DOCUMENT CHANGE REQUEST

DCR number 651	Changes required for: General	Originator: S Jeffery
Date: 2011/11/10	Date sent: 2011/02/23	Organisation: ESA/ESTEC
Status: IMPLEMENTED		

Title:	Connectors Electrical Rectangular Non-Removable Solder Bucket PCB and Wire-Wrap Contacts		
Number:	3401/001	Issue:	5

Other documents affected:

Page:

Paras. 1.1, 2, 4.4.5; Table 1(a) [Pages 6, 9 and 41]

Paragraph:

Paras. 1.1, 2, 4.4.5; Table 1(a) [Pages 6, 9 and 41]

Original wording:

Proposed wording:

See attached.

Justification:

Reference to the related Detail Specification No. 3401/072 is required.

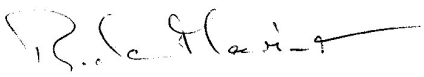
Attachments:

3401001_Issue_6_Draft_A.pdf, null

Modifications:

N/A

Approval signature:



Date signed:

2011-11-10

ESCC Detail Specification No. 3401/072, Lightweight Accessories for Rectangular Connectors 3401/001 and 3401/002.

1. GENERAL

1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for Connectors, Electrical, Rectangular, Non-removable Solder Bucket, PCB and Wire-wrap Contacts and removable Coaxial and Power Contacts, based on type D*M. It shall be read in conjunction with:

ESCC Generic Specification No. 3401, Connectors, Electrical, Non-Filtered, Circular and Rectangular.

ESCC Detail Specification No. 3401/004, Contacts, Coaxial, Crimp-Type, Solder-Type and PCB-Type for 3401/001 Connectors and Male/Female-Type for 3401/080 Connector Savers.

ESCC Detail Specification No. 3401/022, Accessories for Rectangular Connectors 3401/001, 3401/002 and Connector Savers 3401/020 and 3401/080.

ESCC Detail Specification No. 3401/040, Contacts, Power, Crimp-Type, Solder-Type and PCB-Type for 3401/001 Connectors and Male/Female-Type for 3401/080 Connector Savers.

the requirements of which are supplemented herein.

1.2 RANGE OF COMPONENTS AND COMPONENT TYPE VARIANTS

The different sizes of the connectors and contact types specified herein, which are also covered by this specification, together with their mechanical characteristics, are given in Table 1(a).

1.3 MAXIMUM RATINGS

The maximum ratings, which shall not be exceeded at any time during use or storage, applicable to the connectors specified herein, are given in Table 1(b).

1.4 PARAMETER DERATING INFORMATION

The applicable derating information for the connectors specified herein is shown in Figure 1.

1.5 PHYSICAL DIMENSIONS

The physical dimensions of the connectors specified herein and the available contact arrangements are shown in Figure 2.

2. APPLICABLE DOCUMENTS

The following documents form part of this specification and shall be read in conjunction with it:

(a) ESCC Generic Specification No. 3401 for Connectors, Electrical, Non-Filtered, Circular and Rectangular.
(b) ESCC Detail Specification No. 3401/004, Contacts, Coaxial, Crimp-Type, Solder-Type and PCB-Type for 3401/001 Connectors and Male/Female-Type for 3401/080 Connector Savers.
(c) ESCC Detail Specification No. 3401/022, Accessories for Rectangular Connectors, 3401/001, 3401/002 and Connector Savers 3401/020 and 3401/080.
(d) ESCC Detail Specification 3401/040, Contacts, Power, Crimp-Type, Solder-Type and PCB-Type for 3401/001 Connectors and Male/Female-Type for 3401/080 Connector Savers.
(f) ~~(e)~~ MIL-DTL-24308, Rack and Panel Connectors, Miniature.
(g) ~~(f)~~ NASA/GSFC Specification S-311-P-10, Connectors, Electrical, Rectangular, Miniature, Polarised

(e) ESCC Detail Specification No. 3401/072, Lightweight Accessories for Rectangular Connectors 3401/001 and 3401/002.

