



# SPIRE/DRCU Instrument Herschel Mission



Ref : SAp-SPIRE-VM-0164-04  
Date : 01.09.2005  
Edition : 17  
Revision : 0

## SPIRE

### Declared Components List

SAp-SPIRE-VM-0164-04  
**Edition: 17 Revision: 0**

	Function	Name	Date	Visa
<b>Prepared by</b>	EEE Parts Manager	V. Manguen	02/09/05	
<b>Verified by</b>	System Engineer	C.Cara	14/09/05	
<b>Approved par</b>	PACS AQ	J.Fontignie	22/09/05	
<b>Approved par</b>	Project Manager	J-L.Auguères	22/09/05	

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## Declared Components List

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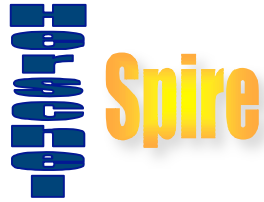
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<b>Prepared by</b>	EEE Parts Manager	V. Mauguen		
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### Document change record

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Issue - rev.	Date	Modifications
0	23/08/00	Preliminary List, including capacitors, connectors, crystals, diodes, integrated circuits, resistors, wires & cables, and miscellaneous. No quantities.
1	18/09/00	<ul style="list-style-type: none"> <li>• Quantities for parts types: OP400, PM139, HS303, HS508BRH, HS1840, ADC7809, DAC 7545, HS-26C31, HS-26C32, FPGA, resistors and MAT02.</li> <li>• Components eliminated: HS-508ARH (new version: B), wires &amp; cables, and miscellaneous.</li> </ul>
2	9/10/00	Parts type to be eliminated: resistors CMS type SMC3 (obsolete)
3	27/10/00	<ul style="list-style-type: none"> <li>• Obsolete parts for space: OP27, OP297, OP497, OP482, AD580, AD7545G</li> <li>• Standardization proposals: LM124 (instead of OP400) , AD565ATD (instead of 7545ARP, AD584TH (instead of AD580 &amp; REF-02), SEI7809LPRP (instead of ADS7809).</li> </ul>
4	29/11/00	Components definitely eliminated: OP27, OP297, OP497, OP482, HS1840 (obsolete) and AD584TE-LCC20 (to be replaced by AD584TH-TO99), and ADS7809 (replaced by 7809LPRP).
5	16/01/01	<ul style="list-style-type: none"> <li>• new quantities (<u>more actual</u>), and for all parts we are sure to use, <u>including attritions</u>.</li> <li>• Components definitely eliminated: OP400AY-DIP14 &amp; LM124 (no accepted by CEA), AD580TH (no need)</li> <li>• New components: UT54LVDS031 (item 18), UT54LVDS032 (item 19)</li> <li>• Type reduction accepted: RT54SX32S-1 CQ208E (instead of all FPGA types).</li> </ul>
Issue - rev.	Date	Modifications

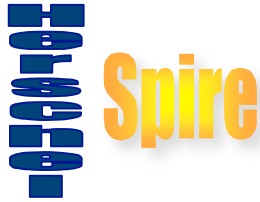


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6	02/01/01	<ul style="list-style-type: none"> <li>• Components definitely eliminated: HS1840; AD584TH (replaced by REF02AL) ; AD565 (standardization refused) &amp; 1N5617 (replaced by 1N4148)</li> <li>• New components: 1N4148 (item 1), 54HC137 (item 20), 54HC164 (item 21), HS117RH (item 22). For these new parts types, the package is to be confirmed.</li> </ul>
7	14/03/01	<ul style="list-style-type: none"> <li>• a new colon “WIH” to identify cables/connectors for Warm Interbox Hardness (no cryo harness). Today only connectors because cables not identified yet.</li> <li>• PM139: any need more (quantity: 0)</li> <li>• New connector type: HE801 144P</li> <li>• New colons for costing</li> <li>• Attrition for STM parts</li> <li>• Quantity identified for connectors accessories</li> <li>• Components eliminated of the list: ADS7809, OP400AY, AD584, AD589, old version of FPGAs.</li> </ul>
8	14/06/01	<ul style="list-style-type: none"> <li>• New components: capacitor KM-94 220nF(item 19), <b>54HC595</b> (item 23), <b>OP215</b> (item 24)</li> <li>• Quantities have changed for: UT54LVDS032, HS-508RH, MAT-02, HS-033RH, SEI7809, 26C31, 26C32, AMP02, 1N4148, 2N2222A, 2N2907A, 7545ARP</li> <li>• Components eliminated of the list:PM139</li> <li>• Components self-procured: OP400, DAC8800, REF02AL (only for QM) and OP15AL (only for QM) because don't exist in FP &amp; QM quality level</li> </ul>

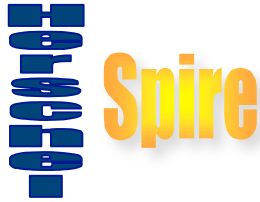


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9	23/07/01	<ul style="list-style-type: none"> <li>• new components: CMS1206 100nF (item 21) to replace CMS1210, CHPHR0505 10R (item 62), 1R (item 70), <b>diode 1N6642</b>, PHR0603 143K (item 72), 17K (item 73), 29K (item 74), 475R (item 75), 51.1K &amp; 6.65K, CHPHR0805 1K (item 77), PHR0603 4K (item 78), <b>fifo 16K*9 FP28 ref: 672061EV-15</b></li> <li>• Quantities have changed for:            CHPP0603 200R (item 24), CHP0805 470pF, 47pF, CEC 47nF (item 10), KM94-1 220nF, <b>OP400</b>, TAJC 10μF 16V, <b>HS508BRH</b>, <b>SEI7809LPRP</b>, CMS1210 100nF, <b>UT54LVDS031</b>, <b>OP215</b>, TAJC 10μF 16v, <b>REF02AL</b>, CHPHR0805 100R &amp; 10K, PHR0603 4.99K, CHPHR0805 200R</li> </ul>
9	04/09/01	<ul style="list-style-type: none"> <li>• New components: <b>OP15AL &amp; AMP01</b> (parts types existing in PACS's list FPBOLC)</li> <li>• Quantities have changed for <b>SEI 7545</b></li> </ul>
10	23/10/01	<ul style="list-style-type: none"> <li>• New components: <b>54HC14</b> , <b>MMDP-65656GV-40sB</b></li> <li>• Quantities have changed for <b>AD590</b></li> <li>• Parts eliminated: <b>T1507 16MHz &amp; 20MHz</b> to replace by <b>T807 20MHz</b></li> <li>• Correction of Part Number for SMDP-67206</li> <li>• Modification for attrition rules (only for CHIP capacitors and resistors)</li> </ul>

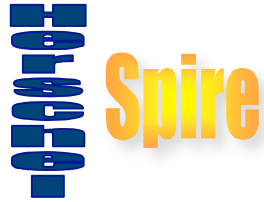


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11	06/12/01	<ul style="list-style-type: none"> <li>• New components:               <ul style="list-style-type: none"> <li>- Capacitor CMS 0805 T1 <b>1,5nF</b> (item 5)</li> <li>- HE801connectors:  <b>KNB0965510110</b> (item 10), <b>KNB0964430121</b> (item 11), <b>KNC1605510110</b> (item 14) &amp; <b>KNC1604430121</b> (item 15) - savers: <b>KNB096 44 91 944</b> (item 24) &amp; <b>KNC160 44 91 944</b> (item 26)</li> <li>- <b>quartz 10 MHz T807</b></li> <li>- resistors:  <b>RLR07/2H4 1R</b> (item 37)            Chip CMS <b>P0603</b> type P(0,01%) <b>9K76</b> (item 38), <b>13K3</b> (item 39), <b>17K4</b> (item 40), <b>18K2</b> (item 41), <b>27K4</b> (item 42), <b>61K</b> (item 43), <b>90K9</b> (item 44), <b>95K3</b> (item 45), <b>97K6</b> (item 46) , <b>102K</b> (item 47) &amp; <b>267R</b> (item 48).</li> <li>- Relays: type <b>TL, GP2 &amp; EL210</b></li> </ul> </li> <li>• <b>Parts to be eliminated:</b> <ul style="list-style-type: none"> <li>- quartz T1507 @ 11,0592 MHz (STC 3665) 3549_350100933B</li> <li>- Chip CMS P0603 type P(0,01%): 200R (item 20), 475R (item 21), 6.65K (item 24), 8K (item 25), 16K9 (item 28), 28K7 (item 30), 65K (item 32), 143K (item 35) &amp; 147K (item 36).</li> <li>- CHPHR 0505: 10R2 (item 2), 10K (item 6).</li> <li>- Capacitor CMS 0805 T1 470pF</li> </ul> </li> <li>• <b>Quantities have changed for:</b>            2N2222, 2N5154, 1N5618, AD589, OP215, OP15, AD590 &amp; HS508</li> </ul>



