNES	Sep 1997
Extension	CNES	Nov 1999
Extension	CNES	Nov 2001

SCC

QPL

TRANSISTORS,

HIGH POWER, NPN,

TYPE 2N 3440

Current Validity of Qualification

Certificate No.	Valid Until
107 G	November 2003

Page

12-03

001-2

Types covered by similarity :

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 5000	Issue 9	Rev. A	Date Dec 2000	ST Microelectronics Rennes France
Detail ESA/SCC 5203/004	2	B	Oct 1994	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jul 1987
Extension	CNES	Apr 1990
Extension	CNES	Aug 1992
Extension	CNES	Jun 1995
Extension	CNES	Sep 1997
Requalification	CNES	Jun 2000

Characteristics

h_{FE} min/max: 20/100 at I_C = 15 A
$V_{CE\ SAT}$ (max): 0.75 V at I_C = 15 A
Maximum Ratings:
P_D: 140 W at T_{case} + 25° C;
BV_{CBO}: 150 V;
BV_{CEO} : 120 V;
I_C : 30 A
Package Type: T0-3 Case, gold lead
Operating Temperature Range (°C): -65 to +200

QPL

TRANSISTORS,

HIGH POWER, NPN,

TYPE 2N 5672

Current Validity of Qualification		Page
Certificate No.	Valid Until	12-03
143 E	June 2002	006-1

Types covered by similarity :	Remarks : Maintenance activities underway

Procurement Specifications Issues in effect on certification date				Manufacturer	Nature of Approval	Supervising Authority	Date
Generic	Issue	Rev.	Date				
ESA/SCC 5000	9	A	Dec 2000	SEMELAB Lutterworth England	Qualification	DERA	Dec 1998
Detail							
ESA/SCC 5203/025	3	A	Sep 1998				

Characteristics

Variants 09, 10, 11, and 12 are qualified

Maximum Ratings:

P_{tot}:	20 W at T_{case} + 100° C;
$R_{TH(J-C)}$	5 ° C/W
V_{CB}:	150 V;
V_{CE}:	80 V;
I_C :	5 A, d.c. continuous
Package Type:	T0-257 Case

Operating Temperature Range (°C): -55 to +200

QPL

TRANSISTORS,

POWER, NPN,

TYPE 2N 2880

Current Validity of Qualification		Page
Certificate No.	Valid Until	12-03
253	December 2000	007

Types covered by similarity :

All variants are qualified (BFY 180, 181, 182, 183, 193, and 280)

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 5010	5	C	Jun 2001	Infineon Technologies AG München Germany
Detail				
ESA/SCC 5611/006	1	-	May 1995	

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Jun 1996
Extension	DLR	Jan 2000

Characteristics for BFY 193:

V_{CEO} (V)$_{max.}$		12	
V_{CBO} (V)$_{max.}$:		20	
hfe $_{min./max}$		50/175	@ V_{CE}= 8.0 V, I_C= 30 mA
NF (dB) $_{max.}$	@ 2 GHz	2.9	@ V_{CE}= 5.0 V, I_C= 15 mA
MAG/MSG (dB)$_{min.}$	@ 2 GHz	12.5	@ V_{CE}= 5.0 V, I_C= 40 mA
f_T (GHz) $_{min.}$	@ 500 MHz	7	@ V_{CE}= 5.0 V, I_C= 40 mA

Package: "Micro-X"
Total Power Dissipation (P_{tot})= 580 mW
Operating Temperature Range (°C): T_{op} = $^{-}$65 to $^{+}$200

QPL

TRANSISTORS,
MICROWAVE, SMALL SIGNAL, BIPOLAR
BASED ON TYPE BFY 193

Current Validity of Qualification		Page
Certificate No.	Valid Until	12-10
230 A	January 2002	001

Types covered by similarity :

All variants are qualified (BFY 405, 420, and 450)

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 5010	5	C	Jun 2001	Infineon Technologies AG München Germany
Detail				
ESA/SCC 5611/008	1	-	Mar 1996	

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Jun 1997
Extension	DLR	Jan 2000

