CONNECTORS, ELECTRICAL, CIRCULAR, BAYONET COUPLING, SCOOP-PROOF, REMOVABLE CRIMP CONTACTS

BASED ON MIL-C-38999 SERIES I

ESCC Detail Specification No. 3401/052

Issue 3	June 2013

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(Refer to https://escies.org for ESCC DCR content)

DCR No.	CHANGE DESCRIPTION
795	Specification updated to incorporate editorial 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, Electrical, Circular, Bayonet Coupling, Scoop-proof, Removable Crimp Contacts, Based on MIL-C-38999 Series I. It shall be read in conjunction with:

- ESCC Generic Specification No. 3401, Connectors, Electrical, Non-Filtered, Circular and Rectangular
- ESCC Detail Specification No. 3401/058, Contacts, Electrical, Crimp, for 3401/052 and /056 Connectors
- ESCC Detail Specification No. 3401/062, Accessories for Circular Connectors 3401/044, 3401/052 and 3401/056

the requirements of which are supplemented herein.

1.2 RANGE OF COMPONENTS

The different sizes of connectors 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 scheduled 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 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, Connectors, Electrical, Non-Filtered, Circular and Rectangular.
(b) ESCC Detail Specification No. 3401/058, Contacts, Electrical, Crimp, for 3401/052 and /056 Connectors.
(c) ESCC Detail Specification No. 3401/062, Accessories for Circular Connectors 3401/044, 3401/052 and 3401/056.
(d) MIL-STD-1560, Insert Arrangements for MIL-C-38999 and MIL-C-27599 Electrical Circular Connectors.
(e) MIL-STD-1344, Test Methods for Electrical Connectors.

TABLE 1(A) – RANGE OF COMPONENTS

Shell Style	Shell Size	Max. Weight (g) (1) Shell Type		Mating Torque Max. (Nm)	Unmating Torque		Tightening Torque for Mounting Nut Shell 07 Max. (Nm)
		00, 03	07		Max. (Nm)	Min. (Nm)	
Receptacle	09	11	15	-	-	-	6
Receptacle	11	17	20	-	-	-	8
Receptacle	13	22	26	-	-	-	10
Receptacle	15	25	34	-	-	-	13
Receptacle	17	38	44	-	-	-	16
Receptacle	19	40	49	-	-	-	18
Receptacle	21	52	60	-	-	-	20
Receptacle	23	54	63	-	-	-	22
Receptacle	25	58	75	-	-	-	24
		Shell Type 06					
Plug	09	17		0.9	0.9	0.2	-
Plug	11	23		1.4	1.4	0.2	-
Plug	13	28		1.8	1.8	0.2	-
Plug	15	34		2.3	2.3	0.3	-
Plug	17	44		2.7	2.7	0.3	-
Plug	19	49		3.2	3.2	0.3	-
Plug	21	60		3.6	3.6	0.6	-
Plug	23	63		4.1	4.1	0.6	-
Plug	25	70		4.6	4.6	0.6	-

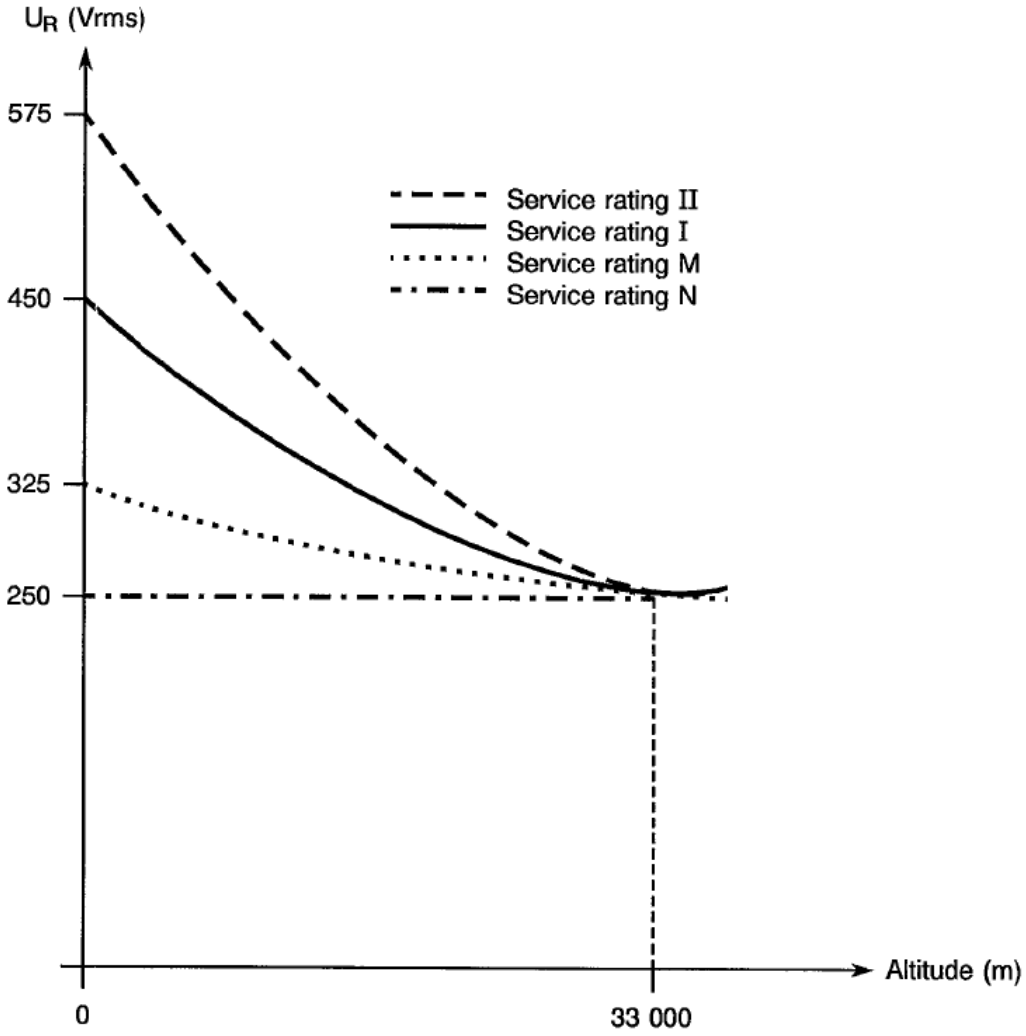
NOTES:
1. Without contacts. See ESCC Detail Specification No. 3401/058 for contact weights.