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12	01/03/02	<ul style="list-style-type: none"> <li>• New components:               <ul style="list-style-type: none"> <li>- Resistor PHR0603 115R 0.02% (variant 01)</li> <li>- Connectors DEMA9S, DAMA15S, DAMA15P, DDMA50S, DEBMA9PS, DABMA15PS &amp; DCDMA50PS</li> <li>- OP484AM (item 33)</li> </ul> </li> <li>• Quantities have changed for:               <ul style="list-style-type: none"> <li>- 1N4148, 1N6642, AD590MF, 2N2907A, 2N2222A, OP15, AMP01, REF02, HS303RH, SMDP67206.</li> <li>- Capacitors CMS1206 100nF&amp;10nF, TAJ 16v 10% 10μF</li> <li>- Resistors CHP0805 1% 10R,10K&amp;100K; PHR0603 0.01% 10K</li> <li>- Connectors DBMA25S,DEBMA9PS-QM,DCBMA25PS, &amp; DDBMA50PS screw-lock, dust-caps..., HE801 160P, HE801 160S</li> </ul> </li> <li>• Parts to be eliminated:               <ul style="list-style-type: none"> <li>- Connectors DBMA44S, DCMA62S (+ savers..)</li> <li>- AD589, 1N5617</li> </ul> </li> </ul>
13	23/05/02	<ul style="list-style-type: none"> <li>• New components:               <ul style="list-style-type: none"> <li>- Transistors <b>2N2905A</b> (item 5)</li> <li>- Resistor PHR0603 15K2 (instead of 15K17 not existing)</li> <li>- IC <b>UC1834</b> (item 34)</li> </ul> </li> <li>• Quantities have been changed for:               <ul style="list-style-type: none"> <li>- Transistors 2N2222A &amp; 2N2907A</li> </ul> </li> </ul>

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17	01/09/05	<ul style="list-style-type: none"> <li>• <b>Quantities have changed for:</b>            Capacitors: 1206 100nF 50V 10% (item 21), 1210 1nF 100V 10% (item 26), 2220 15nF 25V 1% (item 9), OP484A (item 33), resistors CHP0805 1%: 1MR (item 53), 1R (item 50), PHR0603 0,01%: 10R (item 26), 4KR (item 22), PHR0805 0,01%: 36K5 (item 124), 10K (item 78) , 33K2 (item 83) &amp; 44K2 (item 85).</li> </ul>
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### Distribution list

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Ken King	RAL	X	
		X	
Frédéric Pinsard	CEA / SAp	X	
Christophe Cara	CEA / SAp	X	
Jean Fontignie	CEA / SAp	X	
Michel Mur	CEA / SEDI	X	
J-Louis Auguères	CEA / SAp	X	





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## I. Acronyms

ABCL	As Built Configuration List		HK	House-Keeping
AD	Applicable Document		HTML	Hyper Text Mark-up Language
AO	Announcement of Opportunity		HTTP	Hyper Text Transport Protocol
API	Application Programming Interface		H/W	Hardware
AIT	Assembly Integration & Test after delivery		ICD	Interface Control Document
AIV	Assembly Integration & Verification before delivery		IDIS	Integrated Data and Information System
AVM	Avionics Model		IDIS-DT	IDIS Development Team
BOL	Begin Of Life		IDIS-MT	IDIS Management Team
CC	Configuration Control		IID-A	Instrument Interface Document, Part A
CCS	Central Checkout System		IID-B	Instrument Interface Document, Part B
CIDL	Configuration Item Data List		IS	Instrument Scientist
CEA	Commissariat à l'Énergie Atomique	CMB	LAM	Laboratoire d'Astrophysique de Marseille
background			LAN	Local Area Network
Co-I	Co-Investigator		LEOP	Launch & Early Orbit Phase
COTS	Commercial Off The Shelf Software		LM	Local Manager
CQM	Cryogenic Qualification Model		LOS	Line Of Sight
DMS	Document Management System		MGSE	Mechanic Ground Support Equipment
DPC	Data Processing Centres		MOC	Mission Operations Centre
DPCM	Data Processing Centres Manager		MOS	Margin Of Safety
EGSE	Electric Ground Support Equipment		MRB	Material Review Board
EOL	End Of Life		N/A	Not Applicable
EP	Entrance Pupil		NCR	Non Conformance Report
ESA	European Space Agency		OAT	Osservatorio Astronomico di Trieste
ESOC	European Space Operations Centre		OBDH	On Board Data Handling
ESTEC	European Space Technology and Research Centre		OGS	Operational Ground Segment
FINDAS	FIRST Integrated Network And Data Archive System		PA	Product Assurance
FIRST	Far InfraRed and Sub-millimetre Telescope		PDF	Portable Document Format (Adobe Acrobat)
FOV	Field-Of-View		PhFPU	Photometer Focal Plan Unit
FPA	Focal Plane Assembly		PFM	Proto-Flight Model
FPU	Focal Plane Unit		PGSE	Pneumatic Ground Support Equipment
FS	Flight Spares		PI	Principal Investigator
			PLM	Payload Module



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PM	Project Manager	SIP	Science Implementation Plan
PO	Parts Order	SPIRE	S
PR	Public Relations	SPMP	Software Project Management Plan
PS	Project Scientist	SQAP	Software Quality Assurance Plan
PSF	Point-Spread-Function	SRR	Software Requirements Review
QA	Quality Assurance	SS	Survey Scientist
QLA	Quick Look Analysis	SSD	Space Science Department (ESTEC)
RAL	Rutherford Appleton Laboratory	S/W	Software
RD	Reference Document	TBC	To Be Confirmed
RFW	Request For Waiver	TBD	To Be Determined
RH	Relative Humidity	TBN	To Be Nominated
RMS	Root Mean Square	TBW	To Be Written
RTA	Real Time Analysis	TC	Tele-Command
S/C	Spacecraft	TM	TeleMetry
SAMBA	Satellite for Measurement of Background Anisotropies	TRB	Test Review Board
SAP	Service d'Astrophysique	URD	User Requirements Document
SCMP	Software Configuration Management Plan	WFE	Wave Front Error
SE	System Engineer	WWW	World Wide Web

## II. Table of Contents

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## 1 Introduction

### 1.1 Purpose and scope

This document provides a list of the electrical components which would be used in the flight model of the DRCU system (DCU & SCU).

The quality level for components used on the FM shall be:

- level B according to ESA SCCG-system or level 1 according to NASA's 311-NST-001 specification ,for all connectors, savers and accessories
- level C according to ESA SCCG-system for all capacitors and resistors.

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## 1.2 Documents

### 1.2.1 **Applicable Documents**

[AD1] Product Assurance Requirements for FIRST/Planck scientific instruments, ref.: PT-RQ-04410  
 [AD2] ECSS-Q-60A

### 1.2.2 **Reference Documents**

[RD1] ESA/SCC QUALIFIED PARTS LIST (15-01-00)  
 [RD2] EUROPEAN PREFERRED PARTS LIST (15-02-00)  
 [RD3] CNES / QFT / IN0500 Liste préférentielle des composants  
 [RD4] FIRST/Planck Preferred Part List ref. : FP-TLG-LI-0001 (07-06-2000)

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## 2 LEGEND OF LIST COLUMNS

**Generic Name:** Part Name

**Manuf:** Manufacturer

**Pkg. :** Preferred Package / Housing

**Part Description:** Details / Features of the component

**Radiation Harness:** Radiation marker

**FLT Part Type:** Flight Part Type

**Preferred Proc-Spec:** Preferred Procurement Specification

**Level:** Required Quality Level

**LAT:** Lot Acceptance Tests

**FM parts:** Quantity for Flight Model

**FS parts:** Quantity for Flight Spare

**Needs CEA:** Total quantity (PFM + FS)

**Attr parts:** Attrition quantity

**PO:** Total quantity for order (Needs CEA + Attr)

## 3 RADIATION CONSTRAINTS

### 3.1 Abbreviations

TD: Total Dose effects

SEE: Single Event Effect

SEU: Single Event Upset

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SEL: Single Event Latch up (Soft error due to heavy ions)

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#### 4 LIST OF COMPONENT MANUFACTURERS

Code	Country	Manufacturer	Address / Seller
TBD		To Be Defined	
ACTEL	USA	Actel Corporation	2061 Stierlin Court Mountain View, CA 94043 Phone: (650) 318-4200 <a href="http://www.actel.com/">http://www.actel.com/</a>
AND	USA	Analog Devices	1500 Space Park Drive CA 95052 Santa Clara USA Tel /Fax: 1(0)408 5627408/526 <a href="http://www.analog.com">www.analog.com</a>
ATMEL W.M. (ex MHS)	France	Atmel	La Chantrerie/Route de Gachet, B.P. 70602 44306 Nantes Cedex 03 France Telephone No. +33 (0)2 40181818 Fax No. 33 (0)2 40181920 <a href="http://www.atmel.com">www.atmel.com</a>
AVX	UK	AVX	AVX Limited Ballylorne Industrial Estate 1 Ballyhampton Road BT 40 1STarne, Northen Ireland United Kingdom Telephone No. +44 (0)1574 260777 Fax No. +44 (0)1574 260464 <a href="http://www.avxcorp.com">www.avxcorp.com</a>



