

Page 1 of 17

# CONNECTOR SAVERS, ELECTRICAL, RECTANGULAR, MICROMINIATURE, HIGH DATA RATE

# **BASED ON TYPES MICROMACH**

ESCC Detail Specification No. 3401/096

Issue 1 February 2020



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# ESCC Detail Specification

No. 3401/096

PAGE 3

ISSUE 1

# **DOCUMENTATION CHANGE NOTICE**

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

DCR No.	CHANGE DESCRIPTION





**TABLE OF CONTENTS** 

1	GENERAL	5
1.1	SCOPE	5
1.2	COMPONENT TYPE VARIANTS AND RANGE OF COMPONENTS	5
1.3	MAXIMUM RATINGS	5
1.4	PARAMETER DERATING INFORMATION	5
1.5	PHYSICAL DIMENSIONS	5
2	APPLICABLE DOCUMENTS	8
3	TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS	8
4	REQUIREMENTS	8
4.1	GENERAL	8
4.2	DEVIATIONS FROM THE GENERIC SPECIFICATION	8
4.2.1	Deviations from Special In-Process Controls	8
4.2.2	Deviations from Final Production Tests - Chart II(b)	9
4.2.3	Deviations from Burn-in and Electrical Measurements - Chart III	9
4.2.4	Deviations from Qualification Tests – Chart IV	9
4.2.5	Deviations from Lot Acceptance Tests – Chart V	9
4.3	MECHANICAL REQUIREMENTS	9
4.3.1	Dimension Check	9
4.3.2	Weight	9
4.3.3	Contact Capability	10
4.3.4	Contact Retention (in Insert)	10
4.3.5	Mating and Unmating Forces	10
4.3.6	Insert Retention (in Shell)	10
4.3.7	Engagement and Separation Forces	10
4.4	MATERIALS AND FINISHES	10
4.5	MARKING	11
4.5.1	General	11
4.5.2	The ESCC Component Number	11
4.6	ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE	11
4.7	ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESCC GENERIC SPECIFICATION NO. 3401)	12
APPEND		16



#### 1 **GENERAL**

#### 1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for Electrical, Rectangular, Microminiature, High Data Rate, Connector Savers, based on type MicroMach.

It shall be read in conjunction with:

- ESCC Generic Specification No. 3401, Connectors, Electrical, Rectangular and Circular.
- ESCC Detail Specification No. 3401/095, Connectors, Electrical, Rectangular, Microminiature, High Data Rate (Female Contacts), based on type MicroMach.
- ESCC Detail Specification No. 3409/002, High Data Rate Cable Assemblies with Microminiature, Rectangular, Connectors, based on type MicroMach.

the requirements of which are supplemented herein.

#### 1.2 COMPONENT TYPE VARIANTS AND RANGE OF COMPONENTS

The different physical configurations of the basic type connectors specified herein are scheduled 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 derating information applicable to the connectors specified herein is shown in Figure 1.

#### 1.5 PHYSICAL DIMENSIONS

The physical dimensions and characteristics of the connectors specified herein are shown in Figure 2.



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

Variant Number	Description	Physical Configuration	Weight Max (g)
01	Connector Saver, MicroMach HDR	See Figure 2(a)	7.5

# **TABLE 1(b) - MAXIMUM RATINGS**

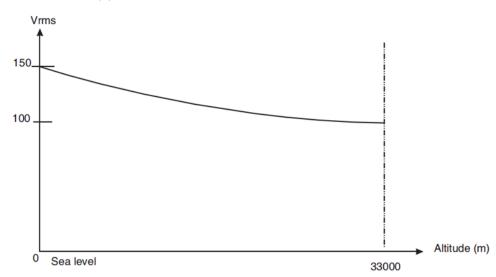
Characteristics	Symbols	Maximum Ratings	Units	Remarks
Maximum Operating Data Rate	DR <sub>max</sub>	3	Gb/s	
Operating Frequency Range	f <sub>R</sub>	≤ 4.5	GHz	Note 1
Working Voltage	U <sub>R</sub>	150	Vrms	At sea level. Note 2. See Figure 1(a).
Rated Current	I <sub>R</sub>	1	Α	Each contact.
Operating Temperature Range	Тор	-55 to +125	°C	T <sub>amb</sub>
Storage Temperature Range	T <sub>stg</sub>	-55 to +125	°C	

