CONNECTORS, RF, COAXIAL, BLIND-MATE

SLIDE-ON

TYPE SMP, 50 OHMS (FEMALE CONTACT)

ESCC Detail Specification No. 3402/025

Issue 3	October 2019

Document Custodian: European Space Agency – see https://escies.org

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DCR No.	CHANGE DESCRIPTION
1290	Specification upissued to incorporate changes per DCR.

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1 GENERAL

1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for Connectors, RF, Coaxial, Blind-Mate Slide-On, Type SMP, 50 Ohms (Female Contact). It shall be read in conjunction with ESCC Generic Specification No. 3402, the requirements of which are supplemented herein.

1.2 COMPONENT TYPE VARIANTS AND RANGE OF COMPONENTS

A list of the connector type variants specified herein, which are covered by this specification, are scheduled in Table 1(a). The various physical, electrical, mechanical and other pertinent characteristics applicable to each type variant are given in Figure 2(b) at the end of this specification.

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 scheduled in Table 1(b).

1.4 PARAMETER DERATING INFORMATION

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

1.5 PHYSICAL DIMENSIONS

The physical dimensions of the connectors specified herein are shown in Figures 2(a) and 2(b).

2 APPLICABLE DOCUMENTS

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

(a) ESCC Generic Specification No. 3402, Connectors, RF, Coaxial.

3 TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESCC Basic specification No. 21300 shall apply.

TABLE 1(a) – COMPONENT TYPE VARIANTS AND RANGE OF COMPONENTS

Variant Number	Description	Frequency Range	Weight Max (g)
01	SMP Straight Plug, Solder Type, for Semi-rigid Cable ∅1.19mm	DC to 40GHz	0.3
02	SMP Straight Plug, Solder Type, for Semi-rigid Cable ∅2.16mm	DC to 40GHz	0.22
03	SMP Straight Plug, Solder Type, for Semi-rigid Cable ∅3.58mm	DC to 26.5GHz	0.25
04	SMP Straight Plug, Crimp Type	DC to 12GHz	1
05	SMP Straight Plug, Crimp Type	DC to 12GHz	1.1
06	SMP Straight Plug, Crimp Type	DC to 4GHz	1.2
07	SMP Straight Plug, Crimp Type	DC to 4GHz	1.1
08	SMP Right Angle Plug, Solder Type, for Semi-rigid Cable ∅1.19mm	DC to 26.5GHz	0.3
09	SMP Right Angle Plug, Solder Type, for Semi-rigid Cable ∅2.18mm	DC to 26.5GHz	0.5
10	SMP Right Angle Plug, Solder-crimp Type	DC to 4GHz	1.1
11	SMP Right Angle Plug, Solder-crimp Type	DC to 12GHz	0.9
12	SMP Right Angle Plug, Solder-crimp Type	DC to 12GHz	0.9
13	SMP Right Angle Plug, Solder-crimp Type	DC to 4GHz	0.9
14	SMP Panel Receptacle	DC to 33GHz	0.58

TABLE 1(a) (CONTINUED) – ELECTRICAL CHARACTERISTICS

Variant Number	Return Loss (dB)	Insertion Loss max (dB)	RF Leakage at 3GHz (dB)	Voltage Proof		Corona Level max (Vrms)	Contact Resistance		Insulation Resistance min (MΩ)
				Voltage (Vrms)	Leakage Current max (mA)		Centre Contact max (mΩ)	Shell max (mΩ)	
01	DC to 10GHz: ≥ 26 10 to 30GHz: ≥ 18 30 to 40GHz: ≥ 15	0.05√f(GHz)	-80	500	2	190	6	2	5000
02	DC to 20GHz: ≥ 31 20 to 30GHz: ≥ 24 30 to 40GHz: ≥ 15	0.05√f(GHz)	-80	500	2	190	6	2	5000
03	DC to 4GHz: ≥ 32 4 to 8GHz: ≥ 30 8 to 18GHz: ≥ 20 18 to 26.5GHz: ≥ 13	0.05√f(GHz)	-80	500	2	190	6	2	5000
04	DC to 12GHz: ≥ 20	0.05√f(GHz)	-80	500	2	190	6	2	5000
05	DC to 12GHz: ≥ 20	0.05√f(GHz)	-80	500	2	190	6	2	5000
06	DC to 1GHz: ≥ 20 1 to 2GHz: ≥ 15 2 to 4GHz: ≥ 10	0.05√f(GHz)	-80	500	2	190	6	2	5000
07	DC to 1GHz: ≥ 20 1 to 2GHz: ≥ 15 2 to 4GHz: ≥ 10	0.05√f(GHz)	-80	500	2	190	6	2	5000
08	DC to 12GHz: ≥ 30 12 to 18GHz: ≥ 20 18 to 26.5GHz: ≥ 18	0.05√f(GHz)	-80	500	2	190	6	2	5000
09	DC to 12GHz: ≥ 30 12 to 18GHz: ≥ 20 18 to 26.5GHz: ≥ 18	0.05√f(GHz)	-80	500	2	190	6	2	5000
10	DC to 2GHz: ≥ 24 2 to 4GHz: ≥ 19	0.05√f(GHz)	-80	500	2	190	6	2	5000
11	DC to 8GHz: ≥ 22 8 to 12GHz: ≥ 20	0.05√f(GHz)	-80	500	2	190	6	2	5000
12	DC to 8GHz: ≥ 22 8 to 12GHz: ≥ 20	0.05√f(GHz)	-80	500	2	190	6	2	5000
13	DC to 2GHz: ≥ 18 2 to 4GHz: ≥ 13	0.05√f(GHz)	-80	500	2	190	6	2	5000
14	DC to 6GHz: ≥ 26 6 to 33GHz: ≥ 15	0.05√f(GHz)	-80	500	2	N/A	6	2	5000