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CAN	F	ITT Cannon	ITT Cannon BP 359 Av; du Mal deLattre de Tassigny F-39105 DOLE Cedex Tel/Fax: 33(1)84729469/9593 <a href="http://www.ittcannon.com">www.ittcannon.com</a>
CEPE	F	CEPE	C-MAC France 44, avenue de la Glacière BP165 F-95100 ARGENTEUIL Tel/Fax : 33(0)139983633/50 <a href="mailto:Cepe.com@hol.fr">Cepe.com@hol.fr</a>
EFD	F	Eurofarad	23, rue Jeanne d'Arc F-77400 LAGNY Te/Fax : 33(0)160317000/64305063 <a href="http://www.eurofarad.com">www.eurofarad.com</a>
FCI	F	Framatome Connector International	3, rue de Vallon Hameau d'activités n°2 F-91550 Marolles-en-brie Tel/Fax: 33(0)145107844/40 <a href="http://www.fciconnect.com">www.fciconnect.com</a>
FRB	F	Hypertac S.A.	31, rue Isidore Maille F-76410 St Aubin Les Elboeufs Tel/Fax: 33(0)232969176/70 <a href="http://www.frb-connectron.com">www.frb-connectron.com</a> <a href="mailto:Frb.connectron.ama@wanadoo.fr">Frb.connectron.ama@wanadoo.fr</a>

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HAR	USA	INTERSIL (ex HARRIS)	INTERSIL 2401 Palm Bay Road, N.E. FL 32905 Palm Bay USA Tel/Fax: 1(0)407 7279207/95361 <a href="http://www.semi.harris.com">www.semi.harris.com</a>
HON	USA	Honeywell	12001 State Highway 55 MN 55441 PLYMOUTH USA Tel/Fax: 1(0)6129542888/257 <a href="http://www.honeywell.com">www.honeywell.com</a>
KEM	USA	KEMET	KEMET ELECTRONICS Corp. P.O. Box 5928, SC 29606 Greenville USA Telephone No. +1 (0)803 9636300 Fax No. +1 (0)803 9636521 <a href="http://www.kemet.com">www.kemet.com</a>
LCC	UK	LCC/AVX LTD	Long Road 7Q4 7ER Paignton Dvon England Tel/fax : 44(0)1803528046/6223 <a href="http://www.avxcorp.com">www.avxcorp.com</a>
LT	USA	Linear Technology	Mac Carthy Boulevard CA 95035 MILPITAS USA Tel/Fax: 1(0)4084321900/40507 <a href="http://www.linear-tech.com">www.linear-tech.com</a>
MIC	USA	Microsemi	2830 S. Fairview Street PO Box 26890 CA 92704 Santa Anna Tel/Fax: 1(0)7149798220/5575989

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			<a href="http://www.microsemi.com">www.microsemi.com</a>
NEX	F	NEXANS	NEXANS 140 Rue E. Delacroix, BP 1 F-91210 Draveil Tel: +33 (0)1 69837800 Fax: +33 (0)1 69420570 <a href="http://www.nexans.com/">http://www.nexans.com/</a>
NS	USA	National Semiconductor	2900 Semiconductor Drive PO Box 58090 CA 95052 Santa Clara Tel/Fax: 1(0)4087215000/399803 <a href="http://www.national.com">www.national.com</a>
SEI	USA	Space Electronic Inc.	REP' France 1 Avenue du président Pompidou BP 50801 92508 Rueil Malmaison cedex – Tél : 01.41.39.25.00 Fax : 01.47.32.99.25 <a href="http://www.isc-distrel.com">http://www.isc-distrel.com</a>
SFE	F	Vishay S.A. division Sfernice	199, Bld de la Madeleine BP 1159 F-06003 NICE Cedex 1 Tel/fax: 33(0)493372727/26
STM	F	STMicroelectronics	3, Rue de Suisse, B.P. 4199 F-35041 Rennes Cedex 2 Telephone No. +33 (0)2 99264800 Fax No. +33 (0)2 99515053 <a href="http://www.st.com">www.st.com</a>
TI	USA	Texas Instruments - Unitrode	7 Continental Boulevard NH 03054 MERRIMACK USA Tel/Fax: 1(0)034242410/3460

	<h2>SPIRE/DRCU Instrument Herschel Mission</h2>	 <b>Ref : SAp-SPIRE-VM-0164-04</b> <b>Date : 01.09.2005</b> <b>Edition : 17</b> <b>Revision : 0</b>
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TPC	F	TPC / AVX	<p>www.unitrode.com</p> <p><b>AVX/TPC</b>  Avenue du Colonel Prat  St. Apollinaire  21850 Dijon France  Telephone : +33.3.80.71.74.00  Telefax : +33.3.80.74.87.28  <b><u>AVX SA</u> - Sales Office</b>  Za De Courtaboeuf  Miniparc, 6 Ave Des Andes  Les Ulis Cedex 91941 France  <b>Ph:</b> 011-33 (1) 69-18-46-00  <b>Fax:</b> 011-33 (1) 69-28-73-87  <a href="http://www.avxcorp.com">http://www.avxcorp.com</a></p>
VSH	G	VISHAY DRALORIC ELECTRONIC	<p><b>Vishay Draloric Electronic GmbH</b>  Geheimrat-Rosenthal-Str. 100 Selb  D-95100 Germany  Phone: 49-9287-71-0  Fax: 49-9287-70435  E-mail: <a href="mailto:business-europe@vishay.com">business-europe@vishay.com</a></p>

	<h2>SPIRE/DRCU Instrument Herschel Mission</h2>	 Ref : SAp-SPIRE-VM-0164-04 Date : 01.09.2005 Edition : 17 Revision : 0
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### 5 General attrition rules for flight and spare models

The following table shows the attrition quantities to be applied for parts families. For high cost semiconductor parts, the attrition quantities will be done case by case in the next chapter.

Net Quantity	Chip Capacitors and resistors	Other resistors, capacitors and filters	Semiconductors, relays and connectors with fixed contacts	Connectors bodies, saver bodies and crystals
1 - 5	+10	+4	+3	+2
6 - 8	+10	+5	+4	+2
9 - 15	+10	+6	+5	+3
16 - 25	+15	+7	+6	+4
26 - 40	<b>+20</b>	+10	+8	+5
41 - 60	<b>+20</b>	+13	+10	+6
61 - 100	<b>+25</b>	+17	+15	+10%
101 - 150	<b>+25</b>	+25	+20	+10%
151 - 250	<b>+35</b>	+37	+28	+10%
>= 251	<b>+15%</b>	+15%	+11%	+10%

#### Special attrition rules for high cost semiconductor parts

High cost parts	Net Quantity : 1 - 5	Net Quantity : >5
PROM	+100%	+100%
FPGA RT54SX32S	+2	+4

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## 6 List of parts

### 6.1 Family code

Family Code	Group Code	Family	
01	01	Capacitors	Ceramic
	02	Capacitors	Ceramic Chip
	03	Capacitors	Tantalum Solid
02	01	Connectors	Circular
	02	Connectors	Rectangular
	03	Connectors	Printed Circuit Board
	07	Connectors	Microminiature
03	01	Piezo-Electric Devices	Crystal Resonator
	99	Piezo-Electric Devices	Miscellaneous
04	01	Diodes	Switching
	02	Diodes	Rectifier
	03	Diodes	Voltage Regulator
	04	Diodes	Voltage Reference
	05	Diodes	R/F microwave schottky-si
07	01	Inductors	RF Coils
	02	Inductors	Cores
	03	Inductors	Chip
08	10	Microcircuits	Microprocess / Micro control/
	20	Microcircuits	Memory SRAM
	21	Microcircuits	Memory DRAM
	22	Microcircuits	Memory PROM



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	23	Microcircuits	Memory EPROM
	24	Microcircuits	Memory EEPROM
	30	Microcircuits	Programmable Logic
	40	Microcircuits	ASIC Technologies Digital
	41	Microcircuits	ASIC Technologies Linear
	42	Microcircuits	ASIC Technologies Mixed
	50	Microcircuits	Linear Sample & Hold Amplifier
	51	Microcircuits	Linear sample and hold amplifier
	52	Microcircuits	Linear Voltage regulator
	53	Microcircuits	Linear voltage comparator
	54	Microcircuits	Linear switching regulator
	99	Microcircuits	Miscellaneous
09	01	Relays	Non latching
	02	Relays	Latching
10	01	Resistors	Metal oxide
	02	Resistors	Wire wound precision-including surface mount
	08	Resistors	Metal film
	09	Resistors	Chip all
	10	Resistors	Network all
	11	Resistors	Heaters, flexible
11	01	Thermistors	Temperature compensating
	02	Thermistors	Temperature measuring
	03	Thermistors	Temperature sensor
12	01	Transistors	Low power, NPN, < 2 watts
	02	Transistors	Low power, PNP, < 2 watts
	03	Transistors	High power, NPN, < 2 watts
	04	Transistors	High power, PNP, < 2 watts
	05	Transistors	FET N channel
	06	Transistors	FET P channel
	07	Transistors	Multiple
	08	Transistors	Switching

	<h2>SPIRE/DRCU Instrument Herschel Mission</h2>	 <p>Ref : SAp-SPIRE-VM-0164-04 Date : 01.09.2005 Edition : 17 Revision : 0</p>
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### 6.2 D.C.L.