TABLE 1(b) – MAXIMUM RATINGS

No.	Characteristics	Symbol	Maximum Rating	Unit
1	Working Voltage (Sea Level) (1)	U_R		Vrms
	Service rating N		250	
	Service rating M		325	
	Service rating I		450	
	Service rating II		575	
2	Operating Temperature Range	T_{op}	-65 to +200	°C
3	Storage Temperature Range	T_{stg}	-65 to +200	°C
4	Tightening Torque for Mounting Nut Shell 07	Tq	See Table 1(a)	-

NOTES:
1. See Para. 4.5.4.3.

FIGURE 1 – PARAMETER DERATING INFORMATION

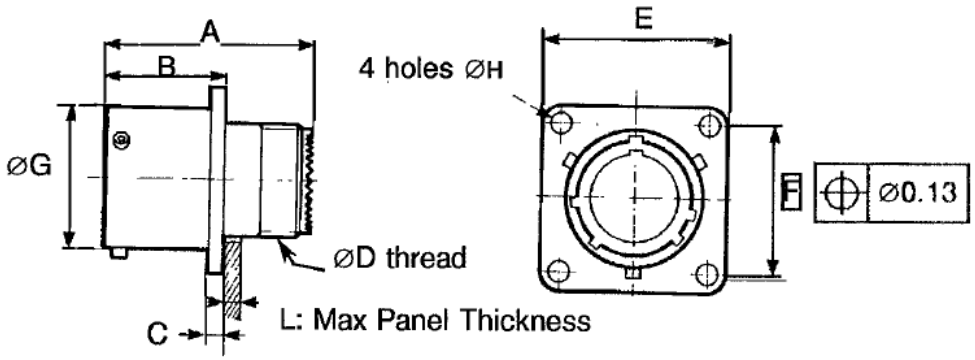


Working Voltage versus Altitude

FIGURE 2 – PHYSICAL DIMENSIONS

FIGURE 2(a) – RECEPTACLES AND PLUGS

SHELL TYPE 00: SQUARE FLANGE RECEPTACLE

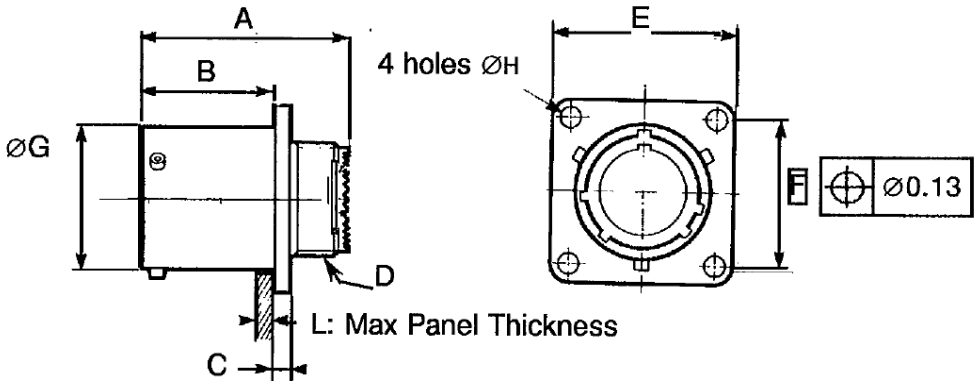


Shell Size	09		11		13		15		17		19		21		23		25	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
A	-	32.02	-	32.02	-	32.02	-	32.02	-	32.02	-	32.02	-	32.02	-	32.02	-	32.02
B	-	18.53	-	18.53	-	18.53	-	18.53	-	18.53	-	18.53	-	18.53	-	18.53	-	18.53
C	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	3.2	-	3.2	-	3.2
ØD UNEF-2A	.4375-28		.5625-24		.6875-24		.8125-20		.9375-20		1.0625-18		1.1875-18		1.3125-18		1.4375-18	
E	23.95	24.55	26.3	26.9	28.7	29.3	31.05	31.65	33.45	34.05	36.6	37.2	39.8	40.4	42.95	43.55	46.2	46.7
F typical	18.26		20.62		23.01		24.61		26.97		29.36		31.75		34.93		38.1	
ØG	14.41	14.53	17.66	17.78	21.47	21.59	24.65	24.77	27.82	27.94	30.54	30.66	33.71	33.83	36.88	37	40.06	40.18
ØH	3.15	3.45	3.15	3.45	3.15	3.45	3.15	3.45	3.15	3.45	3.15	3.45	3.15	3.45	3.63	3.93	3.63	3.93
L	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5

NOTES:

1. All dimensions are in millimetres, except thread ØD in inches.

SHELL TYPE 03: SQUARE FLANGE RECEPTACLE BACK MOUNTING

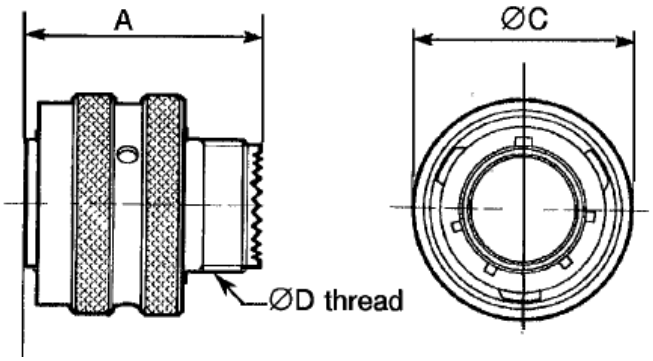


Shell Size	09		11		13		15		17		19		21		23		25	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
A	-	31.33	-	31.33	-	31.33	-	31.33	-	31.33	-	31.33	-	31.33	-	31.33	-	31.33
B	-	20.83	-	20.83	-	20.83	-	20.83	-	20.83	-	20.83	-	20.08	-	20.08	-	20.08
C	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	3.2	-	3.2	-	3.2
ØD UNEF-2A	.4375-28		.5625-24		.6875-24		.8125-20		.9375-20		1.0625-18		1.1875-18		1.3125-18		1.4375-18	
E	23.95	24.55	26.3	26.9	28.7	29.3	31.05	31.65	33.45	34.05	36.6	37.2	39.8	40.4	42.95	43.55	46.2	46.7
F typical	18.26		20.62		23.01		24.61		26.97		29.36		31.75		34.93		38.1	
ØG	14.41	14.53	17.66	17.78	21.47	21.59	24.65	24.77	27.82	27.94	30.54	30.66	33.71	33.83	36.88	37	40.06	40.18
ØH	3.15	3.45	3.15	3.45	3.15	3.45	3.15	3.45	3.15	3.45	3.15	3.45	3.15	3.45	3.63	3.93	3.63	3.93
L	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5	-	2.5

NOTES:

1. All dimensions are in millimetres, except thread ØD in inches.

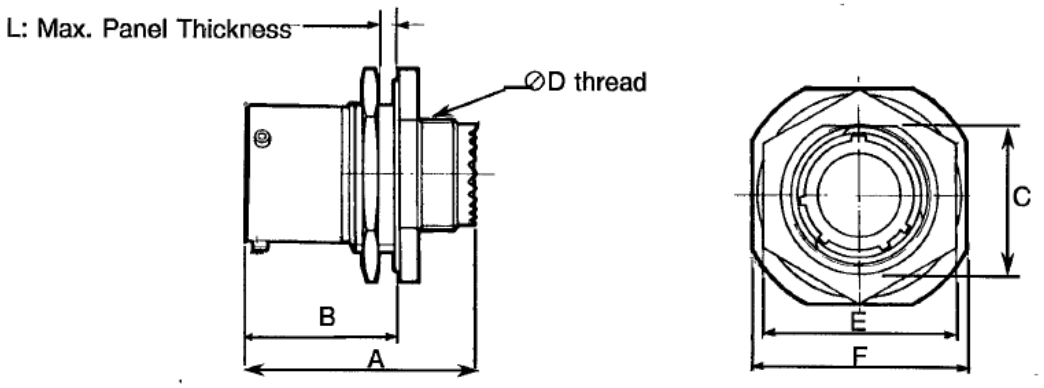
SHELL TYPE 06: PLUG



Shell Size	09 Max	11 Max	13 Max	15 Max	17 Max	19 Max	21 Max	23 Max	25 Max
A	31.32	31.32	31.32	31.32	31.32	31.32	31.32	31.32	31.32
ØC	21.8	25	29.4	32.5	35.7	38.5	41.7	44.85	48
ØD UNEF-2A	.4375-28	.5625-24	.6875-24	.8125-20	.9375-20	1.0625-18	1.1875-18	1.3125-18	1.4375-18

NOTES:
1. All dimensions are in millimetres, except thread ØD in inches.