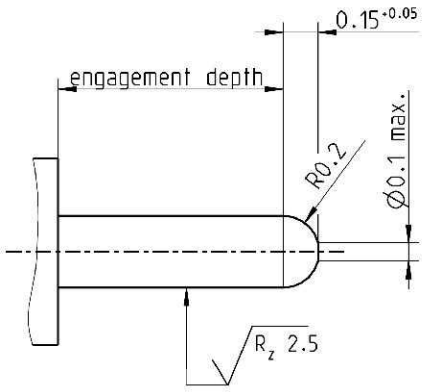
TABLE 1(a) (CONTINUED) – MECHANICAL CHARACTERISTICS

Variant Number	Contact Engagement and Separation Forces	Centre Contact Retention Force (axial) min (N)	Cable Retention Force min (N)	Cable Retention Torque min (Ncm)	Cables Used	Mating Force max (N)	Unmating Force min (N)
01	Note 1	N/A	89	N/A	UT 47 and similar	Note 2	
02	Note 1	N/A	200	11.5	UT 85-M17 RG 405/U	Note 2	
03	Note 1	N/A	500	33.6	UT 141-HA-M17 RG 402/U	Note 2	
04	Note 1	N/A	90	Note 3	RG 316/U RG 174 A/U RG 188 A/U	Note 2	
05	Note 1	N/A	89	N/A	RG 316/U-d K02252d	Note 2	
06	Note 1	N/A	90	Note 3	RG 196 A/U RG 178 B/U	Note 2	
07	Note 1	N/A	90	Note 3	RG 178 B/U-d and similar	Note 2	
08	Note 1	7	89	N/A	UT 047 and similar	Note 2	
09	Note 1	7	200	11.5	UT 086 and similar	Note 2	
10	Note 1	7	90	Note 3	RG 196 A/U RG 178 B/U	Note 2	
11	Note 1	7	90	Note 3	RG 316/U RG 174 A/U RG 188 A/U	Note 2	
12	Note 1	7	90	Note 3	RG 316/U-d K02252d	Note 2	
13	Note 1	7	90	Note 3	RG 178 B/U-d and similar	Note 2	
14	Note 1	10	N/A	N/A	N/A	Note 2	

NOTES:

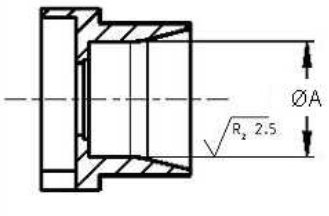
1. Test pins and test conditions are as follows:
   (a) Maximum Diameter Test Pin
   - Pin diameter: 0.408/0.412mm
   - Engagement depth: 1.2/1.3mm
   - Engagement force: 6N maximum

   (b) Minimum Diameter Test Pin
   - Pin diameter: 0.348/0.352mm
   - Separation depth: 1.2/1.3mm
   - Separation force: 0.1N minimum

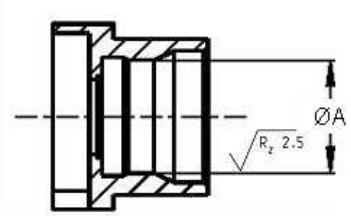


2. Applicable gauges:

Smooth Bore and Catcher's Mit



Limited Detent and Full Detent



	∅A of gauge (verifies ∅B of Female Interface)			
	Insertion -		Retention -	
	∅ (mm)	Force (N)	∅ (mm)	Force (N)
Smooth Bore or Catcher's Mit	3.124	≤ 9	3.225	≥ 2.2
Limited Detent	2.995	≤ 45	3.095	≥ 9
Full Detent	2.87	≤ 68	2.97	≥ 22

N.B.: The tolerance on all specified diameters (insertion and retention) is +0.005mm, -0mm.

3. 2 × 180°, point of application: 50× cable diameter.

TABLE 1(a) (CONTINUED) – OTHER CHARACTERISTICS

Variant Number	Residual Magnetism max (Gamma)	Hermeticity max (atm.cm³/s)	Leakage Applicability	Soldering Proof Applicability
01	20	N/A	N/A	Applicable
02	20	N/A	N/A	Applicable
03	20	N/A	N/A	Applicable
04	20	N/A	N/A	N/A
05	20	N/A	N/A	N/A
06	20	N/A	N/A	N/A
07	20	N/A	N/A	N/A
08	20	N/A	N/A	Applicable
09	20	N/A	N/A	Applicable
10	20	N/A	N/A	Applicable
11	20	N/A	N/A	Applicable
12	20	N/A	N/A	Applicable
13	20	N/A	N/A	Applicable
14	20	N/A	N/A	N/A