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	
hfe $_{min./max.}$		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

QPL

TRANSISTORS,
MICROWAVE, SMALL SIGNAL, BIPOLAR
BASED ON TYPE BFY 450

Current Validity of Qualification		Page
Certificate No.	Valid Until	12-10
245 A	January 2002	002

Types covered by similarity :

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 5010	Issue 5	Rev. C	Date Jun 2001	Infineon Technologies AG München Germany
Detail ESA/SCC 5614/006	1	-	Sep 1995	

Nature of Approval	Supervising Authority	Date
Qualification	DLR	Nov 1997
Extension	DLR	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
n_{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

QPL

TRANSISTORS,
MICROWAVE, METAL SEMICONDUCTOR FIELD EFFECT, POWER,
GALLIUM ARSENIDE
BASED ON TYPE CLY 32

Current Validity of Qualification		Page
Certificate No.	Valid Until	12-15
246 A	January 2002	001-1

Types covered by similarity :

All variants are qualified

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 5010	5	C	Jun 2001	Infineon Technologies AG München Germany
Detail				
ESA/SCC 5613/002	1	A	Jul 1994	
ESA/SCC 5613/004	1	A	Aug 1994	

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Apr 1994
Extension	DLR	Jan 2000

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

QPL

TRANSISTORS,
HIGH ELECTRON MOBILITY,
GALLIUM ARSENIDE, MICROWAVE, LOW NOISE, SMALL SIGNAL,
BASED ON TYPES CFY 66 and CFY 67

Current Validity of Qualification		Page
Certificate No.	Valid Until	12-16
213 A	January 2002	001

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
13-01			Low Frequency	
	13-01-001-1	07 J	Polyimide, Types FA-3901-1, FA 3901-2	Draka Fileca
	13-01-001-2	09 J	Polyimide, Types 1871-1872	Nexans
	13-01-001-3	132 F	Polyimide, Types 3901002**B	Axon' Cable
	13-01-003	08 J	PTFE, Types MTV-BTV	Nexans
	13-01-004-2	219 C	Polyimide, Type SPL	Gore
	13-01-004-3	268	Polyimide, Type 3901019**B	Axon' Cable
	13-01-005-1	159 E	Crosslinked PTFE, Type Silver-Plated Copper	Tyco Electronics
	13-01-005-2	267	Crosslinked PTFE, Type Silver-Plated Copper	Axon' Cable
	13-01-008	215 D	PTFE, Polyimide / PFA Insulated, Type SPP	Gore
	13-01-009	216 C	PTFE, Polyimide / PFA Insulated, Shielded, Type SPM	Gore
	13-01-010-1	229 C	Polyimide, Insulated, Shielded, Type SPLD, Drain Wire	Gore
	13-01-011-1	257 A	Crosslinked Modified ETFE, Type Silver-Plated Copper, Lightweight	Tyco Electronics
13-02			Coaxial, RF, Flexible	
	13-02-001	24 K	PTFE/Polyimide, Type 50 CIS	Nexans
	13-02-002-1	255 A	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
Generic	Issue	Rev.	Date	
ESA/SCC 3901	5	B	Feb 2002	Draka Fileca Ste-Genevieve France
Detail				
ESA/SCC 3901/001	3	-	Jan 1996	
3901/002	3	-	Jan 1996	

Characteristics

Voltage Rating, maximum (Vrms): 600
Temperature Range (°C): $^{-}$100 to $^{+}$200

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jan 1979
Extension	CNES	Sep 1981
Extension	CNES	Jan 1984
Extension	CNES	Aug 1986
Extension	CNES	Jan 1989
Extension	CNES	Apr 1991
Extension	CNES	Jun 1993
Extension	CNES	Jun 1995
Extension	CNES	Aug 1997
Extension	CNES	Aug 1999
Extension	CNES	Jan 2002

SCC

QPL

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 J	January 2004	001-1

Types covered by similarity :

Medium weight	1871 -n/1871 - 871 (3901/001)	Variants 24 to 47 are qualified
Light weight	1872 -n/1872 - 872 (3901/002)	Variants 31 to 73 are qualified