#### **NOTES:**

- 1. Bandwidth used for electrical measurement (insertion loss, crosstalk...) based on  $f_R = 3*f0$  (with  $f0=DR_{max}/2$ ).
- 2. Between contacts, and contacts and shell.

#### **FIGURE 1 - PARAMETER DERATING INFORMATION**

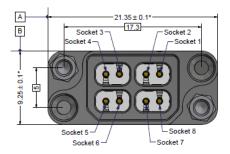
#### FIGURE 1(a) - WORKING VOLTAGE VERSUS ALTITUDE

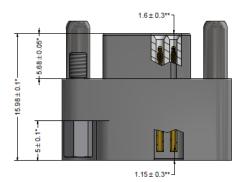


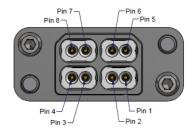


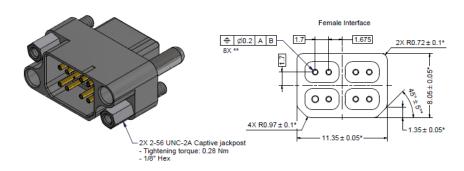
# **FIGURE 2 - PHYSICAL DIMENSIONS**

#### FIGURE 2(a) - VARIANT 01 - CONNECTOR SAVER, MICROMACH HDR

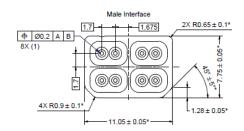












#### **NOTES:**

- 1. All dimensions are in mm.
- 2. Dimensions with a single asterisk (\*) may be checked during the Manufacturer's internal processing. Dimensions with a double asterisk (\*\*) shall be checked after assembly of the connector.
- 3. For connector interface dimensions, see also Figure 2(b).
- 4. Mating torque: 0.28N.m (+10 -0)%.
- 5. Contact identification: contact (pin & socket) Nos. 1 to 8 are indicated by the physical configuration. In addition, contact No. 1 is indicated by an index mark on the shell above pin 1 (as shown above).

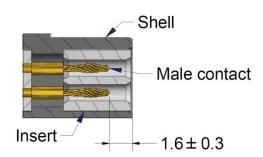
 $1.15 \pm 0.2$ 

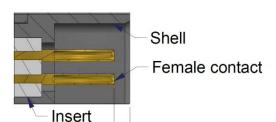


No. 3401/096

#### FIGURE 2(b) - INTERFACE DIMENSIONS

#### Plug Side, Male Contact





Jack Side, Female Contact

#### NOTES:

All dimensions are in mm.

#### 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, Circular and Rectangular.
- (b) ESCC Detail Specification No. 3401/095, Connectors, Electrical, Rectangular, Microminiature, High Data Rate (Female Contacts), based on type MicroMach.
- (c) ESCC Detail Specification No. 3409/002, High Data Rate Cable Assemblies with Microminiature, Rectangular, Connectors, based on type MicroMach.

#### 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 THE GENERIC SPECIFICATION

#### 4.2.1 Deviations from Special In-Process Controls

- (a) Crimping Capability: Not applicable.
- (b) Solderability: Not applicable.



### 4.2.2 <u>Deviations from Final Production Tests - Chart II(b)</u>

- (a) Para. 9.9, Seal Test: Not applicable
- (b) Para. 9.5, Magnetism Level: Not applicable.

# 4.2.3 <u>Deviations from Burn-in and Electrical Measurements - Chart III</u>

None (Chart III is not applicable).