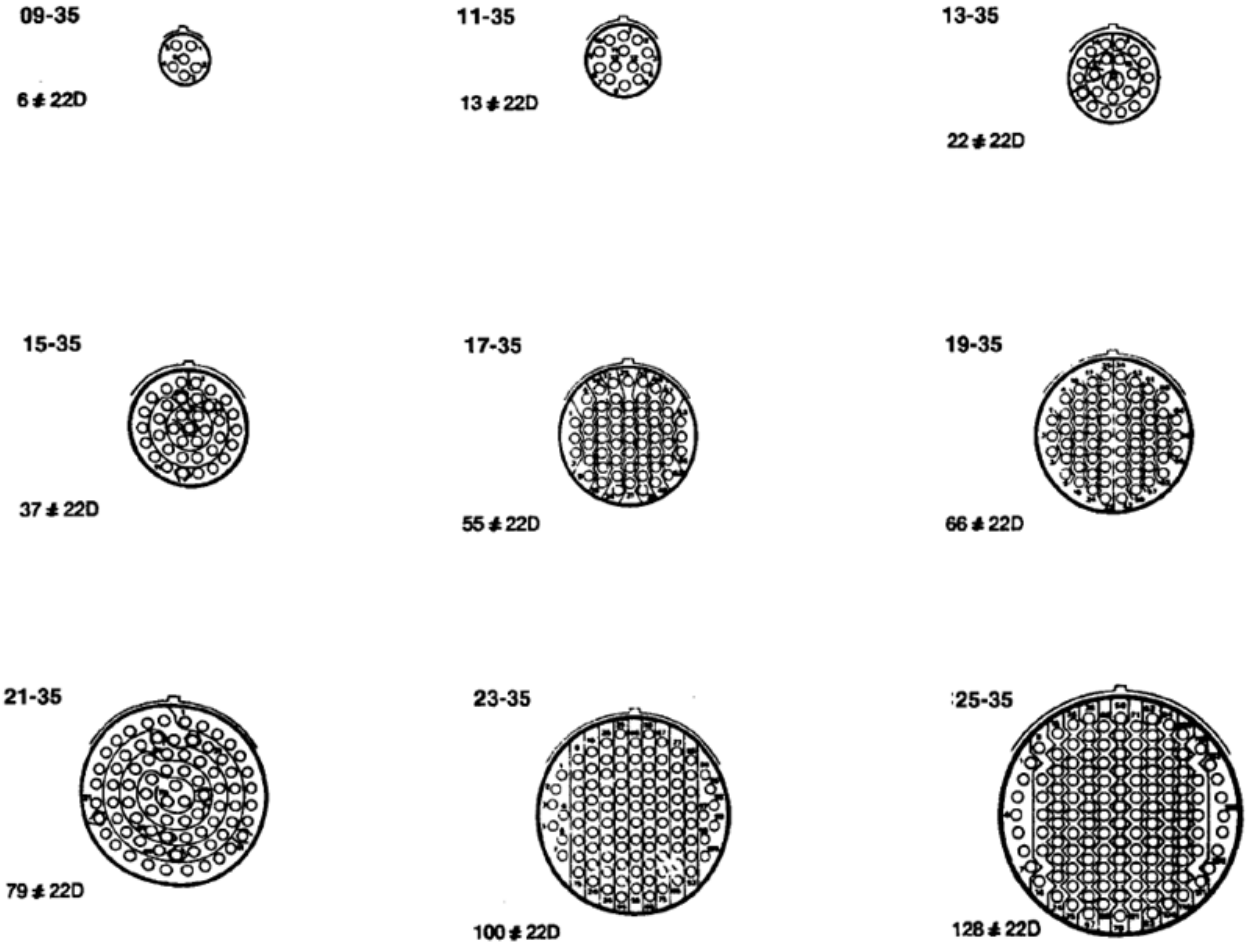
SHELL TYPE 07: SINGLE HOLE MOUNTING RECEPTACLE



Shell Size	09		11		13		15		17		19		21		23		25	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
A	-	31.68	-	31.68	-	31.68	-	31.68	-	31.68	-	31.68	-	31.68	-	31.68	-	31.68
B	-	23.36	-	23.36	-	23.36	-	23.36	-	23.36	-	23.36	-	23.36	-	23.36	-	23.36
C	16.43	16.63	18.97	19.17	23.72	23.92	26.87	27.07	30.05	30.25	33.22	33.42	36.4	36.6	39.57	39.77	42.75	42.95
ØD UNEF-2A	.4375-28		.5625-24		.6875-24		.8125-20		.9375-20		1.0625-18		1.1875-18		1.3125-18		1.4375-18	
E	22.25	22.45	25.45	25.65	30.2	30.4	33.35	33.55	36.55	36.75	39.7	39.9	42.9	43.1	46.05	46.25	50.85	51.05
F	26.95	27.75	31.7	32.5	34.91	35.71	38.09	38.89	41.23	42.03	45.97	46.77	49.18	49.98	52.36	53.16	55.53	56.33
L	-	3.2	-	3.2	-	3.2	-	3.2	-	3.2	-	3.2	-	3.2	-	3.2	-	3.2

NOTES:
1. All dimensions are in millimetres, except thread ØD in inches.