10 pages (see document attached)

### 7 **P.A.D Status List**

Number:	Subject:	Approval Customer:	Approval ESA:
0159-04	Capacitors, Ceramic, fixed, chip 0805 Type I 182pF 50V 1% Self-procured from TPC/AVX according to level C of specification ESA/SCC 3009/003-06	Eric Clark 21/06/2004 ASP-Cannes 27/09/04	F. Martines 31/12/04
0160-04	Capacitors, Ceramic, fixed, chip 1206 Type II 100nF 50V 5% Self-procured from TPC/AVX according to level C of specification ESA/SCC 3009/023	Eric Clark 21/06/2004 ASP-Cannes 27/09/04	ESA/ESTEC 24/11/04
	Capacitors, Ceramic, fixed, chip 1210 Type II 2,2nF 50V 10% Self-procured from TPC/AVX according to level C of specification ESA/SCC 3009/004		
0161-04	Silicon, Power Rectifier, Fast Recovery, JANS 1N5615US Self-procured from Microsemi according to level S of specification MIL-PRF-19500/429	Eric Clark 21/06/2004 ASP-Cannes 27/09/04	ESA/ESTEC 24/11/04



	<h2>SPIRE/DRCU Instrument Herschel Mission</h2>	 <p> <b>Ref : SAp-SPIRE-VM-0164-04</b>  <b>Date : 01.09.2005</b>  <b>Edition : 17</b>  <b>Revision : 0</b> </p>
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Number:	Subject:	Approval Customer:	Approval ESA:
0162-04	Quad Low Offset, Low Power, Operational Amplifier OP400 self-procured from Analog Devices , then encapsulated by HCM: up screening to level B of specification ESA/SCC 9000.	Eric Clark 21/06/2004 ASP-Cannes 27/09/04	F. Martines 23/12/04
0204-05	Resistors, Fixed, Chips 0603, thin film, high precision wraparound 47K 0,01% Self-procured from Sfernice according to level C of specification ESA/SCC 4001/023-01.		
0203-05	Resistors, Fixed, Chips 0805, thin film, high precision (0,01%)wraparound 511Ω , 2K7, 6K04, 8K45, 36K5, 51K1, 100K & 220K Self-procured from Sfernice according to level C of specification ESA/SCC 4001/023-02.		

* new components/last list	Item N°	Family Code	Group Code	GENERIC NAME	FLT Part Type	FLT Generic Spec	FLT Detail Spec	Level	Rad	FLT Description	Status	Manuf	Pkg	Attr.	Needs CEA	Total Need	Self procure d	PAD's N°	FM parts	FS parts	Back Plane DCU	crite LIA-P	crite LIA-S	crite DAC-IF	crite BIAS	Back Plane SCU	CCHK-IF	Temp
<b>Capacitors</b>																												
PACS																												
<b>CMS 0805 T1 (NPO) 1,2,5 or 10% 30ppm</b>																												
21	1-	02		33pF, 50v 1%	A612CD0330FNC 300900306C 33C0FC	ESA/SCC 3009	ESA/SCC 3009/003-06	C		Capacitors, Ceramic, Fixed, Chip, Type I, terminaisons Ag/Ni/Sn	EPPL	TPC/F	805	25	135	160				90	45						12	1
2	1-	02		47 pF, 50V 1%	A612CD0470FNC 300900306C47C0FC	ESA/SCC 3009	ESA/SCC 3009/003-06	C		Capacitors, Ceramic, Fixed, Chip, Type I (dielectric:COG-NPO), terminaisons Ag/Ni/Sn	EPPL	TPC/F	805	68,1	454	522				364	90		32	24	2			
4	1-	02		470 pF, 25 V, 1%	A612CC 0471F NC 300900306C4700FA	ESA/SCC 3009	ESA/SCC 3009/003-06	C		Capacitors, Ceramic, Fixed, Chip, Type I (dielectric:COG-NPO), terminaison Ag Pd	EPPL	TPC/F	805	20	48	68				24	24	24						
22	1-	02		100pF, 25v, 1%	A612CC0101F NC 300900306C1000FA	ESA/SCC 3009	ESA/SCC 3009/003-06	C		Capacitors, Ceramic, Fixed, Chip, Type I (dielectric:COG-NPO), terminaisons Ag/Ni/Sn	EPPL	TPC/F	805	10	6	16				4	2							2
34	1-	02		182 pF, 50V 1%	A612CD1820F NC 300900306C1820FC	ESA/SCC 3009	ESA/SCC 3009/003-06	C		Capacitors, Ceramic, Fixed, Chip, Type I (dielectric:COG-NPO), terminaisons Ag/Ni/Sn	EPPL	TPC/F	805	15	18	33	40	0159-04		12	6				6			
23	1-	02		220pF, 25v,1%	A612CC0221FNC 300900306C 2200FA	ESA/SCC 3009	ESA/SCC 3009/003-06	C		Capacitors, Ceramic, Fixed, Chip, Type I, terminaisons Ag/Ni/Sn	EPPL	TPC/F	805	10	6	16				4	2							2
5	1-	02		1,5nF 50V, 1%	A612CD0152FNC 300900306C1501FC	ESA/SCC 3009	ESA/SCC 3009/003-06	C		Capacitors, Ceramic, Fixed, Chip, Type I (dielectric:COG-NPO), terminaisons Ag/Ni/Sn	EPPL	TPC/F	805	134,4	896	1030				720	176		64	48				
<b>CMS 1206 T2 5%, 10% or 20%</b>																												
↑	21	1-	02	100nF, 50v,10%	A620ZD0104KNC 300902306C104KC	according to ESA/SCC 3009	ESA/SCC 3009/023	C		Capacitors, Ceramic, Fixed, Chip, Type II, terminaisons Ag/Ni/Sn	EPPL	TPC	1206	694,65	4631	5326				3474	1157	52	208	172	142	156	91	128
35	1-	02		100nF, 50V 5%	A620ZD0104JNC 300902306C104JC	ESA/SCC 3009	ESA/SCC 3009/023	C		Capacitors, Ceramic, Fixed, Chip, Type II, terminaisons Ag/Ni/Sn	EPPL	TPC	1206	67,2	448	515	Y	0160-04		360	88		32	24				
<b>CMS 1210 T1 30ppm 1,2,5 or 10%</b>																												
24	1-	02	40	2,2nF 50V 10%	A613CC0222KNC 004 06 C 222 KA	ESA/SCC 3009	ESA/SCC 3009/004	C		Capacitors, Ceramic, Fixed, Chip, Type I (dielectric:COG-NPO), terminaisons Ag/Ni/Sn	EPPL	TPC	1210	10	3	13	Y			2	1							1
25	1-	02	517,3	4,7nF 50V 1%	A613CD0472FNC 300900406C4701FC	ESA/SCC 3009	ESA/SCC 3009/004	C		Capacitors, Ceramic, Fixed, Chip, Type I (dielectric:COG-NPO), terminaisons Ag/Ni/Sn	EPPL	TPC	1210	20	54	74				36	18							18
<b>CMS 1210 T2 (BX) 10% or 20%</b>																												
↓	26	1-	02	1 nF, 100 V, 10%	A613GE0102KNC 102KE	ESA/SCC 3009	ESA/SCC 3009/009	C		Capacitors, Ceramic, Fixed, Chip, Type II (dielectric BX/2C1), terminaisons Ag/Ni/Sn	EPPL	TPC	1210	10	6	16				4	2						0	2
20	1-	02		10 nF, 100 V, 10%	A613GE0103KNC 300900906C103KE	ESA/SCC 3009	ESA/SCC 3009/009	C		Capacitors, Ceramic, Fixed, Chip, Type II (dielectric BX/2C1), terminaisons Ag/Ni/Sn	EPPL/QPL ESA	TPC	1210	35	183	218				114	69	24				4		
<b>CMS 1812 T2 (BX) 10% or 20%</b>																												
28	1-	02		330 nF, 25 V, 10%	A614GC0334KNC 300901006 334KA	ESA/SCC 3009	ESA/SCC 3009/010	C		Capacitors, Ceramic, Fixed, Chip, Type II (dielectric BX/2C1), terminaisons Ag/Ni/Sn	QPL/ESA	TPC	1812	10	12	22				8	4						4	
<b>CMS 2220 T1 (NPO) 1% 30ppm</b>																												
↓	9	1-		15 nF, 25 V, 1%	A615CC0153FNC 300900606C1502FA	ESA/SCC 3009	ESA/SCC 3009/006-06	C		Capacitors, Ceramic, Fixed, Chip, Type I (dielectric:COG-NPO), terminaisons Ag/Ni/Sn	EPPL	TPC	2220	10	6	16				4	2		0		0	2		
<b>CMS 2220 T2 5,10 or 20%</b>																												
29	1-	02		1µF 10% 25V	A615GC0105K NC 3009 011 06C 105 KA	ESA/SCC 3009	ESA/SCC 3009/011	C		Capacitors, Ceramic, Fixed, Chip, Type II, terminaisons Ag/Ni/Sn	EPPL	TPC	2220	25	150	175				100	50				6		5	39
<b>KM94-1 1%</b>																												
19	1-	02		220 nF, 50 V	KM94 S 220nf 300602301C2203FC	ESA/SCC 3006	ESA/SCC 3006/023-01			Metallized Polycarbonate Capacitors	EPPL	EUR/F	SMD size A	297,6	1984	2282				1584	400		128	144				
36	1-			47nF , 50V	KM94S 47nF 300602301C4702FC	ESA/SCC 3006	ESA/SCC 3006/023-01			Metallized Polycarbonate Capacitors	EPPL	EUR/F	SMD size B	67,2	448	515				360	88		32	24				
<b>TAJ/T492 10%</b>																												
13	1-	03		2,2uF 10V T492A225K010CS	CWR11FH225KC	MIL-PRF 55365	MIL-PRF 55365/8D	R		Capacitors, leadless surface monted, tantalum, solid electrolyte, enclosed anode connection	EPPL	KEM/U	SMD size A	20	42	62				28	14		0		14	0		
30	1-	03		4,7µF, 10V T492B475K010CS	CWR11FH475KC	MIL-PRF 55365	MIL-PRF 55365/8D	R		Capacitors, leadless surface monted, tantalum, solid electrolyte, enclosed anode connection	EPPL	KEM/U	SMD size B	15	24	39				16	8						4	4
15	1-	03		10uF 15V T492C106K015CS	CWR11HH106KC	MIL-PRF 55365	MIL-PRF 55365/8D	R		Capacitors, leadless surface monted, tantalum, solid electrolyte, enclosed anode connection	EPPL	KEM/U	SMD size C	35	243	278				174	69		6	6	15	8	16	12
32	1-	03		TAJ C 22µF 10V	TBJ 22 uF 10 TBJC226K010CRL0014	MIL-PRF 55365		C		Capacitors, leadless surface monted, tantalum, solid electrolyte, type TAJ	EPPL	AVX/UK	SMD size C	15	24	39				12	12	12						
33	1-	03		TAJ E 47µF 20V	TBJ 47 uF 20 TBJE476K020LRLC0014	MIL-PRF 55365		C		Capacitors, leadless surface monted, tantalum, solid electrolyte, type TAJ	EPPL	AVX/UK	SMD size E	15	24	39				12	12	12						
<b>Connectors</b>																												
27	2-	02		DEMA 9S	3401 00201 B DEMA 9S NMB FO	ESA/SCC 3401	ESA/SCC 3401/002-01	B		D Subminiature Rectangular Connector without contacts	QPL/ESA	CAN/F		2	3	5				2	1						1	
28	2-	02		DAMA 15P	3401 00201 B DAMA 15P NMB FO	ESA/SCC 3401	ESA/SCC 3401/002-01	B		D Subminiature Rectangular Connector without contacts	QPL/ESA	CAN/F		2	4	6				2	2					2		