TABLE 1(b) – MAXIMUM RATINGS

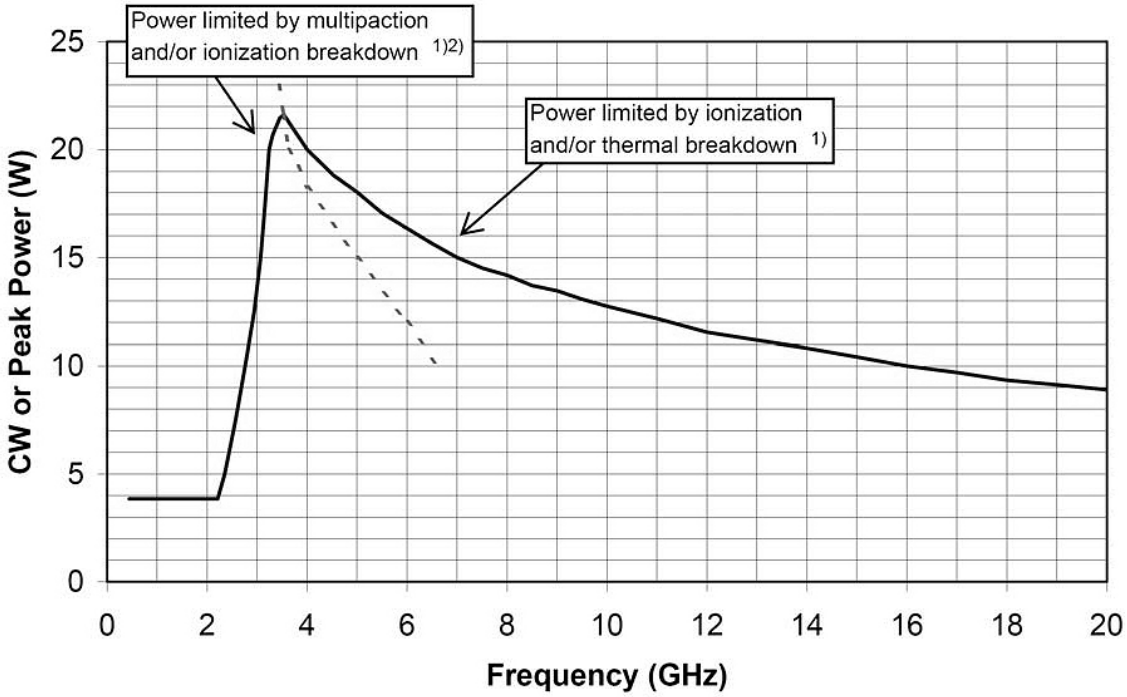
No.	Characteristics	Symbols	Maximum Ratings	Units	Remarks
1	Power	P	21.5	W	See Note 1
2	DC Power	P_{DC}	1000	W	$T_{amb} \leq +25°C$ See Figure 1(b)
3	Impedance	Z	50	Ω	Nominal
4	Frequency Range	f	See Figure 2(b)	GHz	-
5	Operating Voltage	V_{op}	335	Vrms	-
6	Operating Temperature Range	T_{op}	-65 to +155	°C	T_{amb}
7	Storage Temperature Range	T_{stg}	-65 to +155	°C	-

NOTES:

1. Maximum Power (CW or peak) varies with frequency and it is limited by multipaction, ionization breakdown and thermal breakdown as shown in Figure 1(a). The maximum operating frequency is given in Figure 2(b).

FIGURE 1 – PARAMETER DERATING INFORMATION

Figure 1(a) – Maximum Power Handling in Space Vacuum, +25°C



NOTES:

1. Load VSWR is better than 1.30:1.
2. The part of the curve limited by multipaction takes into account a 6dB margin as recommended by ESA.