#### 4.2.4 Deviations from Qualification Tests – Chart IV

- (a) Para. 9.9, Seal Test: Not applicable.
- (b) Para. 9.10, Wiring: Not applicable.
- (c) Para. 9.11, Vibration: Measurements and inspections shall be performed in accordance with Table 6 herein.
- (d) Para. 9.12, Shock or Bump: Measurements and inspections shall be performed in accordance with Table 6 herein.
- (e) Para. 9.13, Climatic Sequence: Measurements and inspections shall be performed in accordance with Table 6 herein.
- (f) Para. 9.15, Joint Strength: Not applicable.
- (g) Para. 9.16, Rapid Change of Temperature: Measurements and inspections shall be performed in accordance with Table 6 herein.
- (h) Para. 9.21, High Temperature Storage: Measurements and inspections shall be performed in accordance with Table 6 herein.
- (i) Para. 9.24, Jackscrew Retention: Not applicable.
- (j) Para. 9.25, High Temperature Measurement: Measurements and inspections shall be performed in accordance with Table 6 herein.
- (k) Para. 9.26, Overload: Not applicable.
- (I) Para. 9.27, Maintenance Aging: Not applicable.
- (m) Para. 9.29, Oversize Pin Exclusion: Not applicable.
- (n) Para. 9.30, Probe Damage: Not applicable.
- (o) Para. 9.31, Solderability: Not applicable.

#### 4.2.5 <u>Deviations from Lot Acceptance Tests – Chart V</u>

- (a) Para. 9.9, Seal Test: Not applicable.
- (b) Para. 9.10, Wiring: Not applicable.
- (c) Para. 9.13, Climatic Sequence: Measurements and inspections shall be performed in accordance with Table 6 herein.
- (d) Para. 9.15, Joint Strength: Not applicable.
- (e) Para. 9.16, Rapid Change of Temperature: Measurements and inspections shall be performed in accordance with Table 6 herein.
- (f) Para. 9.27, Maintenance Aging: Not applicable.
- (g) Para. 9.29, Oversize Pin Exclusion: Not applicable.
- (h) Para. 9.30, Probe Damage: Not applicable.

#### 4.3 MECHANICAL REQUIREMENTS

#### 4.3.1 Dimension Check

See Figure 2.

#### 4.3.2 Weight

See Table 1(a).



#### 4.3.3 Contact Capability

Only applicable to the male side of Variant 01:

	Pick-up Test	Drop Test
Weight (g)	14 ±1	170 ±1
Test Sleeve Inner Diameter (mm)	0.582 to 0.587	0.559 to 0.564
Insertion Depth (mm)	1.5 ±0.05	1.5 ±0.05

# 4.3.4 Contact Retention (in Insert)

Only applicable to the female side of Variant 01.

Applied force: 14.8N.

#### 4.3.5 <u>Mating and Unmating Forces</u>

Variant Number	Mating Force (N)	Unmating Force (N)		
	Max	Min	Max	
01	25N	3N	25N	

#### 4.3.6 Insert Retention (in Shell)

Maximum load: 30N.

#### 4.3.7 Engagement and Separation Forces

Only applicable to the male side of Variant 01:

	Minimum Diameter Test Sleeve Test	Maximum Diameter Test Sleeve Test
Engagement Force (N)	1.667 maximum	-
Separation Force (N)	-	0.14 minimum
Test Sleeve Inner Diameter (mm)	0.559 to 0.564	0.582 to 0.587
Insertion Depth (mm)	1.4 ±0.05	1.4 ±0.05

#### 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 components 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.

- (a) Body Shell: Aluminium alloy, high phosphorus (10 to 13%) nickel plated, thickness 25.4μm minimum.
- (b) Centre Contact: Copper alloy, gold plated 1.27μm minimum over nickel underplate 1.27μm minimum.

Note: measurements of plating thickness shall be made at 1.5mm from the engagement end.

- (c) Insert (insulator): PEEK.
- (d) Locking devices: Passivated stainless steel.