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3901	5	B	Feb 2002	Nexans Draveil France
Detail				
ESA/SCC 3901/001	3	-	Jan 1996	
3901/002	3	-	Jan 1996	

Characteristics

Voltage Rating, maximum (Vrms) : 600
Temperature Range (^{o}C): $^{-}$100 to $^{+}$200

Nature of Approval	Supervising Authority	Date
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 1999

SCC

QPL

WIRES AND CABLES,
LOW FREQUENCY, POLYIMIDE INSULATION,
BASED ON TYPES 1871 - 1872

Current Validity of Qualification		Page
Certificate No.	Valid Until	13-01
09 J	August 2003	001-2

Types covered by similarity :

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3901	Issue 5	Rev. B	Date Feb 2002	AXON' CABLE Montmirail France
Detail ESA/SCC 3901/002	3	-	Jan 1996	

Nature of Approval	Supervising Authority	Date
Qualification	ESTEC	Dec 1985
Extension	ESTEC	Jul 1988
Extension	ESTEC	Jul 1990
Extension	ESTEC	Nov 1993
Extension	ESTEC	Jan 1996
Extension	ESTEC	May 1999
Extension	CNES	Jun 2002

Characteristics

Voltage Rating, maximum (Vrms) : 600
Temperature Range(°C): -100 to +200

QPL

WIRES AND CABLES,
LOW FREQUENCY, POLYIMIDE INSULATION,
BASED ON TYPE 3901002**B

Current Validity of Qualification	
Certificate No.	Valid Until
132 F	June 2004

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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
Generic ESA/SCC 3901	Issue 5	Rev. B	Date Feb 2002	Nexans Draveil France
Detail ESA/SCC 3901/013	2	A	Jan 1999	

Characteristics

Voltage Rating, maximum, (Vrms): 600
Temperature Range, (°C): $^{-}$100 to $^{+}$200

Nature of Approval	Supervising Authority	Date
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

QPL

WIRES AND CABLES,
LOW FREQUENCY, PTFE/POLYIMIDE INSULATION,
BASED ON TYPES MTV-BTV

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08 J	August 2003	003

Types covered by similarity :

Variants 1-94 are qualified

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3901	Issue 5	Rev. B	Date Feb 2002	W.L. Gore & Co Pleinfeld Germany
Detail ESA/SCC 3901/019	1	A	Apr 1995	

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Nov 1994
Extension	DARA	Nov 1996
Extension	DLR	Oct 1998
Extension	DLR	Oct 2000

Characteristics

Voltage Rating, maximum, (Vrms): 600
Temperature Range, (°C): $^{-}$200 to $^{+}$200

QPL

WIRES AND CABLES,
LOW FREQUENCY, POLYIMIDE INSULATION
BASED ON TYPE SPL

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219 C	October 2002	004-2

Types covered by similarity :

Variants of construction AWG 12 to 28

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3901	Issue 5	Rev. B	Date Feb 2002	AXON' CABLE Montmirail France
Detail ESA/SCC 3901/019	1	A	Apr 1995	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jun 2002

Characteristics

AWG 12 to 28 inclusive are qualified

Voltage Rating, maximum, (Vrms): 600
Temperature Range, (°C): -200 to +200

QPL

WIRES AND CABLES,
LOW FREQUENCY, POLYIMIDE INSULATION
BASED ON TYPE 3901019**B

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268	June 2004	004-3

Types covered by similarity :
All variants except for 26 and 28 AWG products

Remarks :

This product is not intended for manned space applications.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3901	Issue 5	Rev. B	Date Feb 2002	Tyco Electronics Dorcan, Swindon England
Detail ESA/SCC 3901/012	2	B	Nov 2000	

Nature of Approval	Supervising Authority	Date
Qualification	RAE	Feb 1989
Extension	RAE	Jul 1992
Extension	DRA	Mar 1995
Extension	DERA	Sep 1997
Extension	DERA	Oct 1999
Extension	QinetiQ	Nov 2001

Characteristics

Maximum voltage: 600 Vrms
Operating temperature range (°C): $^{-}100$ to $^{+}200$

SCC

QPL

WIRES AND CABLES,
LOW FREQENCY, 600V, SILVER-PLATED COPPER,
EXTRUDED CROSSLINKED FLUOROPOLYMER INSULATION

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Certificate No.	Valid Until	13-01
159 E	November 2003	005-1

Types covered by similarity :

Remarks :

This product is not intended for manned space applications.