Figure 1(b) – Maximum DC Power versus Temperature

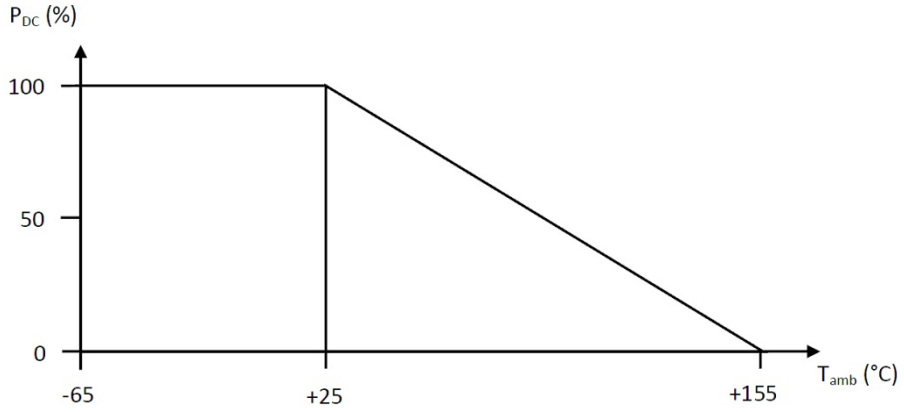
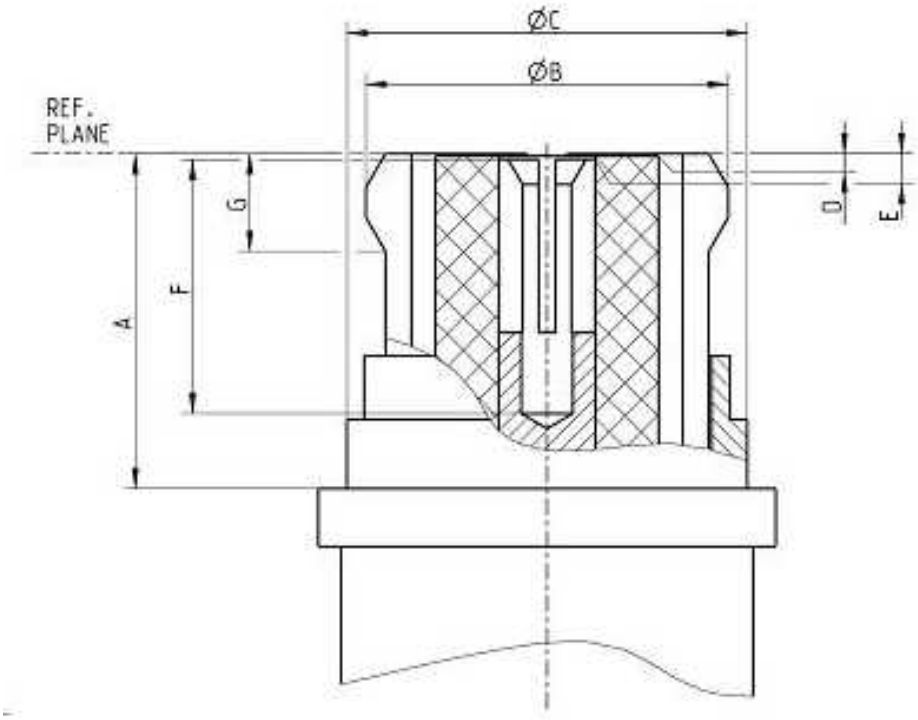


FIGURE 2 – PHYSICAL DIMENSIONS

FIGURE 2(a) – INTERFACE DIMENSIONS



Detail of Centre Contact:

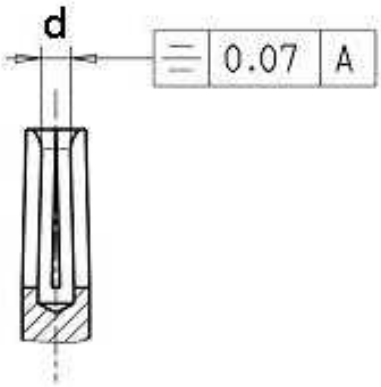


FIGURE 2(a) – INTERFACE DIMENSIONS (CONTINUED)

Symbols	Dimensions (mm)		Remarks
	Min	Max	
A	2.84	-	
∅B	Note 1		Not measured
∅C	3.47	3.51	
D	0	-	
E	0	0.2	
F	1.78	-	
G	0.46	0.64	Note 2
d	Note 3		

NOTES:
1. To meet the requirements of the Mating and Unmating Forces test defined in Table 1(a) herein, ∅B must be approximately equal to, but not exceed, 3.43mm.
2. For Semi-rigid Cable connectors: 0.63mm min, 0.89mm max.
3. Dimension d shall be as applicable to meet the requirements of the Contact Engagement and Separation Forces test defined in Para. 4.3.8.

4 REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the components specified herein shall be as stated in this specification and ESCC Generic Specification No. 3402. Deviations from the Generic Specification, applicable to this specification only, are detailed in Para. 4.2.

Deviations from the Generic Specification and this Detail Specification, formally agreed with specific Manufacturers on the basis that the alternative requirements are equivalent to the ESCC requirements and do not affect the components' reliability, are listed in the appendices attached to this specification.

4.2 DEVIATIONS FROM GENERIC SPECIFICATION

4.2.1 Deviations from Special In-Process Controls

(a) Para. 5.2.6, Solderability: Not applicable to Variants 04, 05, 06, 07, 14.

4.2.2 Deviations from Final Production Tests (Chart II)

(a) Para. 9.4, Coupling Proof Torque: Not applicable.
(b) Para. 9.6, Centre Contact Retention: Torque test is not applicable.
(c) Para. 9.7, Seal Test: Not applicable.

4.2.3 Deviations from Burn-in and Electrical Measurements (Chart III)

Chart III is not applicable.

4.2.4 Deviations from Qualification Tests (Chart IV)

(a) Para. 9.4, Coupling Proof Torque: Not applicable.
(b) Para. 9.7, Seal Test: Not applicable.

4.2.5 Deviations from Lot Acceptance Tests (Chart V)

(a) Para. 9.4, Coupling Proof Torque: Not applicable.
(b) Para. 9.7, Seal Test: Not applicable.

4.3 MECHANICAL REQUIREMENTS

4.3.1 Dimension Check
The dimensions of the connectors specified herein shall be verified in accordance with the requirements set out in Para. 9.25 of ESCC Generic Specification No. 3402 and shall conform to those shown in Figures 2(a) and 2(b) of this specification.