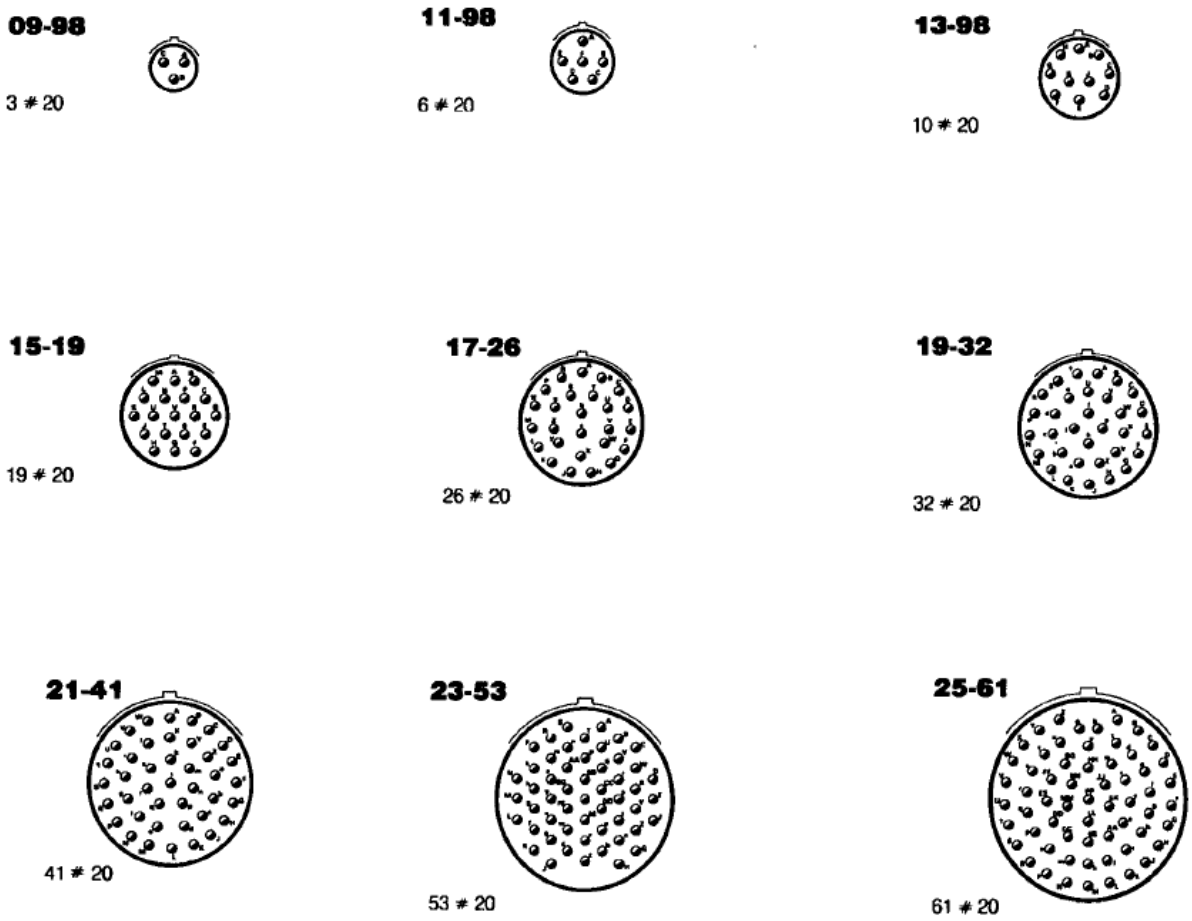
FIGURE 2(b) – HIGH DENSITY CONTACT ARRANGEMENTS – FRONT VIEW MALE INSERT



NOTES:

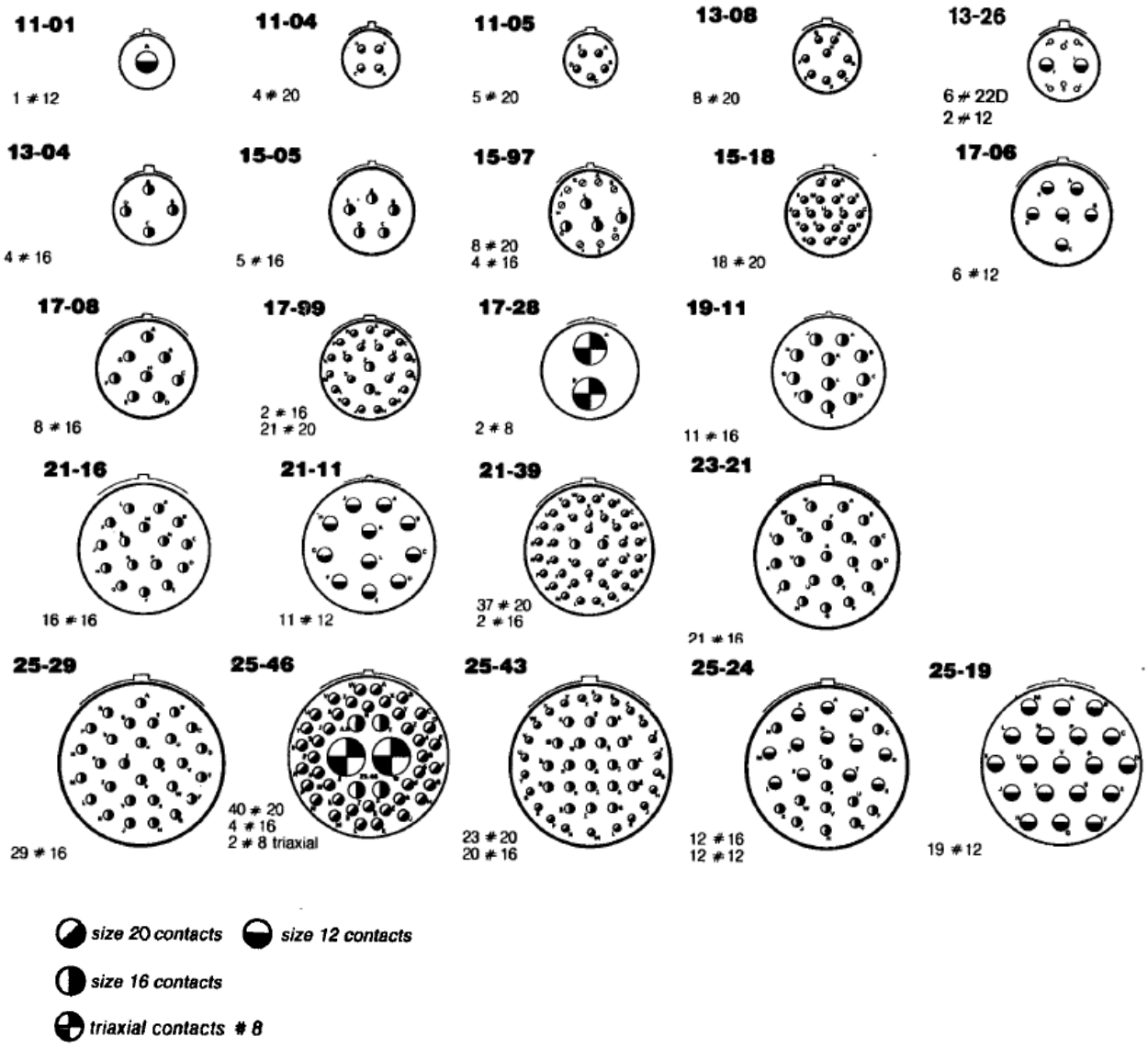
1. Contact locations and identifications are in conformity with MIL-STD-1560.
2. Both sides of the inserts shall be marked.

FIGURE 2(b) – STANDARD CONTACT ARRANGEMENTS – FRONT VIEW MALE INSERT



NOTES:
1. Contact locations and identifications are in conformity with MIL-STD-1560.
2. Both sides of the inserts shall be marked.