Item N°	Family Code	Group Code	GENERIC NAME	FLT Part Type	FLT Generic Spec	FLT Detail Spec	Level	Rad	FLT Description	Status	Manuf	Pkg	Attr.	Needs CEA	Total Need	Self procure d	PAD's N°	FM parts	FS parts	Back Plane DCU	carte LIA-P	carte LIA-S	carte DAC-IF	carte BIAS	Back Plane SCU	CCHK-IF	Temp
29	2-	02	DAMA 15S	3401 00201 B DAMA 15S NMB FO	ESA/SCC 3401	ESA/SCC 3401/002-01	B		D Subminiature Rectangular Connector without contacts	QPL ESA	CAN/F		2	6	8			4	2								2
2	2-	02	DBMA 25S	3401 00201 B DBMA 25S NMB FO	ESA/SCC 3401	ESA/SCC 3401/002-01	B		D Subminiature Rectangular Connector without contacts	QPL ESA	CAN/F		4	25	29			14	11				1			2	
54	2-	02	DCMA37P	3401 00201 B DCMA 37P NMB FO	ESA/SCC 3401	ESA/SCC 3401/002-01	B		D Subminiature Rectangular Connector without contacts	QPL ESA	CAN/F		4	8	12			6	2			2					
3	2-	02	DCMA 37S	3401 00201 B DCMA 37S NMB FO	ESA/SCC 3401	ESA/SCC 3401/002-01	B		D Subminiature Rectangular Connector without contacts	QPL ESA	CAN/F		2	3	5			2	1					1		0	
5	2-	02	DDMA50P	3401 00201 B DDMA 50P NMB FO	ESA/SCC 3401	ESA/SCC 3401/002-01	B		D Subminiature Rectangular Connector without contacts	QPL ESA	CAN/F		6	22	28			18	4		2						
30	2-	02	DDMA 50S	3401 00201 B DDMA 50S NMB FO	ESA/SCC 3401	ESA/SCC 3401/002-01	B		D Subminiature Rectangular Connector without contacts	QPL ESA	CAN/F		2	3	5			2	1								1
7	2-	02	DDMA 78 S	3401 00202 B DDMA 78S NMB FO	ESA/SCC 3401	ESA/SCC 3401/002-02	B		D Subminiature Rectangular High density Crimp Contact CableConnector	QPL ESA	CAN/F		2	3	5			2	1					1			
8	2-	03	HE 801 65 P/MC	3401 016 01 B 05 MC 343 00 343 KNB 065 55 10 110	ESA/SCC 3401	ESA/SCC 3401/016	B		HE 801 PCB Connector. Plug 2 rows equipped with 65 solder 90° male contacts	QPL ESA	HYP/G		6	18	24			14	4		1	1		1			
9	2-	03	HE 801 65 E/FD	3401 016 01 B 17 FD 36 00 36 KNB 065 44 30 121	ESA/SCC 3401	ESA/SCC 3401/016	B		HE 801 PCB Connector. Receptacle 2 rows equipped with 65 solder straight-through female contacts	QPL ESA	HYP/G		6	28	34			14	14	14						0	
10	2-	03	HE 801 96 P/MC	3401 016 01B 08 MC 33 00 33 KNB 096 55 10 110	ESA/SCC 3401	ESA/SCC 3401/016	B		HE 801 PCB Connector. Plug 2 rows equipped with 96 solder 90° male contacts	QPL ESA	HYP/G		4	6	10			4	2							1	1
11	2-	03	HE 801 96 E/FD	3401 016 01B 17 FD 36 00 36 KNB 096 44 30 121	ESA/SCC 3401	ESA/SCC 3401/016	B		HE 801 PCB Connector. Receptacle 2 rows equipped with 96 solder straight-through female contacts	QPL ESA	HYP/G		4	8	12			4	4							4	
12	2-	03	HE808 144 P/MC	3401 039 01B 144 55 10 110 KMC 144 55 10 110	ESA/SCC 3401	ESA/SCC 3401/039	B		HE 808 High Density PCB Connector. Plug 3 rows equipped with 144 solder 90° male contacts	QPL ESA	HYP/G		3	3	6			2	1					1			
13	2-	03	HE808 144 E/FD	3401 39 01B 144 44 30 121 KMC 144 44 30 121	ESA/SCC 3401	ESA/SCC 3401/039	B		HE 808 High Density PCB Connector. Receptacle 3 rows equipped with 144 solder straight-through female contacts	QPL ESA	HYP/G		3	4	7			2	2	2							
			<b>Contact</b>																								
34	2-	02	2026 Pin	PIN 3401-005-03B	ESA/SCC 3401	ESA/SCC 3401/005 03B	B		Male Contact crimp for D*MA connectors, AWG 26&28	QPL ESA	CAN/F		603	2156	2759			1502	654	50	100	74	0	0	30	0	0
35	2-	02	2026 socket	SOCK 3401-005-04B	ESA/SCC 3401	ESA/SCC 3401/005 04B	B		Female Contact crimp for D*MA connectors, AWG 26 & 28	QPL ESA	CAN/F		174	736	910			424	312	0	0	0	25	37	0	59	30
37	2-	02	2222 socket	SOCK 3401-005-08B	ESA/SCC 3401	ESA/SCC 3401/005 08B	B		Female Contact crimp for D*MA connectors, AWG 22, 24 & 26	QPL ESA	CAN/F		156	234	390			156	78	0	0	0	0	78	0	0	0
			<b>Screw-lock</b>																								
38	2-	02	Male DA, DE	3401 022 02B D20419-74	ESA/SCC 3401	ESA/SCC 3401/022 02B	B		male Screw-Lock for DA,DE (pin or socket) & DB,DC socket (without Back shell)	QPL ESA	CAN/F		24	82	106			48	34	0	0	0	2	2	4	6	4
39	2-	02	Male DB, DC	3401 022 03B D 20419-48	ESA/SCC 3401	ESA/SCC 3401/022 03B	B		male Screw-Lock for DB,DC pin (without Back shell)	QPL ESA	CAN/F		18	72	90			28	28	4	0	4	0	0	0	0	0
40	2-	02	Male DD	3401 022 04B D 20420-67	ESA/SCC 3401	ESA/SCC 3401/022 04B	B		male Screw-Lock for DD socket (without Back shell)	QPL ESA	CAN/F		8	12	20			8	4	0	0	0	0	2	0	0	2
41	2-	02	Male DD	3401 022 05B D 20420-49	ESA/SCC 3401	ESA/SCC 3401/022 05B	B		male Screw-Lock for DD pin (without Back shell)	QPL ESA	CAN/F		12	44	56			36	8	0	4	0	0	0	0	0	0
42	2-	02	female	3401 022 01B D 20418-52	ESA/SCC 3401	ESA/SCC 3401/022 01B	B		female Screw-Lock for all sizes pin and socket (front panel mount)	QPL ESA	CAN/F		62	210	272			120	74	4	4	4	2	4	4	6	6
43	2-	02	Screw-lock saver DMA	3401 022 06B D 20418-70	ESA/SCC 3401	ESA/SCC 3401/022 06B	B		Srew-lock for DMA savers	QPL ESA	CAN/F		62	210	272			132	78	4	4	4	2	4	4	6	6
			<b>Savers</b>																								
16	2-	02	DEBMA 9 PS	3401 020 01 B DEBMA 9 PS NMB FO	ESA/SCC 3401	ESA/SCC 3401/020	B		D*MA Saver 9 PS With contacts	QPL ESA	CAN/F		2	3	5			2	1	0	0	0	0	0	0	1	0
53	2-	02	DABMA 15 PS	3401 020 01 B DABMA 15 PS NMB FO	ESA/SCC 3401	ESA/SCC 3401/020	B		D*MA Saver 15 PS With contacts	QPL ESA	CAN/F		4	10	14			6	4	0	0	0	0	0	0	2	0
17	2-	02	DBBMA 25 PS FO	3401 020 01 B DBBMA 25 PS NMB FO	ESA/SCC 3401	ESA/SCC 3401/020	B		D*MA Saver 25 PS With contacts	QPL ESA	CAN/F		9	53	62			28	25	2	0	0	1	0	0	2	0
18	2-	02	DCBMA 37 PS FO	3401 020 01 B DCBMA 37 PS NMB FO	ESA/SCC 3401	ESA/SCC 3401/020	B		D*MA Saver 37 PS With contacts	QPL ESA	CAN/F		6	11	17			8	3	0	0	2	0	1	0	0	0
20	2-	02	DDBMA 50 PS FO	3401 020 01 B DDBMA 50 PS NMB FO	ESA/SCC 3401	ESA/SCC 3401/020	B		D*MA Saver 50 PS With contacts	QPL ESA	CAN/F		8	25	33			20	5	0	2	0	0	0	0	0	1
22	2-	02	DDBMA 78 PS FO	3401 020 02 B DDBMA 78 PS NMB FO	ESA/SCC 3401	ESA/SCC 3401/020	B		D*MA Saver 78 PS With contacts	QPL ESA	CAN/F		2	3	5			2	1	0	0	0	0	1	0	0	0
23	2-	03	HE801 65 saver	3401 016 01 B 17 FM 00 00 00 KNB065 44 91 923	ESA/SCC 3401	ESA/SCC 3401/016	B		HE801 Saver equipped with 65 female-male contacts	QPL ESA	FRB/F		12	46	58			28	18	14	1	1	0	1	0	0	0
24	2-	03	HE801 96 saver	3401 016 01 B 20 FM 00 00 00 KNB096 44 91 944	ESA/SCC 3401	ESA/SCC 3401/016	B		HE801 Saver equipped with 96 female-male contacts	QPL ESA	FRB/F		8	14	22			8	6	0	0	0	0	0	4	1	1
25	2-	03	HE808 144 saver	3401 039 01B 144 44 91 744 KMC 144 44 91 703	ESA/SCC 3401	ESA/SCC 3401/039	B		HE 808 High Density Saver equipped with 144 solder male/female contacts	QPL ESA	HYP/G		6	7	13			4	3	2	0	0	1	0	0	0	0
			<b>Crystals</b>																								
	3-	01	T1507 10 MHz	350100293B	ESA/SCC 3501	ESA/SCC 3501/002-93	B		Cristal units in metal holder based on type 1507	QPL ESA EPPL	CEPF	TO 1507	3	6	9			4	2							1	
			<b>Diodes</b>																								