4.3.2 Weight
The maximum weight of the connectors specified herein shall be as specified in Figure 2(b).

4.3.3 Coupling Proof Torque
Not applicable (see Para. 4.2).

4.3.4 Cable Retention Force
The requirements for Cable Retention Force testing are specified in Section 9 of ESCC Generic Specification No. 3402. Figure 2(b) specifies the values of the axial loads. Torque shall be applied as defined in Figure 2(b).

4.3.5 Mating and Unmating Forces
The forces applied for the mating and unmating of the connectors shall conform to the values specified in Table 1(a).

4.3.6 Endurance
The applicable test requirements are specified in Section 9 of ESCC Generic Specification No. 3402. The number of cycles and the rate are as follows:

Paired with:	No. of Cycles for Qualification (Rate: ≤ 12 cycles/minute)	No. of Cycles for Lot Acceptance (Rate: ≤ 12 cycles/minute)
Smooth Bore / Catcher's Mit	> 1000	> 200
Limited Detent	> 500	> 100
Full Detent	> 100	> 20

4.3.7 Residual Magnetism
The applicable requirements are specified in Section 9 of ESCC Generic Specification No. 3402. The maximum permitted values of residual magnetism are specified in Table 1(a).

4.3.8 Contact Engagement and Separation Forces
The requirements for these measurements are specified in Section 9 of ESCC Generic Specification No. 3402. The conditions and limits are specified in Table 1(a).

4.3.9 Centre Contact Retention Force
The requirements for these measurements are specified in Section 9 of ESCC Generic Specification No. 3402. The test conditions are given in Figure 2(b). After testing, the dimensions of the connector interface shall be within the limits of Figure 2(a).

4.4 MATERIALS AND FINISHES

The materials and finishes shall be as specified herein. Where a definite material is not specified, a material which will enable the connectors specified herein to meet the performance requirements of this specification shall be used. Acceptance or approval of any constituent material does not guarantee acceptance of the finished product.

4.4.1 Shells, Centre Contacts

Shells and centre contacts shall be made of beryllium copper, with copper underplate (1.5µm minimum), electroless nickel underplate (2µm minimum) and gold plating (1.27µm minimum).

4.4.2 Inserts

Inserts shall be made of PTFE or Peek or LCP.

4.4.3 Accessories

Accessories (ferrule, crimping or solder sleeves) shall be made of brass or copper, with copper underplate (1.5µm minimum), electroless nickel underplate (2µm minimum) and gold plating (0.15µm minimum).

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. Each component shall be marked in respect of:

(a) The ESCC Component Number.
(b) Traceability Information.

4.5.2 The ESCC Component Number

Each component shall bear the ESCC Component Number which shall be constituted and marked as follows:

340202501B

- Detail Specification Number: 3402025
- Type Variant Number (see Table 1(a)): 01
- Testing Level: B

4.5.3 Traceability Information

Traceability information shall be marked in accordance with the requirements of ESCC Basic Specification No. 21700.

4.6 ELECTRICAL MEASUREMENTS

4.6.1 Electrical Measurements at Room Temperature

The parameters to be measured at room temperature are scheduled in Table 2. Unless otherwise specified, measurements shall be performed at T_{amb} = +22±3°C.

4.6.2 Electrical Measurements at High and Low Temperatures (Table 3)
Not applicable.

4.6.3 Circuits for Electrical Measurements (Figure 4)
Not applicable.

4.7 BURN-IN AND ELECTRICAL MEASUREMENTS (TABLES 4 AND 5)
Not applicable.

TABLE 2 – ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE

No.	Characteristics	Symbols	Test Method and Conditions	Limits		Units
				Min	Max	
1	Insulation Resistance	R_i	ESCC 3402, Para. 9.1	Note 2		MΩ
2	Voltage Proof Leakage Current	I_L	ESCC 3402, Para 9.2 (Note 1)	Note 2		mA

NOTES:
1. The Voltage Proof voltage is given in Figure 2(b).
2. The limits are given in Table 1(a).

TABLES 3, 4 AND 5

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESCC GENERIC SPECIFICATION NO. 3402)

4.8.1 Measurements and Inspections on Completion of Environmental Tests
The parameters to be measured and inspections to be performed on completion of environmental testing are scheduled in Table 6. Unless otherwise specified, the measurements shall be performed at T_{amb} = +22±3°C.

4.8.2 Measurements and Inspections at Intermediate Points During Endurance Tests
Not applicable.

4.8.3 Measurements and Inspections on Completion of Endurance Tests
The parameters to be measured and inspections to be performed on completion of endurance testing are scheduled in Table 6. Unless otherwise specified, the measurements shall be performed at T_{amb} = +22±3°C.

4.8.4 Conditions for Operating Life (Part of Endurance Testing) (Table 5)
Not applicable.

4.8.5 Electrical Circuit for Operating Life Test (Figure 5)
Not applicable.

4.8.6 Conditions for High Temperature Storage Test (Part of Endurance Testing)

The requirements for the high temperature storage test are specified in Section 9 of ESCC Generic Specification No. 3402. The conditions for high temperature storage testing shall be the maximum storage temperature specified in Table 1(b) of this specification.