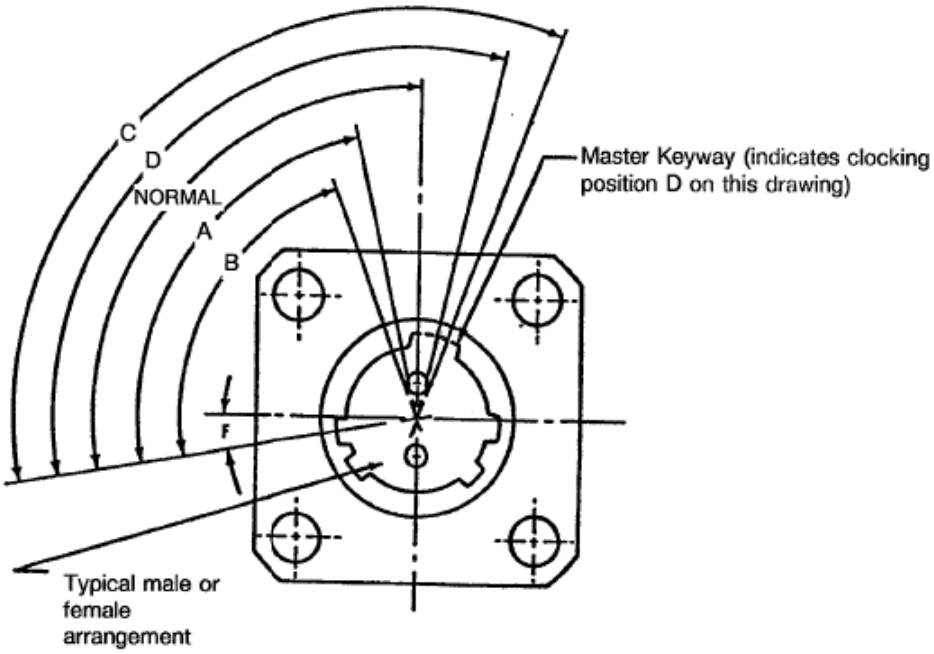
FIGURE 2(b) – SPECIAL CONTACT ARRANGEMENTS – FRONT VIEW MALE INSERT



NOTES:

1. Contact locations and identifications are in conformity with MIL-STD-1560.
2. Both sides of the inserts shall be marked.

FIGURE 2(c) – CLOCKING POSITIONS



NOTES:

1. The clocking position is determined by the master keyway position, the insert being always in the same position. The secondary keyway positions remain fixed.

Shell Size	F (Ref.)	Normal Position	Clocking Positions (°)			
			A	B	C	D
09	5°	95°	77	-	-	113
11	5°	95°	81	67	123	109
13	5°	95°	75	63	127	115
15	5°	95°	74	61	129	116
17	5°	95°	77	65	125	113
19	5°	95°	77	65	125	113
21	5°	95°	77	65	125	113
23	5°	95°	80	69	121	110
25	5°	95°	80	69	121	110

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.

4 REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the connectors specified herein are stated in this specification and ESCC Generic Specification No. 3401. Deviations from the Generic Specification, applicable to this specification only, are listed in Para. 4.2.

Deviations from the applicable 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

None.

4.2.2 Deviations from Final Production Tests (Chart II)

(a) Para. 9.5, Magnetism Level: Not applicable. Instead, a magnetic permeability test shall be performed in accordance with Method 3006 of MIL-STD-1344. The magnetic permeability of assembled connectors (with contacts and accessories as applicable) shall not exceed $2\times\mu_0$. The test shall be performed on 1 sample per shell size.

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. 9.11.2, Sinusoidal Vibration Testing:
- 10-55Hz at 8.25mm double amplitude displacement.
- 56-2000Hz at 50g.
- 1 cycle (10-2000-10 Hz) per axis at a sweep rate of 1 octave per minute.

(b) Para. 9.11.3, Random Vibration Testing:
- 20-100Hz at + 6dB per octave.
- 100-2000Hz, constant at $1g^2$/Hz.
- 3 axes.
- 7 minutes per axis.

(c) Para. 9.12.1, Shock: 75g, 11 milliseconds, half sine wave.
(d) Para. 9.24, Jackscrew Retention: Not applicable.
(e) Para. 9.31, Solderability: Not applicable.

4.2.5 Deviations from Lot Acceptance Tests (Chart V)

(a) Para. 9.31, Solderability: 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. 9.6 of ESCC Generic Specification No. 3401 and shall conform to those shown in Figure 2 of this specification.

4.3.2 Weight
The maximum weight of the connectors specified herein, without contacts, shall be as specified in Table 1(a).

4.3.3 Contact Capability
As specified in ESCC Detail Specification No. 3401/058.

4.3.4 Contact Retention (In Insert)
As specified in ESCC Detail Specification No. 3401/058.

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

4.3.6 Insert Retention (In Shell)
Connector inserts shall withstand a pressure of 53.7N/cm^2 without being dislodged from the shell.

4.3.7 Jackscrew Retention
Not applicable.

4.3.8 Contact Insertion and Withdrawal Forces
As specified in ESCC Detail Specification No. 3401/058.

4.3.9 Engagement and Separation Forces
As specified in ESCC Detail Specification No. 3401/058.

4.3.10 Oversize Pin Exclusion
As specified in ESCC Detail Specification No. 3401/058.

4.3.11 Probe Damage
As specified in ESCC Detail Specification No. 3401/058.

4.3.12 Solderability
Not applicable.

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 Shell, Coupling Ring and Nuts
The shell, coupling ring and nuts shall be made of aluminium alloy, dull low reflective electroless nickel plated.