#### 4.5 MARKING

#### 4.5.1 General

The marking shall be in accordance with the requirements of ESCC Basic Specification No. 21700 and as follows.

The information to be marked on the component or its primary package shall be:

- (a) The ESCC qualified components symbol (for ESCC qualified components only).
- (b) The ESCC Component Number.
- (c) Traceability Information.

#### 4.5.2 The ESCC Component Number

The ESCC Component Number shall be constituted as follows:

Example: 340109601B

Detail Specification Reference: 3401096

Component Type Variant Number (see Table 1(a)): 01 (as required)

Testing Level: B

#### 4.6 ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE

The parameters to be measured in respect of electrical characteristics are scheduled in Table 2. Unless otherwise specified, the measurements shall be performed at  $T_{amb} = +22 \pm 3$ °C.

#### TABLE 2 - ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE

Characteristics	Symbols Test Method and		Lin	Units	
		Conditions	Min	Max	
Insulation Resistance	Rı	ESCC No. 3401 V = 500Vdc	1	-	GΩ
Voltage Proof Leakage Current	I <sub>VPL</sub>	V = 600Vrms	-	1	mA
Contact Resistance (Low Level Current)	R <sub>CL</sub>	ESCC No. 3401	-	5	mΩ
Contact Resistance (Rated Current)	RcR	ESCC No. 3401	-	10	mΩ
Mated Shell Conductivity	Rм	ESCC No. 3401	-	5	mΩ

#### **TABLES 3, 4, 5**

Not applicable



# 4.7 <u>ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESCC GENERIC</u> SPECIFICATION No. 3401)

The parameters to be measured and inspections to be performed on completion of environmental and endurance testing shall be those specified in Table 6.

Unless otherwise specified, the measurements shall be performed at  $T_{amb}$  = +22 ±3°C

Unless otherwise specified, test methods and test conditions shall be as per the corresponding test defined in Table 2

TABLE 6 - MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL

AND ENDURANCE TESTING

ESCC Generic Sp	ec. No. 3401	Measurements and Inspe	Measurements and Inspections			nits	Unit
Environmental and Endurance Tests (1)	Test Method and Conditions	Identification	Conditions		Min	Max	
Vibration	Para. 9.11	Initial Measurements					
		Coupling Screws Unlocking Torque	ESCC 3401	Tqe	Record	Values	
		Insulation Resistance	Table 2	Rı	Tab	le 2	
		Voltage Proof Leakage Current	Table 2	I <sub>VPL</sub>	Tab	le 2	
		Low Level Contact Resistance	Table 2	R <sub>CL</sub>	Tab	le 2	
		Mated Shell Conductivity	Table 2	R <sub>M</sub>	Tab	le 2	
		Measurements during Vibration					
		Monitor Contact Disturbance	ESCC 3401	-	-	1	μs
		Final Measurements					
		Coupling Screws Unlocking Torque Drift	ESCC 3401	ΔTqe/Tqe	-25	+25	% (2)
		Insulation Resistance	Table 2	Rı	Tab	le 2	
		Voltage Proof Leakage Current	Table 2	$I_{VPL}$	Tab	le 2	
		Voltage Proof Leakage Current Drift	Table 2	$\Delta I_{\text{VPL}}$	-	+25	% (2)
		Low Level Contact Resistance	Table 2	RcL	Tab	le 2	
		Low Level Contact Resistance Drift	Table 2	$\Delta R_{CL}$	-	+25	% (2)
		Mated Shell Conductivity	Table 2	R <sub>M</sub>	Tab	le 2	
		Mated Shell Conductivity Drift	Table 2	$\Delta R_M$	-	+25	% (2)
		Visual Examination	ESCC 3401	-	-	-	