TABLE 6 – MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL AND ENDURANCE TESTS

No.	ESCC Generic Spec. No. 3402		Measurements And Inspections		Symbol	Limits		Unit
	Environmental and Endurance Tests Note 1	Test Method and Conditions	Identification	Conditions		Min	Max	
01	Coupling Proof Torque	Para 9.4	Not applicable					
02	Mating and Unmating Forces	Para. 9.5	**During Test** Mating and Unmating Forces	 Para. 9.5 of ESCC 3402	 -	 Table 1(a)		
03	Seal Test	Para. 9.7	Not applicable					
04	External Visual Inspection	Para. 9.8	External Visual Inspection	Para. 9.8 of ESCC 3402	-	-	-	-
05	Contact Resistance	Para. 9.9.2	**During Test** Contact Resistance	 Centre Contact Shell	 - -	 - -	 6 2	 mΩ mΩ
06	Vibration	Para. 9.10 Full Engagement	**During Test** Electrical Measurements **Final Measurements** Visual Examination Contact Resistance	**Last Cycle in Each Direction** No open or short circuits No evidence of damage Centre Contact	 - - -	 - - -	 - - 6	 - - mΩ
07	Shock	Para. 9.11 Full Engagement	**Final Measurements** Visual Examination Contact Resistance	 No evidence of damage Centre Contact	 - -	 - -	 - 6	 - mΩ
08	Rapid Change of Temperature	Para. 9.12	**Final Measurements** Contact Resistance Voltage Proof Leakage Current Visual Examination	**After a recovery period of 24±2hrs** Centre Contact Table 2 Item 2 -	 - I_L -	 - Table 2 Item 2 -	 6 -	 mΩ -
09	Climatic Sequence	Para. 9.13	**During Test** Voltage Proof **Final Measurements** External Visual Inspection Insulation Resistance Voltage Proof Leakage Current	**At Low Air Pressure** 0.1× value of Figure 2(b) **After final Damp Heat cycle** (within 1 to 24hrs recovery) Para. 9.8 of ESCC 3402 Table 2 Item 1 Table 2 Item 2	 VP - R_i I_L	 No flashover or breakdown - 5000 Table 2 Item 2	 - - 	 - MΩ
10	Cable Retention Force	Para. 9.14 and Para. 4.3.4 of this Spec.	**During Test** Continuity	 -	 -	 -	 -	 -

No.	ESCC Generic Spec. No. 3402		Measurements And Inspections		Symbol	Limits		Unit
	Environmental and Endurance Tests Note 1	Test Method and Conditions	Identification	Conditions		Min	Max	
11	Cabling and Crimping Capability	Para. 9.15	Visual Examination	Para. 9.15 of ESCC 3402	-	-	-	-
			Dimensions	Para. 9.15 of ESCC 3402	-	-	-	-
			Insulation Resistance	Table 2 Item 1	R_i	5000	-	MΩ
			Voltage Proof Leakage Current	Table 2 Item 2	I_L	Table 2 Item 2		
12	VSWR or Reflection Coefficient	Para. 9.16	Return Loss	Para. 9.16 of ESCC 3402	-	Figure 2(b)		
13	Corona Level	Para. 9.17	Corona	Para. 9.17 of ESCC 3402	-	Figure 2(b)		
14	Endurance	Para. 9.18 and Para. 4.3.6 of this Spec.	**Final Measurements**					
			Mating and Unmating Forces	Para. 4.3.5 of this Spec.	-	Para. 4.3.5 of this Spec.		
			Contact Resistance	Centre Contact	-	-	6	mΩ
				Shell	-	-	2	mΩ
			Visual Examination	Para. 9.18 of ESCC 3402	-	-	-	-
15	RF Insertion Loss	Para. 9.19	Insertion Loss	Para. 9.19 of ESCC 3402	-	Figure 2(b)		
16	Corrosion	Para. 9.20	Visual Examination	Para. 9.20 of ESCC 3402: No exposure of base metal	-	-	-	-
17	Residual Magnetism	Para. 9.21	Magnetism	-	-	Para. 4.3.7 of this Spec.		
18	Soldering Proof	Para. 9.22	**Final Measurements**					
			Interface Dimensions	-	-	Figure 2(a)		
			Mating and Unmating Forces	Para. 4.3.5 of this Spec.	-	Para. 4.3.5 of this Spec.		
			Insulation Resistance	Table 2 Item 1	R_i	5000	-	MΩ
			Voltage Proof Leakage Current	Table 2 Item 2	I_L	Table 2 Item 2		
			Contact Resistance	Centre Contact	-	-	6	mΩ
				Shell	-	-	2	mΩ
			External Visual Inspection	Para. 9.8 of ESCC 3402	-	-	-	-
19	RF Leakage	Para. 9.23	Leakage	-	-	Figure 2(b)		
20	High Temperature Storage	Para. 9.24 and Para. 4.8.6 of this Spec.	**Final Measurements**					
			Mating and Unmating Forces	Para. 4.3.5 of this Spec.	-	Para. 4.3.5 of this Spec.		
			Insulation Resistance	Table 2 Item 1	R_i	5000	-	MΩ
			Voltage Proof Leakage Current	Table 2 Item 2	I_L	Table 2 Item 2		
			Contact Retention	Para. 4.3.9 of this Spec.	-	Para. 4.3.9 of this Spec.		
			Visual Examination	-	-	-	-	-
			Contact Resistance	Centre Contact	-	-	6	mΩ
				Shell	-	-	2	mΩ
			External Visual Inspection	Para. 9.8 of ESCC 3402	-	-	-	-