4.4.2 Inserts
Bonded sandwich: Silicone/thermosetting or thermoplastic insert/silicone.

4.4.3 Contacts
As specified in ESCC Detail Specification No. 3401/058.

4.4.4 Contact Retaining Clip
The retaining clip shall be made of beryllium copper.

4.4.5 Guiding and Locking Devices
Not applicable.

4.4.6 Magnetism Level
Not applicable.

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

4.5.2 Contact Identification
Contact identification shall be marked in accordance with Figure 2(b).

4.5.3 The ESCC Component Number
The ESCC Component Number shall be constituted and marked as follows:

Example: 340105201B

- Detail Specification Number: 3401052
- Type Variant (Note 1): 01
- Testing Level: B

NOTES:
1. Marking of the Type Variant is mandatory. No further reference to type variants is made in this specification.

4.5.4 Characteristics

The characteristics to be marked in the following order of precedence are:

(a) Shell Type.
(b) Grounding.
(c) Contact arrangement.
(d) Type of contact.
(e) Clocking position.
(f) Contact information.

The information shall be constituted and marked as follows (example): 00 - 19-32 P A - L

- Shell Type: 00
- Grounding: -
- Contact arrangement: 19-32
- Type of contact: P
- Clocking position: A
- Contact information: L

4.5.4.1 Shell Type

The shell type shall be indicated by the numbers specified hereafter:

Code Number	Shell Type
00	Square flange receptacle front mounting
03	Square flange receptacle back mounting
06	Plug with RFI grounding spring
07	Single hole mounting receptacle

4.5.4.2 Grounding

Grounding is only applicable to plugs.

4.5.4.3 Contact Arrangements

The number of contacts shall be as shown in Figure 2(b) and contact arrangements shall be indicated by the codes specified hereafter.

Code	Service Rating
09-35	M
09-98	I
11-35	M
11-98	I
11-01	II
11-05	I
11-04	I
13-35	M
13-98	I
13-08	I
13-26	M
13-04	II
15-35	M
15-19	I
15-05	II
15-97	I
15-18	I
17-35	M
17-26	I
17-06	I
17-28	I
17-1T	Not Appl.

Code	Service Rating
17-08	II
17-99	I
19-35	M
19-32	I
19-11	II
21-35	M
21-41	I
21-16	II
21-11	II
21-39	I
23-35	M
23-53	I
23-21	II
25-35	M
25-61	I
25-19	I
25-29	I
25-43	I
25-24	I
25-46	N
25-03	I
25-07	I
25-2T	Not Appl.

4.5.4.4 Type of Contact

The contact type shall be indicated by the following code letters.

Code Letter	Contact Type
P	Male
S	Female

4.5.4.5 Clocking Position

Clocking positions are as shown in Figure 2(c) and shall be designated by the following code letters: A, B, C and D. Code letter N indicates the standard clocking position.

4.5.4.6 Contact Information

L = connector ordered without contacts (without an L = connector delivered with contacts).

This information shall be marked on the packaging and is not marked on the connector.

Contacts shall be obtained from the same Manufacturer as supplied the connector in which they are to be mounted and this shall be verified before assembly.

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

4.5.6 Marking of Small Components
Where it is considered that a component is too small to accommodate the marking as specified above, as much as space permits shall be marked. The order of precedence shall be as specified in Para. 4.5.1. The marking information in full shall accompany each component in its primary package.

4.6 ELECTRICAL MEASUREMENTS

4.6.1 Electrical Measurements at Room Temperature
The parameters to be measured in respect of electrical characteristics are scheduled in Table 2. Unless otherwise specified, these 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 Circuit 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	Symbol	Spec. and/or Test Method	Test Condition	Limits		Unit
					Min.	Max.	
1	Insulation Resistance	Ri	ESCC No. 3401 Para. 9.1.1.1	Para. 9.1.1.1	10000	-	MΩ
2	Voltage Proof Leakage Current Service Rating II Service Rating I Service Rating M Service Rating N	I_L	ESCC No. 3401 Para. 9.1.1.2	 2300Vrms 1800Vrms 1300Vrms 1000Vrms		2	mA
3	Mated Shell Conductivity (1) (Voltage Drop)	Vd	ESCC No. 3401 Para. 9.1.1.4	Para. 9.1.1.4	-	1	mV

NOTES:
1. Applicable to mated connectors with grounding option.

TABLES 3, 4 AND 5

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESCC GENERIC SPECIFICATION NO. 3401)

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 shall be those specified in Table 6. Unless otherwise specified, these 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 tests shall be those specified in Table 6. Unless otherwise specified, these measurements shall be performed at T_{amb} = +22±3 °C.

4.8.4 Conditions for Operating Life Test (Part of Endurance Testing)

Not applicable.