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3901 Detail ESA/SCC 3901/012	Issue 5 2	Rev. A B	Date Dec 2000 Nov 2000	AXON' CABLE Montmirail France

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Mar 2002

Characteristics

Variant 06 is qualified

Wire code ISO 2635, 006

Voltage Rating, maximum (Vrms) : 600
Temperature Range(°C): -100 to +200

QPL

WIRES AND CABLES,
LOW FREQENCY, 600V, SILVER-PLATED COPPER,
EXTRUDED CROSSLINKED FLUOROPOLYMER INSULATION
BASED ON TYPE P515643A

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267	March 2004	005-2

Types covered by similarity :

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3901	5	B	Feb 2002	W.L. Gore & Co Pleinfeld Germany
Detail				
ESA/SCC 3901/017	1	A	Apr 1994	

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Jul 1994
Extension	DARA	Sep 1996
Extension	DLR	Aug 1998
Extension	DLR	Aug 2000
Extension	DLR	Aug 2002

Characteristics

Voltage Rating, maximum, (Vrms): 600V
Temperature Range, (°C): $^{-}$200 to $^{+}$200

Expanded PTFE, extruded polyimide/fluorthermoplast insulation

SCC

QPL

POWER WIRES FOR CRIMPING, LOW FREQUENCY,

BASED ON TYPE SPP

Current Validity of Qualification	
Certificate No.	Valid Until
215 D	August 2004

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Types covered by similarity :
Variants 01 to 88 are qualified.

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3901	Issue 5	Rev. B	Date Feb 2002	W.L. Gore & Co Pleinfeld Germany
Detail ESA/SCC 3901/018	1	A	Apr 1994	

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Jul 1994
Extension	DARA	Sep 1997
Extension	DLR	Aug 1999
Extension	DLR	Aug 2001

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.

QPL

WIRES AND CABLES,
LOW FREQUENCY, INSULATED,
POLYIMIDE/FLUOROTHERMOPLAST,
BASED ON TYPE SPM

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216 C	August 2003	009

Types covered by similarity :

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3901	5	B	Feb 2002	W.L. Gore & Co Pleinfeld Germany
Detail				
ESA/SCC 3901/021	1	-	Jun 1995	

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Feb 1996
Extension	DLR	Feb 1998
Extension	DLR	Feb 2000
Extension	DLR	Feb 2002

Characteristics

Voltage Rating, maximum, (Vrms): 600
Temperature Range, (°C): -200 to +200

QPL

POLYIMIDE INSULATED SHIELDED CABLES WITH DRAIN WIRE,

LOW FREQUENCY, BASED ON TYPE SPLD

Current Validity of Qualification	
Certificate No.	Valid Until
229 C	February 2004

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
Generic	Issue	Rev.	Date	
ESA/SCC 3901	5	B	Feb 2002	Tyco Electronics Dorcan, Swindon England
Detail				
ESA/SCC 3901/020	1	C	Nov 2000	
ESA/SCC 3901/022	2	-	Nov 2000	

Nature of Approval	Supervising Authority	Date
Qualification	DERA	Oct 1999
Extension	QinetiQ	Jan 2002

Characteristics

Wires and Cables variants consists of 1, 2, 3, and 4 cores with and without jackets and shields

ESA/SCC Detail Specification No. 3901/020 cables are silver-plated copper braided, and

ESA/SCC 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

SCC

QPL

WIRES AND CABLES,
LOW FREQENCY, 600V, SILVER-PLATED COPPER,
EXTRUDED CROSSLINKED MODIFIED ETFE, LIGHTWEIGHT

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257 A	January 2004	011-1

Types covered by similarity :	Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3902	4	C	Apr 1999	Nexans Draveil France
Detail				
ESA/SCC 3902/001	4	A	May 2000	