ISSUE 1

ESCC Generic Spec. No. 3401		Measurements and Inspections		Symbol	Lim	nits	Unit
Environmental and Endurance Tests (1)	Test Method and Conditions	Identification	Conditions	·	Min	Max	
Shock or Bump	Para. 9.12	Initial Measurements (4)					
		Coupling Screws Unlocking Torque	ESCC 3401	Tqe	Record	Values	
		Insulation Resistance	Table 2	R <sub>I</sub>	Tab	le 2	
		Voltage Proof Leakage Current	Table 2	$I_{VPL}$	Tab	le 2	
		Low Level Contact Resistance	Table 2	RcL	Tab	le 2	
		Mated Shell Conductivity	Table 2	Rм	Tab	le 2	
		Measurements during Vibration					
		Monitor Contact Disturbance	ESCC 3401	-	-	1	μs
		Final Measurements					
		Coupling Screws Unlocking Torque Drift	ESCC 3401	ΔTqe/Tqe	-25	+25	% (2)
		Insulation Resistance	Table 2	Rı	Tab	le 2	
		Voltage Proof Leakage Current	Table 2	$I_{VPL}$	Tab	le 2	
		Voltage Proof Leakage Current Drift	Table 2	$\Delta I_{VPL}$	-	+25	% (2)
		Low Level Contact Resistance	Table 2	RcL	Tab	le 2	
		Low Level Contact Resistance Drift	Table 2	ΔR <sub>CL</sub>	-	+25	% (2)
		Mated Shell Conductivity	Table 2	R <sub>M</sub>	Tab	le 2	
		Mated Shell Conductivity Drift	Table 2	ΔR <sub>M</sub>	-	+25	% (2)
		Visual Examination	ESCC 3401	-	-	-	
Climatic	Para. 9.13	Initial Measurements (4)					
Sequence		Insulation Resistance	Table 2	Rı	Tab		
		Voltage Proof Leakage Current	Table 2	IVPL	Tab		
		Low Level Contact Resistance	Table 2	RcL	Tab		
		Mated Shell Conductivity	Table 2	Rм	Tab	le 2	
		Dry Heat					
		Insulation Resistance	Table 2 (at $T_{amb} = +125$ °C)	R <sub>i</sub>	1	-	GΩ
		Low Air Pressure					
		Voltage Proof Leakage Current	100Vrms	I <sub>VPL</sub>	-	1	mA
		Damp Heat					
		Insulation Resistance	Table 2	Ri	20	-	ΜΩ
		Final Measurements					
		External Visual Inspection	ESCC 3401	_	_		
		Insulation Resistance	Table 2	Ri	Tab	le 2	
		Voltage Proof Leakage Current	Table 2	I <sub>VPL</sub>	Tab		
Plating Thickness	Para. 9.14	Plating Thickness	-	-	Para	. 4.4	