Contact Codes		Contact Types (4)	Maximum Weight of Contacts (g)			
			Variant 01		Variant 02	
Tail 0.60	Tail 0.76		Male	Female	Male	Female
			-	-	0.18 (12)	0.23 (12)
			-	-	0.2 (13)	0.25 (13)
1D7N	-	Gauge 22 90° PCB solder contact equipped with 90° bracket and screwlocks 4-40 (2.08mm row spacing shell sizes D and F)(17)	-	-	0.16 (11)	0.21 (11)
			-	-	0.18 (12)	0.23 (12)
			-	-	0.2 (13)	0.25 (13)
			-	-	0.22 (14)	0.27 (14)
			-	-	0.24 (15)	0.29 (15)
1D9N	-	Gauge 22 90° PCB solder contact equipped with 90° bracket and screwlocks M3 (2.08mm row spacing shell sizes D and F) (17)	-	-	0.16 (11)	0.21 (11)
			-	-	0.18 (12)	0.23 (12)
			-	-	0.2 (13)	0.25 (13)
			-	-	0.22 (14)	0.27 (14)
			-	-	0.24 (15)	0.29 (15)
F179A		Gauge 20 wire-wrap contact for wire sizes AWG 26 to 30	0.28	0.34	-	-
-		Power and Coaxial contacts (18)	(19)	(19)	-	-

NOTES:

1. See Figure 2(b)
2. Weights without contacts or accessories
3. Total maximum weight may be calculated from:
   - connector weight.
   - contact weight for all contacts including brackets and nuts (as applicable) (see Table 1(a) Contact Types and/or the relevant Detail Specification).
   - Accessories weight given in ESCC Detail Specification No. 3401/022 (if applicable).

   S A

   and 3401/072
4. See Figure 2(c)
5. Weight of contact for the external rows (all sizes).
6. Weight of contact for the middle rows except for the middle row of size F.
7. For size F only, weight of contact in the middle row.
8. Weight of contact in row nearest the connector mounting plane (Ref. Plane)
9. Weight of contact in row farthest from connector mounting plane (Ref. Plane), except for size D,

4.4.1 Shells

Shells of shell sizes E, A, B, C and D shall be made of brass. The plating shall be 0.7μm minimum of gold over 1μm minimum of copper.

Shells of shell size F shall be made of aluminium alloy. The plating shall be either 25.4μm minimum of electroless nickel (Modification Code A174) or 0.7μm minimum of gold with 25.4μm minimum electroless nickel underplating (Modification Code FR172).

4.4.2 Inserts

Inserts shall be made of glass-fibre filled diallylphthalate resin or a suitable thermoplastic material.

4.4.3 Contacts

The contact body shall be made of copper alloy with an underplate of 1μm minimum of copper, gold plated with 1.27μm minimum of gold.

The female contact spring element shall be made of copper alloy with an underplate of 1μm minimum of nickel or copper, gold plated with 1.27μm minimum of gold.

4.4.4 Contact Retaining Clip

Not applicable to gauge 20 and 22 contacts.

See ESCC Detail Specification Nos. 3401/004 and 3401/040 for coaxial and power contacts.

4.4.5 Guiding and Locking Devices

As specified in ESCC Detail Specification No. 3401/022 and 3401/072.

4.4.6 Magnetism Level

The allowable value of magnetism shall not exceed that specified for the relevant level (see Para. 4.5.4.7). Only magnetism levels NMC and NMD are verified.

4.5 MARKING

4.5.1 General

The marking of all components delivered to this specification shall be in accordance with the requirements of ESCC Basic Specification No. 21700 and the following paragraphs. When the component is too small to accommodate all of the marking specified, as much as space permits shall be marked and the marking information, in full, shall accompany the component in its primacy package.

The information to be marked and the order of precedence, shall be as follows:

(a) Contact Position.
(b) The ESCC Component Number.
(c) Characteristics.
(d) Traceability information.

4.5.2 Contact Position

Contact position shall be marked on the inserts in accordance with Figure 2(b)