Item N°	Family Code	Group Code	GENERIC NAME	FLT Part Type	FLT Generic Spec	FLT Detail Spec	Level	Rad	FLT Description	Status	Manuf	Pkg	Attr.	Needs CEA	Total Need	Self procure d	PAD's N°	EM parts	FS parts	Back Plane DCU	carte LIA-P	carte LIA-S	carte DAC-UF	carte BIAS	Back Plane SCU	CCHK-UF	Temp
4bis	4	02	1N5615US	JANS 1N5615 US	MIL-PRF-19500	MIL-PRF-19500/429	S		Silicon, Power Rectifier, Fast Recovery	EPPL	MSC/U	D-5A	10	48	58	y	0161-04	24	24	24							
1	4	01	1N4148	1N4148-1 DO-35	ESA/SCC 5101	ESA/SCC 5101/023-02B	B		Switching High Speed Silicon Diode	QPL ESA	MSC/U	DO35	28	258	286			156	102	48			4	41		9	
2	4	01	1N6642	JANS1N6642U	MIL-PRF 19500	MIL-PRF-19500/578	S		Switching Silicon Diode	QPL ESA	MSC/U	MELF	98,56	896	995			720	176		64	48					
<b>Inductors</b>																											
<b>MSCI series 20K</b>																											
1	7-	03	680µF 10%	320100804B-681K	ESCC 3201	ESCC 3201-008-04B	B		R/F inductors, fixed, miniature, moulded, SMD	EPPL	MSP/F	SMD C	20	126	146			84	42							10	32
<b>Integrated circuits monolithic</b>																											
<b>Amplifiers</b>																											
1	8-	50	OP 400 A	OP400 GBC (die)		according to ESA/SCC 9000			Quad Low-Offset, Low-Power Operational Amplifier		AND/U	FP14	95,37	867	962	y	0162-04	672	195		48	42		23		11	23
26	8-	50	OP15	OP15AL/QMLR	MIL-PRF-38535	5962R8954203VHA	V		OP AMP, JFET-INPUT, RAD-HARD	QML38535	AND/U	FP10	5	12	17			8	4				0				4
↑↑	33	8-	OP484A	OP484AM/QMLR	MIL-PRF-38535	5962R0051701VDA	V		Linear, QUAD, rail-to-rail, precision, OP AMP.	QML38535	AND/U	FP14	15	87	102			60	27		1	1	24	0			
	35	8-	OP27A	OP27AL/QMLR	MIL-PRF-38535	5962R9468002VHA	V		OP AMP, RAD HARD, PRECISION, LOW NOISE	QML38535	AND/U	FP10	5	12	17			8	4							4	
<b>Instrumentation Amplifier</b>																											
27	8-		AMP01	AMP01N/QMLV	MIL-PRF-38535	5962-8863003VKA	V		Instrumentation Amplifier, low noise, precision	QML38535	AND/U	FP24	3	3	6			2	1								1
<b>Mux</b>																											
3	8-	59	HS 303 RH	HS9-303RH-QS 9000	MIL-PRF-38535	5962R9581301VXC	V	0,1M	Analog Switch, Dual, SPDT, Radiation Hardened CMOS	EPPL QML 38535	HAR/U	FP14	31,57	287	319			222	65		16	12		11			10
4	8-	60	HS 508 BRH	HS9-508BRH-QS9000	MIL-PRF-38535	5962F9674202VXC	V	0,3M	single 8-Channel MUX, with Overvoltage Protection, Radiation Hardened DI CMOS	QML-38535	HAR/U	FP16	20	141	161			102	39		4	4	21	0		3	3
<b>HCMOS</b>																											
38	8-	80	54AC04	54AC04K	SMD-5962-87609	5962-8760901VXA	V		Advanced CMOS Hex Schmitt Trigger Inverters	EPPL ESA	STM	FP14	4	6	10			4	2				1			1	
36	8-	80	54AC14	54AC14K02V	SMD-5962-87624	5962-8762401VXA	V	300K	Advanced CMOS Hex Schmitt Trigger Inverters	EPPL ESA	STM/F or NS/U	FP14	3	3	6			2	1							1	
32	8-	80	54HC14K	54HC14	ESA/SCC 9409	ESA/SCC 9409/007-02BF	B		HCMOS Hex Schmitt Trigger Inverters	QPL ESA	STM/F	FP14	3	3	6			2	1					1		0	
21	8-	80	54 HC 164	54 HC 164 K	ESA/SCC 9306	ESA/SCC 9306/041-02BF	B	50k	HCMOS 8 bit sipo shift regiser	EPPL QML	STM/F	FP14	5	12	17			8	4							4	
37	8-	80	54HC165	54 HC 165K	ESA/SCC 9306	ESA/SCC 9306/042-02BF	B	50k	HCMOS 8-Bit PISO Shift Register with fully buffered outputs	QPL ESA	STM/F	FP16	4	8	12			4	4	4							
23	8-	80	54 HC 595	54 HC 595K	ESA/SCC 9306	ESA/SCC 9306/051-02BF	B	50k	HCMOS 8 bit shift regiser	QPL ESA	STM/F	FP16	6	18	24			12	6		0	0		6			
<b>Temp Sensor</b>																											
28	8-	69	AD590M	AD590MF/QMLV	MIL-PRF-38535	5962-8757 104VXA	V	tol to 50K	Microcircuit linear, radiation hardened, Temperature Transducer, Two Terminals, monolithic silicon	EPPL QML 38535	AND/U	FP2A	10	42	52			32	10		2	2	1	1		1	1
<b>Voltage Ref</b>																											
6	8-	53	REF-02A	REF02AL	MIL-PRF-38535	5962-8551401VHA	V		Volt Reference +5V adjustable output, precision	QML-38535	AND/U	FP10	10	45	55			34	11		2	2	1	2		1	1
<b>Regulator</b>																											
22a	8-	52	HS-117RH	HS9S-117RH-Q	MIL-PRF-35535	5962F9954701VXC	V	300K	Radiation Hardened Adjustable Positive Voltage Regulator	QML-35535	HAR/U	TO-257	5	12	17			8	4					1	2		1
34	8-	52	UC1834	UC1834J QML V	MIL-PRF-35535	5962-8774201VEA	V		Microcircuit linear, high efficiency linear regulator, monolithic silicon	QML-35535	TI/U	DIP16	10	48	58			24	24	24							
<b>RAM/SRAM</b>																											
31	8-	20	65656G	SMDP-65656GV-40SV	MIL-PRF-38535	QML-V	V		32K*8 Very Low Power CMOS SRAM Rad Tolerant (45nS)	QML 38535	MHS/F	FP28	3	3	6			2	1				1				
<b>ADC</b>																											
7b	8-	61	SEI 7809LPRP	7809LPRPFK FP-24		TL-DS-012	K	RE	A/D convertor, 16 bit serial, latch-protected	QML-38535	SEI	FP24	6	27	33			18	9					7		1	1
<b>DAC</b>																											
8c	8-	62	7545A	7545ARP		TL-DS-013	S	RE	CMOS 12-Bit Buffered Multiplying DAC	QML-38535	SEI/U	FP20	15	99	114			66	33					26		7	
<b>E/R diff</b>																											