ISSUE 1

ESCC Generic Spec. No. 3401		Measurements and Inspe	ections	Symbol	Lin	Unit	
Environmental and Endurance Tests (1)	Test Method and Conditions	Identification	Conditions		Min	Max	
Rapid Change of	Para. 9.16	Initial Measurements					
Temperature		Visual Examination	ESCC 3401	-		-	
		Insulation Resistance	Table 2	Rı	Tab	le 2	
		Voltage Proof Leakage Current	Table 2	I <sub>VPL</sub>	Tab	le 2	
		Low Level Contact Resistance	Table 2	RcL	Tab	le 2	
		Mated Shell Conductivity	Table 2	R <sub>M</sub>	Tab	le 2	
		Final Measurements					
		Visual Examination	ESCC 3401	-		-	
		Insulation Resistance	Table 2	Rı	Tab	le 2	
		Voltage Proof Leakage Current	Table 2	I <sub>VPL</sub>	Tab	le 2	
		Low Level Contact Resistance	Table 2	RcL	Tab	le 2	
		Mated Shell Conductivity	Table 2	R <sub>M</sub>	Tab	Table 2	
		Mated Shell Conductivity Drift	Table 2	ΔR <sub>M</sub>	-	25	% (2)
Contact Retention (in Insert)	Para. 9.17, and Para. 4.3.4 herein	Contact axial displacement	ESCC 3401	-	ESCC 3401		
Fradurana a		Initial Measurements					
Endurance	Para. 9.18		FCCC 2404		Dava	405	
		Mating and Unmating Forces	ESCC 3401 Table 2	D-:	Para.		
		Low Level Contact Resistance Mated Shell Conductivity	Table 2	R <sub>CL</sub> R <sub>M</sub>	Table 2 Table 2		
		Final Measurements					
		Visual Examination	ESCC 3401	-	-	-	
		Mating and Unmating Forces	-	_	Para.	435	
		Low Level Contact Resistance	Table 2	RcL		le 2	
		Low Level Contact Resistance Drift	Table 2	ΔRcL	-	3	mΩ (2)
		Insulation Resistance	Table 2	Rı	Tab	  e-2	
		Voltage Proof Leakage Current	Table 2	I <sub>VPL</sub>	Tab		
		Mated Shell Conductivity	Table 2	R <sub>M</sub>	Tab		
Permanence of Marking	Para. 9.19	-	-	-	-		
Mating and Unmating Forces	Para. 9.20 and Para. 4.3.5 herein	Mating and Unmating Forces	ESCC 3401	-	Para.	4.3.5	

**ISSUE 1** 

No. 3401/096

ESCC Generic Sp	ec. No. 3401	Measurements and Inspe	ections	Symbol	Lin	nits	Unit
Environmental and Endurance Tests (1)	Test Method and Conditions	Identification	Conditions		Min	Max	
High Temperature	Para. 9.21	Initial Measurements				•	
Storage		Visual Examination	ESCC 3401	-	-		
		Insulation Resistance	Table 2	$R_{l}$	Tab	le 2	
		Voltage Proof Leakage Current	Table 2	$I_{VPL}$	Tab	le 2	
		Low Level Contact Resistance	Table 2	RcL	Tab	le 2	
		Rated Current Contact Resistance	Table 2	Rcr	Tab	le 2	
		Mated Shell Conductivity	Table 2	$R_{M}$	Tab	le 2	
		Final Measurements					
		Visual Examination	ESCC 3401	-	-		
		Mating and Unmating Forces	-	-	Para.	4.3.5	
		Low Level Contact Resistance	Table 2	$R_{CL}$	Tab	le 2	
		Low Level Contact Resistance Drift	Table 2	$\Delta R_{CL}$	-	3	mΩ (2)
		Rated Current Contact Resistance	Table 2	Rcr	Table 2		
	Insulation Resistance Table 2 R <sub>I</sub> Table 2		le 2				
		Voltage Proof Leakage Current	Table 2	$I_{VPL}$	Table 2		
		Mated Shell Conductivity	Table 2	R <sub>M</sub>	Tab	le 2	
		Mated Shell Conductivity Drift	Table 2	$\Delta R_M$	-	25	% (2)
		Contact Retention (in insert)	ESCC 3401	-	Para.	4.3.4	
Corrosion	Para. 9.22	Visual Examination	ESCC 3401	-	-	-	
Insert Retention (in Shell)	Para. 9.23 and Para. 4.3.6 herein	Visual Examination	ESCC 3401	-	ESCC	3401	
High Temperature	Para. 9.25	Initial Measurements					
Measurements		Visual Examination	ESCC 3401	-			
		Insulation Resistance	Table 2	Rı	Tab	le 2	
		Voltage Proof Leakage Current	Table 2	$I_{VPL}$	Tab	le 2	
		Low Level Contact Resistance	Table 2	$R_{CL}$	Tab	le 2	
		Rated Current Contact Resistance	Table 2	$R_{CR}$	Tab	le 2	
		Mated Shell Conductivity	Table 2	$R_{M}$	Tab	le 2	
		Measurement at High Temperature Insulation Resistance	Table 2 (at T <sub>amb</sub> = +125°C)	Ri	1	-	GΩ
Engagement and Separation Forces	Para. 9.28 and Para. 4.3.7 herein	Engagement and Separation Forces	ESCC 3401	-	Para. 4.3.7		

# NOTES:

- 1. The tests in this Table refer to either Chart IV or V and shall be used as applicable.
- 2. Parameter Drift referred to the initial measurement prior to the test in question.
- 3. The final measurements from the previous test may be used as initial values.