Characteristics

Variants 01, 02, and 03 are qualified
Miniature
50 ohms
PTFE Dielectric,
Polyimide Jacketed, Double Shield, and Shielded/ Jacketed

Maximum voltage: 900 Vrms
Operating Temperature Range (°C): -100 to +200

Nature of Approval	Supervising Authority	Date
Qualification	CNES	July 1979
Extension	CNES	Feb 1982
Extension	CNES	July 1984
Extension	CNES	Mar 1987
Extension	CNES	July 1989
Extension	CNES	Sept 1991
Extension	CNES	Aug 1993
Extension	CNES	Sep 1995
Extension	CNES	Aug 1997
Extension	CNES	Jan 1998
Extension	CNES	Aug 1999
Extension	CNES	Aug 2001

QPL

WIRES AND CABLES, RF COAXIAL,

PTFE/POLYIMIDE INSULATION,

BASED ON TYPE 50 CIS

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24 K	August 2003	001

Types covered by similarity :

Variants 03 to 06, 10 to 13, and 20 to 25 are qualified

Remarks : Maintenance activities to be initiated.

Procurement Specifications Issues in effect on certification date				Manufacturer	Nature of Approval	Supervising Authority	Date
Generic	Issue	Rev.	Date				
ESA/SCC 3902	4	C	Apr 1999	W.L. Gore & Co Pleinfeld Germany	Qualification	DLR	Jan 1999
Detail					Extension	DLR	Feb 2001
ESA/SCC 3902/002	2	A	Jan 1999				

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

SCC

QPL

WIRES AND CABLES,

RADIO FREQUENCY, FLEXIBLE, COAXIAL,

TRIAXIAL AND SYMMETRIC

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255 A	February 2003	002-1

Sub-Section	Page No.	Cert.	Type Designation	Manufacturer
14-01			Passive Devices, RF	
	14-01-002-2	185 B	Coaxial Loads, to 22 GHz	Radiall
	14-01-004	178 C	Attenuators, Type R413	Radiall

Types covered by similarity :

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic ESA/SCC 3403	Issue 3	Rev. C	Date Feb 2002	RADIALL La Verpilliere France
Detail ESA/SCC 3403/006	2	A	Feb 2002	

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jul 1992
Extension	CNES	Jun 1997
Extension	CNES	Jan 2002

Characteristics

Type	Detail Spec.	Frequency Range (GHz)	Rated Pin (W)	Impedance (Ω)
3403/006	3403/006	0 - 22	1	50

Type	VSWR max			
	0<f(GHz)≤4	4<f(GHz)≤12.4	12.4<f(GHz)≤18.4	18.4<f(GHz)≤22
1	1.05	1.10	1.15	1.20
2	1.05	1.15	1.20	1.25

Operating Temperature Range, (°C): $^{-}$55 to $^{+}$125

SCC

QPL

PASSIVE DEVICES, RF, COAXIAL,
LOADS, 0 - 22GHz,
BASED ON TYPE R404

Current Validity of Qualification	
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185 B	March 2004

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Types covered by similarity :

Variants 01 to 31

Remarks :

Procurement Specifications Issues in effect on certification date				Manufacturer
Generic	Issue	Rev.	Date	
ESA/SCC 3403	3	C	Feb 2002	RADIALL La Verpilliere
Detail			Feb 2002	France
ESA/SCC 3403/005	2	A		

Nature of Approval	Supervising Authority	Date
Qualification	CNES	Jan 1991
Extension	CNES	Jan 1994
Extension	CNES	Jun 1997
Extension	CNES	Mar 2002

Characteristics

Frequency range (GHz): 0 - 22
Attenuation (dB): 0 - 20
Temperature range (°C): $^{-}55$ to $^{+}125$

QPL

R.F. ATTENUATORS
FIXED, COAXIAL
BASED ON TYPE R413

Current Validity of Qualification

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178 C	March 2004

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