Item N°	Family Code	Group Code	GENERIC NAME	FLT Part Type	FLT Generic Spec	FLT Detail Spec	Level	Rad	FLT Description	Status	Manuf	Pkg	Attr.	Needs CEA	Total Need	Self procure d	PAD's N°	EM parts	FS parts	Back Plane DCU	carte LIA-P	carte LIA-S	carte DAC-UF	carte BIAS	Back Plane SCU	CCHK-UF	Temp
9	8-	55	HS-26C31RH	HS9-26C31RH-QS9000	MIL-PRF-38535	5962F9666301VXC	V	100K	Quad EIA RS422, Radiation Hardened CMOS, Differential Driver, with 3-State Output	QML-38535	HAR/U	FP16	4	6	10			4	2				1		0	1	
10	8-	56	HS-26C32RH	HS9-26C32RH-QS9000	MIL-PRF-38535	5962F9568901VXC	V	100K	Quad EIA RS422, Radiation Hardened CMOS, Differential Receiver, with 3-State Output	EPPL QML-38535	HAR/U	FP16	4	6	10			4	2				1		0	1	
18	8-	55	UT54LVDS031	UT54LVDS031UCC	MIL-PRF-38535	5962R9583302VXC	V	1M	Quad CMOS Differential Line Driver, LVDS, Rad-Hard	QML-38535	UTMC/U	FP16	6	18	24			12	6				6				
19	8-	56	UT54LVDS032	UT54LVDS032 UCC	MIL-PRF-38535	5962R9583402VXC	V	300K	Quad CMOS Differential Line Receiver, LVDS	QML-38535	UTMC/U	FP16	15	66	81			52	14		4	4		2			
			<b>FPGA</b>																								
11c	8-	30	RT 54SX32S	RT54SX32S CQ208E	SA-0320-EYC	SMD 5962-01508 Mfr Amend +	rt 75-100k		32000 Gates, SX-A Family, FPGA, RadTolerant and Hirel	QML-38535	ACT/U	CQFP-208	4	12	16			10	2				1			1	
			<b>Resistors</b>																								
			<b>RLR07/2H4 1% 100ppm 1/4W 200V</b>																								
37	10-	8-	1R	400100601C1R00F4	ESA/SCC 4001	ESA/SCC 4001/006-01	C		High Reliability, Resistor, Fixed, Film, non hermetically sealed based on type RLR07	EPPL	SPER/F		25	72	97			54	18		3	3	3	4			2
49	10-	8-	10R	400100601C10R0F4	ESA/SCC 4001	ESA/SCC 4001/006-01	C		High Reliability, Resistor, Fixed, Film, non hermetically sealed based on type RLR07	EPPL	SPER/F		10	3	13			2	1								1
118	10-	8-	51,1K (tbd)	400100601C5112F4	ESA/SCC 4001	ESA/SCC 4001/006-01	C		High Reliability, Resistor, Fixed, Film, non hermetically sealed based on type RLR07	EPPL	SPER/F		20	48	68			32	16					16			
			<b>CHP HR 0505 1/8W 1% 50V +/-100 ppm</b>																								
3	10-	9-	100R	400101601C1000F4	ESA/SCC 4001	ESA/SCC 4001/016-01	C		High reliability, Resistor, Fixed, Chip (termination: gold/platinum with solder coating)	EPPL	SPER/F	505	437,4	2916	3353			2340	576		204	168					
4	10-	9-	1K	400101601C1001F4	ESA/SCC 4001	ESA/SCC 4001/016-01	C		High reliability, Resistor, Fixed, Chip (termination: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	505	86,1	574	660			456	118		34	50					
5	10-	9-	4K99	400101601C5001F4	ESA/SCC 4001	ESA/SCC 4001/016-01	C		High reliability, Resistor, Fixed, Chip (termination: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	505	67,2	448	515			360	88		32	24					
6	10-	9-	10K	400101601C1002F4	ESA/SCC 4001	ESA/SCC 4001/016-01	C		High reliability, Resistor, Fixed, Chip (termination: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	505	52,8	352	405			288	64		32	0					
8	10-	9-	30K1	400101601C3012F4	ESA/SCC 4001	ESA/SCC 4001/016-01	C		High reliability, Resistor, Fixed, Chip (termination: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	505	134,4	896	1030			720	176		64	48					
9	10-	9-	100K	400101601C1003F4	ESA/SCC 4001	ESA/SCC 4001/016-01	C		High reliability, Resistor, Fixed, Chip (termination: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	505	201,6	1344	1546			1080	264		96	72					
10	10-	9-	1Mo	400101601C1004F4	ESA/SCC 4001	ESA/SCC 4001/016-01	C		High reliability, Resistor, Fixed, Chip (termination: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	505	134,4	896	1030			720	176		64	48					
			<b>CHP CMS 0805 1/5W 1% 75V +/-200 ppm (1-10R)</b>																								
50	10-	9-	1R	400101801C1R00F6	ESA/SCC 4001	ESA/SCC 4001/018-03	C		Resistor, Fixed, Chip (termination: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	805	10	15	25			10	5							5	
11	10-	9-	10R	400101801C10R0F6	ESA/SCC 4001	ESA/SCC 4001/018-03	C		Resistor, Fixed, Chip (termination: R: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	805	25	135	160			90	45				0	41		4	0
			<b>CHP CMS 0805 1/5W 1% 75V +/-100 ppm</b>																								
51	10-	9-	22R1	400101801C22R1F4	ESA/SCC 4001	ESA/SCC 4001/018-01	C		Resistor, Fixed, Chip (termination: R: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	805	25	96	121			56	40	24				8		8	
52	10-	9-	47R5	400101801C47R5F4	ESA/SCC 4001	ESA/SCC 4001/018-01	C		Resistor, Fixed, Chip (termination: R: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	805	53,1	354	407			236	118							44	74
53	10-	9-	1M	400101801C1004F4	ESA/SCC 4001	ESA/SCC 4001/018-01	C		Resistor, Fixed, Chip (termination: R: gold/platinum with solder coating)	EPPL QPL ESA	SPER/F	805	15	24	39			16	8				2			5	1
			<b>Chip CMS 0603 type P 0,02% ou 0,05% (100-250R) +/-10 ppm 1/10W</b>																								
55	10-	9-	115R	400102301C1150P1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SPER/F	603	52,8	352	405			288	64		32						
114	10-	9-	150R	400102301C1500P1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SPER/F	603	20	45	65			30	15				15				
			<b>Chip CMS 0603 type P 0,01% +/-10 ppm 1/10W</b>																								
48	10-	9-	267R	400102301C2670L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	25	96	121			72	24				24				
119	10-	9-	316R	400102301C3160L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	10	6	16			3	3				3				
25	10-	9-	1K	400102301C1001L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SPER/F	603	20	60	80			48	12		4	4					
22	10-	9-	4K	400102301C4001L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	25	96	121			72	24				24				
38	10-	9-	9K76	400102301C9761L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	25	96	121			72	24				24				
26	10-	9-	10K	400102301C1002L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	317	1822	2139			1464	358		130	98		0			
39	10-	9-	13K3	400102301C1332L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	52,8	352	405			288	64		32						
27	10-	9-	15K	400102301C1502L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	364,8	2432	2797			1944	488		160	168					
40	10-	9-	17K4	400102301C1742L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	35	192	227			144	48				48				
41	10-	9-	18K2	400102301C1822L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	35	192	227			144	48				48	0			
42	10-	9-	27K4	400102301C2742L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	25	96	121			72	24		0	24					
120	10-	9-	47K	400102301C4702L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SPER/F	603	15	21	36	Y	0204-05	14	7				7				