No.	ESCC Generic Spec. No. 3402		Measurements And Inspections		Symbol	Limits		Unit
	Environmental and Endurance Tests Note 1	Test Method and Conditions	Identification	Conditions		Min	Max	
21	Permanence of Marking	Para. 9.27	Marking Permanence	Para. 9.27 of ESCC 3402	-	-	-	-
22	Plating Thickness (Hermetic Types Only)	Para. 9.29	Not applicable					

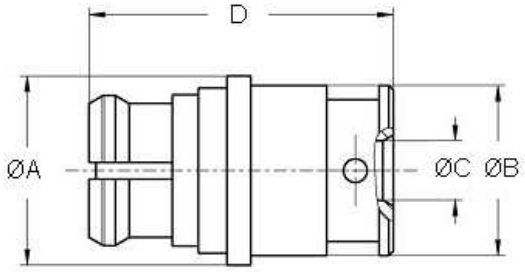
NOTES:

1. The tests in this Table refer to either Chart IV or V and shall be used as applicable.

FIGURE 2 – PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(b) – VARIANTS

Variants 01 and 02 – SMP Straight Plug, Solder Type, for Semi-rigid Cables



Symbols	Dimensions mm		Remarks
	Min	Max	
∅A	3.9	4.1	Variants 01, 02
∅B	3.5	3.7	Variants 01, 02
∅C	1.15	1.35	Variant 01
	2.15	2.35	Variant 02
D	6.2	6.6	Variants 01, 02

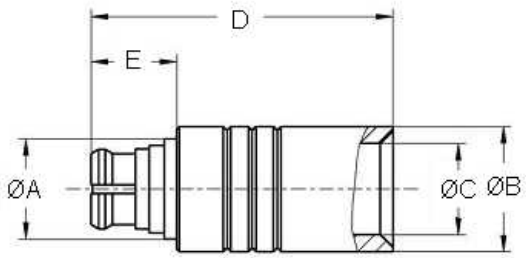
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

MECHANICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

OTHER CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

FIGURE 2(b) – VARIANTS (CONTINUED)

Variant 03 – SMP Straight Plug, Solder Type, for Semi-rigid Cable ∅3.58mm



Symbols	Dimensions mm	
	Min	Max
∅A	3.9	4.1
∅B	4.9	5.1
∅C	3.55	3.75
D	11.8	12.2
E	3.3	3.5

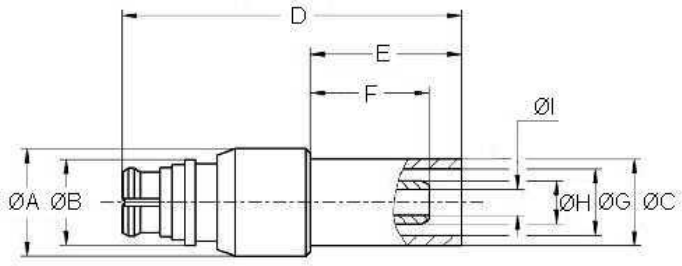
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

MECHANICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

OTHER CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

FIGURE 2(b) – VARIANTS (CONTINUED)

Variants 04, 05, 06 and 07 – SMP Straight Plug, Crimp Type



Symbols	Dimensions mm		Remarks
	Min	Max	
∅A	4.9	5.1	Variants 04, 05, 06, 07
∅B	4.9	5.1	Variants 04, 05, 06, 07
∅C	3.75	3.95	Variant 04
	4.2	4.4	Variant 05
	3.95	4.15	Variants 06, 07
D	16.2	16.8	Variants 04, 05
	15.4	16	Variants 06, 07
E	7.6	8	Variants 04, 05
	6.8	7.2	Variants 06, 07
F	5.3	5.7	Variants 04, 05, 06, 07
∅G	3.1	3.3	Variant 04
	3.48	3.68	Variant 05
	2.45	2.65	Variant 06
	3	3.2	Variant 07
∅H	2.6	2.8	Variants 04, 05
	1.9	2.1	Variants 06, 07
∅I	1.55	1.75	Variants 04, 05
	1.1	1.3	Variants 06, 07

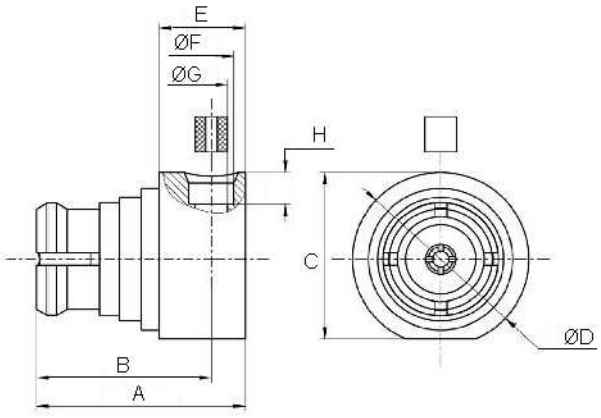
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

MECHANICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

OTHER CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

FIGURE 2(b) – VARIANTS (CONTINUED)