# APPENDIX A AGREED DEVIATIONS FOR AXON' CABLE (F)

Items Affected	Description of Deviations
Para. 4.2.4, Deviations from Qualification Tests  - Chart IV	Qualification testing in accordance with ESCC No. 3401 Para. 8.1 and Chart IV may be replaced by Qualification Testing in accordance with ESCC Generic Specification No. 3409 Para. 7.1 and Chart F4A.
	In this case, the test vehicles contained in the Qualification Test Lot shall include connector savers in accordance with this specification that are mated with applicable HDR cable assemblies/connectors in accordance with ESCC Detail Specification Nos. 3409/002 and 3401/095. The selected test vehicles shall be agreed with the ESCC Executive.  The following deviations shall apply to the testing requirements of ESCC No. 3409 Chart F4A that shall apply to the connectors specified herein:
	<ul> <li>Para. 8.25, Shielding Effectiveness: is not applicable to the components specified herein.</li> <li>Para. 8.26, Cable Retention Force: is not applicable to the components specified herein.</li> <li>Para. 8.27, Ageing: the requirements of Table 6 herein (i.e. High Temperature Storage) shall apply.</li> </ul>
	<ul> <li>Para. 8.28, Mating Endurance: the requirements of Table 6 herein (i.e. Endurance) shall apply.</li> </ul>
	Para. 8.30, Bending: is not applicable to the components specified herein.
	• Para. 8.31 Vibration (Random and Sine): the requirements of Table 6 herein (i.e. Vibration) shall apply.
	• Para. 8.18.2, Temperature Cycling (200 cycles): the requirements of Table 6 herein (i.e. Rapid Change of Temperature) shall apply.
	Para. 8.32, Thermal Stability and Skew: is not applicable to the components specified herein.
	• Para. 8.21.4, Electrical Measurements at Room, High and Low Temperatures: the requirements of ESCC 3409/002 shall apply.
	• Para. 8.22, Radiographic Inspection: is not applicable to the components specified herein.
	Para. 8.24, Radiation: is not applicable to the components specified herein.
	Para. 8.35, Permanence of Marking: shall be performed.
	• Para. 8.37, Crimp Contact Tensile Strength: is not applicable to the components specified herein.



Items Affected	Description of Deviations
	Lot Acceptance Testing in accordance with ESCC No. 3401 Para. 8.2 and Chart V may be replaced by Periodic Testing in accordance with ESCC Generic Specification No. 3409 Para. 7.2 and Chart F4B.
	In this case, the test vehicles shall include connector savers in accordance with this specification that are mated with applicable HDR cable assemblies/connectors in accordance with ESCC Detail Specification Nos. 3409/002 and 3401/095.
	The following deviations shall apply to the testing requirements of ESCC No. 3409 Chart F4B that shall apply to the connectors specified herein:
	• Para. 8.25, Shielding Effectiveness: is not applicable to the components specified herein.
	• Para. 8.31 Vibration (Random and Sine): the requirements of Table 6 herein (i.e. Vibration) shall apply.
	• Para. 8.18.2, Temperature Cycling (100 cycles): the requirements of Table 6 herein (i.e. Rapid Change of Temperature) shall apply.
	• Para. 8.32, Thermal Stability and Skew: is not applicable to the components specified herein.
	• Para. 8.21.4, Electrical Measurements at Room, High and Low Temperatures: the requirements of ESCC 3409/002 shall apply.
	• Para. 8.22, Radiographic Inspection: is not applicable to the components specified herein.