Item N°	Family Code	Group Code	GENERIC NAME	FLT Part Type	FLT Generic Spec	FLT Detail Spec	Level	Rad	FLT Description	Status	Manuf	Pkg	Attr.	Needs CEA	Total Need	Self procure d	PAD's N°	FM parts	FS parts	Back Plane DCU	carte LIA-P	carte LIA-S	carte DAC-IF	carte BIAS	Back Plane SCU	CCHK-IF	Temp	
31	10-	9-	51,1K	400102301C5112L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SFER/F	603	39,6	264	304			176	88	0	0		88					
44	10-	9-	90K9	400102301C9092L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SFER/F	603	105,6	704	810			576	128	64								
46	10-	9-	97K6	400102301C9762L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SFER/F	603	52,8	352	405			288	64	32								
116	10-	9-	100K	400102301C1003L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SFER/F	603	25	96	121			72	24		24							
47	10-	9-	102K	400102301C1023L1	ESA/SCC 4001	ESA/SCC 4001/023-01	C		Resistors, Fixed, Chips, thin film, high precision wraparound (Lead material is E4: Hot solder dip)	EPPL	SFER/F	603	105,6	704	810			576	128	64								
			<b>Chip 0805 type PHR 0,05% +/-10 ppm 1/8W</b>																									
57	10-	9-	100R	400102302C1000W1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	101,55	677	779			442	235	28			95	104		7	1	
			<b>Chip 0805 type PHR 0,02 (or 0,05%) +/-10 ppm 1/8W</b>																									
58	10-	9-	147R	400102302C1470P1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	9	19			6	3								3	
59	10-	9-	200R	400102302C2000P1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	25	75	100			50	25				7	0		1	17	
60	10-	9-	237R	400102302C2370P1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	6	16			4	2							2		
61	10-	9-	249R	400102302C2490P1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	3	13			2	1							1		
			<b>Chip 0805 type PHR 0,01 (0,02 or 0,05)% +/-10 ppm 1/8W</b>																									
96	10-	9-	330R	400102302C3300L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	20	30	50			16	14	12							2	
62	10-	9-	348R	400102302C3480L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	6	16			4	2							2		
63	10-	9-	511R	400102302C5110L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	15	19	34	25	0203-05	12	7	2			2			3		
64	10-	9-	562R	400102302C5620L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	9	19			6	3							3		
65	10-	9-	620R	400102302C6200L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	6	16			4	2							2		
66	10-	9-	1K	400102302C1001L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	61,65	411	473			274	137				110	4		23	0	
97	10-	9-	1K62	400102302C1621L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	20	48	68			24	24	24								
67	10-	9-	1K69	400102302C1691L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	3	13			2	1							1		
98	10-	9-	1K8	400102302C1801L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	15	24	39			12	12	12								
68	10-	9-	2K	400102302C2001L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	35	186	221			120	66	12			50			4		
69	10-	9-	2K05	400102302C2051L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	9	19			6	3							3		
121	10-	9-	2K21	400102302C2211L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	3	13			2	1							1		
70	10-	9-	2K67	400102302C2671L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	15	24	39			12	12	12						0		
103	10-	9-	2K7	400102302C2701L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	15	24	39	Y	0203-05	12	12	12								
71	10-	9-	3K01	400102302C3011L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	9	19			6	3							3		
73	10-	9-	3K32	400102302C3321L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	15	24	39			16	8				4			4		
99	10-	9-	3K9	400102302C3901L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	15	24	39			12	12	12								
75	10-	9-	4K	400102302C4001L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	15	18	33			12	6					6				
100	10-	9-	4K7	400102302C3901L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	15	24	39			12	12	12								
75	10-	9-	4K75	400102302C4751L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	6	16			4	2							2		
76	10-	9-	4K99	400102302C4991L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	15	25			10	5				1	2		2		
122	10-	9-	6K04	400102302C6041LB	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	9	19	Y	0203-05	6	3							3		
101	10-	9-	5K67	400102302C3901L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	15	24	39			12	12	12								
103	10-	9-	8K1	400102302C8101L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	15	24	39			12	12	12								
77	10-	9-	8K25	400102302C8251L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	12	22			8	4							4		
123	10-	9-	8K45	400102302C8451LB	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	6	16	Y	0203-05	4	2					2				
78	10-	9-	10K	400102302C1002L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	127,35	849	976			562	287	12			41	43		51	140	

Item N°	Family Code	Group Code	GENERIC	NAME	FLT Part Type	FLT Generic Spec	FLT Detail Spec	Level	Rad	FLT Description	Status	Manuf	Pkg	Attr.	Needs CEA	Total Need	Self procure d	PAD's N°	EM parts	FS parts	Back Plane DCU	carte LIA-P	carte LIA-S	carte DAC-UF	carte BIAS	Back Plane SCU	CCHK-UF	Temp				
93	10-	9-		12K	400102302C1202L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	18	28			12	6				6								
96	10-	9-		12K7	400102302C1272L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	3	13			2	1					1							
104	10-	9-		13K3	400102302C1332L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	3	13			2	1								1				
105	10-	9-		19K1	400102302C1912L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	3	13			2	1								1				
81	10-	9-		20K	400102302C2002L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	25	114	139			76	38				9	4		14	11				
102	10-	9-		22K	400102302C2202L1/LB	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	25	72	97			36	36	36											
82	10-	9-		24K9	400102302C2492F4	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	20	45	65			30	15							15					
106	10-	9-		28K7	400102302C2872F4	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	12	22			8	4							4					
107	10-	9-		32K4	400102302C3242L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	9	19			6	3								3				
↓	83	10-	9-	33,2K	400102302C3322L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	35	234	269			156	78				7	0		70	1				
↑	124	10-	9-	36K5	400102302C3652LB	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	9	19	Y	0203-05	6	3							1	2				
	84	10-	9-	40K2	400102302C4022L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	15	18	33			12	6							6					
↓	85	10-	9-	44K2	400102302C4422L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	6	16			4	2								2				
	108	10-	9-	51K1	400102302C5112LB	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	20	48	68	Y	0203-05	32	16					16							
	109	10-	9-	54K9	400102302C5492L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	6	16			4	2								2				
	111	10-	9-	82K5	400102302C8252L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	6	16			4	2								2				
	86	10-	9-	100K	400102302C1003L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	35	234	269	25	0203-05	156	78				4	42		8	24				
	112	10-	9-	130K	400102302C1303LB	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL	SFER/F	805	10	9	19			6	3								3				
	111	10-	9-	154K	400102302C1543L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	6	16			4	2							2					
	87	10-	9-	205K	400102302C2053L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	6	16			4	2							2					
	113	10-	9-	220K	400102302C2203L1	ESA/SCC 4001	ESA/SCC 4001/023-02	C		Resistors, Fixed, Chips, thin film, high precision wraparound	EPPL QPL ESA	SFER/F	805	10	3	13	Y	0203-05	2	1							1					
<b>MS1 (1405) 1% 50ppm 1/4W (2,2R to 5,11MR)</b>																																
	90	10-	9-24	5,11M	400102201C5114F3	ESA/SCC 4001	ESA/SCC 4001/022-01	C		Resistors, Fixed, Surface Mount Film, Non-Hermetically Sealed, Based on Type MS1	ESA QPL	VISHU/G	Melf 1405	10	6	16			4	2								2				
<b>Transistors</b>																																
	1	12-		MAT02	MAT02-903H		ADS0011413	S	RT 200K	Low Noise, Matched Dual Monolithic Transistor		AND/U	TO78	49,28	448	497			360	88		32	24									
	2	12-	02	2N2907A	2N2907A AHR 520200102B	ESA/SCC 5202	ESA/SCC 5202/001-02	B		Transistors, Low power, PNP	QPL ESA EPPL	STM/F	TO18	10	57	67			30	27	24			1	0		2					
	4	12-	01	2N2222A	2N2222A	ESA/SCC 5201	ESA/SCC 5201/002-02	B		Transistors, low power, NPN, switching	QPL ESA EPPL	STM/F	TO18	8	39	47			22	17	12			2	0		3					
	5	12-	02	2N2905	2N2905AHR 520200202B	ESA/SCC 5202	ESA/SCC 5202/002	B		Transistors, Low power, PNP	QPL ESA EPPL	STM/F	TO39	8	27	35			14	13	12						1					
	6	12-	01	2N2219A	2N2219A	ESA/SCC 5201	ESA/SCC 5201/003-02	B		Transistors, Low power, NPN	QPL ESA EPPL	STM/F	TO39	3	3	6			2	1							1					
	7	12-	03	BUX77	BUX 77 ESY 520301607B	ESA/SCC 5203	ESA/SCC 5203/016	B		Transistors, High power, NPN	QPL ESA EPPL	STM/F	TO257H	3	3	6			2	1							1					
	8	12-	04	BUX78	BUX78 ESY 520400607B	ESA/SCC 5204	ESA/SCC 5204/006	B		Transistors, High power, PNP	QPL ESA EPPL	STM/F	TO257H	3	3	6			2	1							1					
<b>Wires and Cables</b>																																
<b>Monoconducteur</b>																																
	13-	01		BTV AWG 26	BTV 1/26/AQ 3901 013 02B3	ESA/SCC 3901	ESA/SCC 3901/013			Wires and cables, Low frequency, PFTE/Polyimide insulation	QPL ESA	NEX/F			385,5	386			274,5	111	10	10,5	16	5	25		6	12	16			