Variant 08 – SMP Right Angle Plug, Solder Type, for Semi-rigid Cable ∅1.19mm



Symbols	Dimensions mm	
	Min	Max
A	-	5.85
B	4.75	4.95
C	4.6	4.8
∅D	4.8	5
E	2.3	2.5
∅F	1.15	1.35
∅G	0.8	1
H	0.8	1

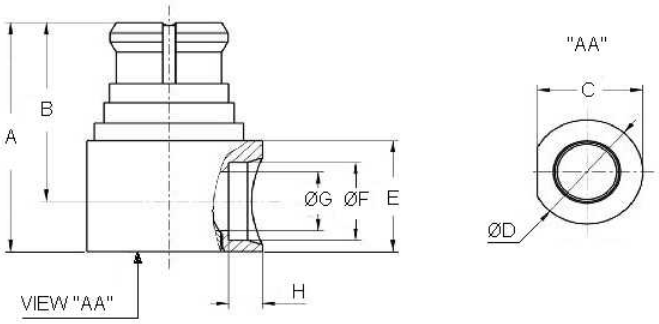
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

MECHANICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

OTHER CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

FIGURE 2(b) – VARIANTS (CONTINUED)

Variant 09 – SMP Right Angle Plug, Solder Type, for Semi-rigid Cable ∅2.18mm



Symbols	Dimensions mm	
	Min	Max
A	6.4	6.8
B	5.05	5.25
C	4.6	4.8
∅D	4.9	5.1
E	3.1	3.3
∅F	2.15	2.35
∅G	1.6	1.8
H	0.8	1

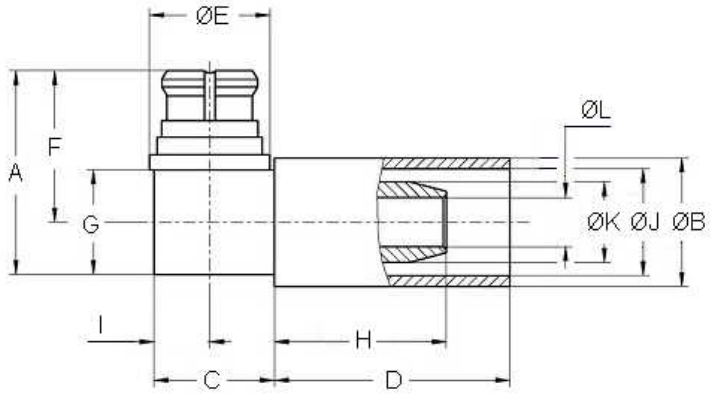
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

MECHANICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

OTHER CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

FIGURE 2(b) – VARIANTS (CONTINUED)

Variants 10, 11, 12 and 13 – SMP Right Angle Plug, Solder-crimp Type



Symbols	Dimensions mm		Remarks
	Min	Max	
A	6.7	7.1	Variants 10, 11, 12
	7.2	7.6	Variant 13
∅B	3.95	4.15	Variants 10, 13
	3.75	3.95	Variant 11
	4.2	4.4	Variant 12
C	3.9	4.1	Variants 10, 11, 12, 13
D	6.8	7.2	Variants 10, 13
	7.6	8	Variants 11, 12
∅E	3.9	4.1	Variants 10, 11, 12, 13
F	5.05	5.25	Variants 10, 11, 12
	5.55	5.75	Variant 13
G	3.4	3.6	Variants 10, 11, 12, 13
H	4.7	5.1	Variants 10, 13
	5.5	5.9	Variants 11, 12
I	1.75	1.95	Variants 10, 11, 12, 13
∅J	2.45	2.65	Variant 10
	3.1	3.3	Variant 11
	3.48	3.68	Variant 12
	3	3.2	Variant 13
∅K	1.9	2.1	Variants 10, 13
	2.6	2.8	Variants 11, 12
∅L	0.8	1	Variants 10, 13
	1.55	1.75	Variants 11, 12

Variants 10, 11, 12 and 13 – SMP Right Angle Plug, Solder-crimp Type (Continued)

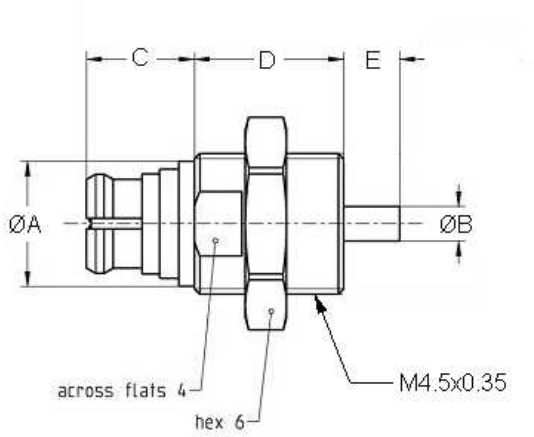
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

MECHANICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

OTHER CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

FIGURE 2(b) – VARIANTS (CONTINUED)

Variant 14 – SMP Panel Receptacle



Symbols	Dimensions mm	
	Min	Max
∅A	3.9	4.1
∅B	1	1.2
C	3.3	3.5
D	4.6	4.8
E	1.69	1.85

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

MECHANICAL CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		

OTHER CHARACTERISTICS	VALUES	UNITS
The characteristics, values and units are specified in Table 1(a)		