4.8.5 Electrical Circuits for Operating Life Test

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. 3401. 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 No. 3401		Measurements and Inspections		Symbol	Limits		Unit
	Environmental and Endurance Tests (1)	Test Method and Conditions	Identification	Conditions		Min.	Max.	
01	Wiring	Para. 9.10	ESCC 3401/058			-	-	
02	Vibration	Para. 9.11 & Para. 4.2.4 of this spec.	**Initial Measurements** Coupling Screw(s) Unlocking Torque	-	-	Not applicable		
			Final Measurements Full Engagement	-				
			Coupling Screw(s) Unlocking Torque Drift	-	Δ	Not applicable		%
			Visual Examination	-	-	-	-	
03	Shock or Bump	Para. 9.12 & Para. 4.2.4 of this spec.	Full Engagement	-				
			Visual Examination	-	-	-	-	
04	Climatic Sequence	Para. 9.13	**Dry Heat** Insulation Resistance	Table 2 Item 1	Ri	1000	-	MΩ
			Low Air Pressure Voltage Proof Leakage Curr.	250Vrms	I_L	Table 2 Item 2		
			Damp Heat Insulation Resistance	**Immediately after test** Table 2 Item 1	Ri	100	-	MΩ
			Final Measurements External Visual Inspection	**After 1-24 hrs Recovery** ESCC 3401 Para. 9.7	-	ESCC 3401 Para. 9.7		
			Insulation Resistance	Table 2 Item 1	Ri	Table 2 Item 1		
			Voltage Proof Leakage Curr.	Table 2 Item 2	I_L	Table 2 Item 2		
05	Seal Test	Para. 9.9	ESCC 3401 Para. 9.9			Not applicable		
06	Plating Thickness	Para. 9.14	Thickness			ESCC 3401/058		
07	Joint Strength	Para. 9.15	ESCC 3401 Para. 9.15			ESCC 3401 Para. 9.15		
08	Rapid Change of Temperature	Para. 9.16	Visual Examination	-	-	-	-	
			Insulation Resistance	Table 2 Item 1	Ri	Table 2 Item 1		
			Voltage Proof Leakage Curr.	Table 2 Item 2	I_L	Table 2 Item 2		
09	Contact Retention (In Insert)	Para. 9.17 & Para. 4.3.4 of spec.	Contact Displacement	-	-	ESCC 3401 Para. 9.17		

No.	ESCC Generic No. 3401		Measurements and Inspections		Symbol	Limits		Unit
	Environmental and Endurance Tests (1)	Test Method and Conditions	Identification	Conditions		Min.	Max.	
10	Endurance	Para. 9.18	**Initial Measurements**					
			Mating/Unmating Forces	-	F	Para. 4.3.5 of this spec.		
			Low Level Contact Resist.	ESCC 3401/058	Rcl	Record Values		
			Mated Shell Conductivity	Table 2 Item 3	Vd	Table 2 Item 3		
			Final Measurements					
			Visual Examination	-	-	-	-	
			Mating/Unmating Forces	-	F	Para. 4.3.5 of this spec.		
			Low Level Contact Resistance Drift	ESCC 3401/058	ΔRcl	ESCC 3401/058		
			Mated Shell Conductivity	Table 2 Item 3	Vd	Table 2 Item 3		
			Insulation Resistance	Table 2 Item 1	Ri	Table 2 Item 1		
			Voltage Proof Leakage Curr.	Table 2 Item 2	I_L	Table 2 Item 2		
11	Permanence of Marking	Para. 9.19	As applicable		-	-	-	
12	Mating/Unmating Forces	Para. 9.20	Force		F	Para. 4.3.5 of this spec.		
13	High Temperature Storage	Para. 9.21	**Initial Measurements**					
			Low Level Contact Resist.	ESCC 3401/058	Rcl	Record Values		
			Mated Shell Conductivity	Table 2 Item 3	Vd	Table 2 Item 3		
			Final Measurements					
			Visual Examination	-	-	-	-	
			Mating/Unmating Forces	-	F	Para. 4.3.5 of this spec.		
			Low Level Contact Resistance Drift	ESCC 3401/058	ΔRcl	ESCC 3401/058		
			Rated Current Contact Resistance	ESCC 3401/058	Rcr	ESCC 3401/058		
			Mated Shell Conductivity	Table 2 Item 3	Vd	Table 2 Item 3		
			Insulation Resistance	Table 2 Item 1	Ri	Table 2 Item 1		
			Voltage Proof Leakage Curr.	Table 2 Item 2	I_L	Table 2 Item 2		
			Contact Retention (In Insert)	Para. 4.3.4 of this spec.	-	ESCC 3401 Para. 9.17		
14	Corrosion	Para. 9.22	Visual Examination	-	-	-	-	
15	Insert Retention (In Shell)	Para. 9.23 & Para. 4.3.6 of this spec.	Visual Examination	-	-	Para. 4.3.6 of this spec.		
16	Jackscrew Retention	Para. 9.24 & Para. 4.3.7 of this spec.	Visual Examination	-	-	Not applicable		
17	High Temperature Measurements	Para. 9.25	Insulation Resistance	Table 2 Item 1	Ri	500	-	MΩ

No.	ESCC Generic No. 3401		Measurements and Inspections		Symbol	Limits		Unit
	Environmental and Endurance Tests (1)	Test Method and Conditions	Identification	Conditions		Min.	Max.	
18	Overload Test	Para. 9.26	Internal Temperature		T	-	+100	°C
			Rated Current Contact Resistance	ESCC 3401/058	Rcr	ESCC 3401/058		
			Mated Shell Conductivity	Table 2 Item 3	Vd	Table 2 Item 3		
			Insulation Resistance	Table 2 Item 1	Ri	Table 2 Item 1		
			Voltage Proof Leakage Curr.	Table 2 Item 2	I_L	Table 2 Item 2		
19	Maintenance Aging	Para. 9.27	Visual Examination	-	-	-	-	
			Contact Retention	Para. 4.3.4 of this spec.		ESCC 3401 Para. 9.17		
			Contact Insertion & Withdrawal Forces	Para. 4.3.8 of this spec.		Para. 4.3.8 of this spec.		
20	Engage/Separation Forces	Para. 9.28 & Para. 4.3.9 of this spec.	Force		F	Para. 4.3.9 of this spec.		
21	Oversize Pin Exclusion	Para. 9.29 & Para. 4.3.10 of this spec.				ESCC 3401 Para. 9.29		
22	Probe Damage	Para. 9.30 & Para. 4.3.11 of this spec.	Contact Separation Force	Para. 4.3.9 of this spec.	F	Para. 4.3.9 of this spec.		
23	Solderability	Para. 9.31 & Para. 4.3.12 of this spec.				Para. 4.3.12 of this spec.		

NOTES:

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