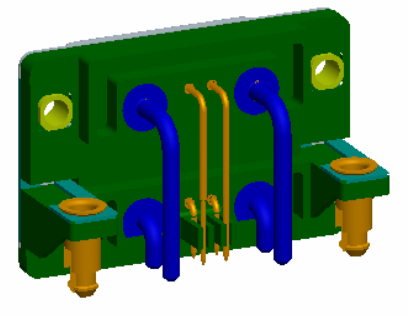
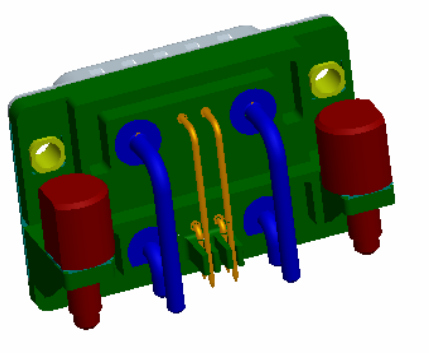
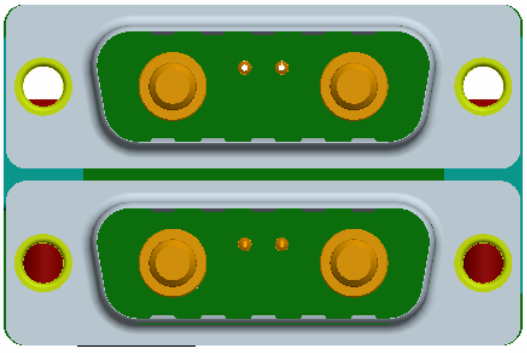
48V-PCB DUAL CONNECTOR



**PCB MALE CONNECTOR-
SOLDER TO BOARD**

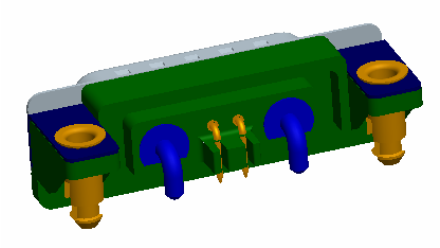


**PCB MALE CONNECTOR
PIP CONNECTOR**



Connector mating side view.

48V-PCB SINGLE CONNECTOR



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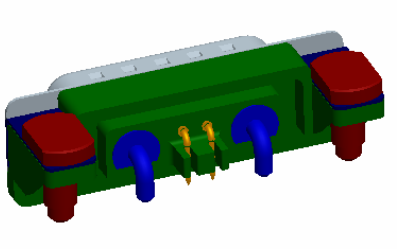
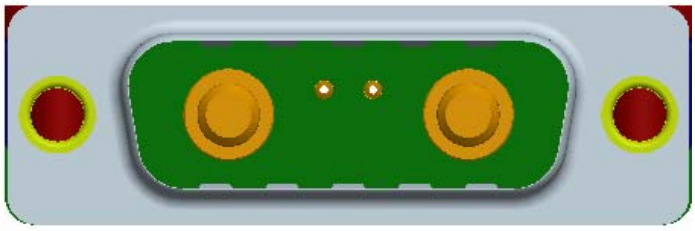


**PCB MALE CONNECTOR
PIP CONNECTOR**



Connector mating side view.

CONTENTS

1. Scope

This Product specification covers the requirements of a **µTCA Telecom Customers** & FCI D-SUB requirements.

2. Applicable documents

Specification or Standards Body	Specitication or Standard #	Description	Note
Telcordia	GR-1 21 7-CORE	Generic requirements for separable electrical connectors used in telecommunications hardware	
IEC	60664-1	Insulation coordination for equipment within low-voltage systems	Section: 3.2. 42
	605124-1	Voltage stress tests -Voltage Proof	
	60512-5-2	Current carrying capacity tests -Current temperature derating	
	60512-2-1	Electrical continuity and contact resistance tests -Contact resistance millivolt level method	
	60 512-3-1	Insulation tests -Insulation resistance	
	60512-234	Screening and filtering tests -Transmission line reflections in the time domain	
	60512-25-5	Tests and measurements -Return loss	
	60512-25-2	Tests and measurements - Attenuation (insertion loss)	

Specification or Standards Body	Specification or Standard #	Description	Note
IEC	60512-25.1	Tests and measurements -Crosstalk	

	605 12-5	Endurance tests -Mechanical Operation	Section: Test 9a
	60512-13-1	Basic testing and measurements -Engaging and separating forces	
	60512-8	Mechanical tests on contacts and terminations -Gauge retention force	Section: Test 16e
	60512-6-4	Dynamic stress tests -Vibration	
	60512-6-3	Dynamic stress tests •Shock	
	60512-1-1	General examination -Visual examination	
	60950-1	Safety -General requirements	Section 2.1.1.1: Access to energized parts
	60664-1	Insulation coordination of equipment within low-voltage systems	Section 2.5.1: Degrees of pollution in the micro-environment
EIA	364-31	Humidity test procedure for electrical connectors	
	364-32	Thermal shock test procedure for electrical connectors	
	364-91	Dust test for electrical connectors and sockets	
	365-65	Mixed flowing gas	
	364-04	Normal force test procedure for electrical connectors	
	364-17	Temperature life with or without electrical load test procedure for electrical connectors and sockets	
RoHS	2002/95/EC	Restriction of the use of certain Hazardous Substances in electrical and electric equipment	

3. Product description

3.1 General

PRODUCT LEAD FREE IN ACCORDANCE TO RoHS 2002/EC/95
UL 94 V0 :E118235(R)

This connector is mounted on the front side of the power module and is connected to the external female power cable.
48V/24A type PCB Connector
The connector mounted on the front panel and the contacts are connected to the internal PCB.
Connector is with 2 power & 2 signal angled contacts for power monitoring.

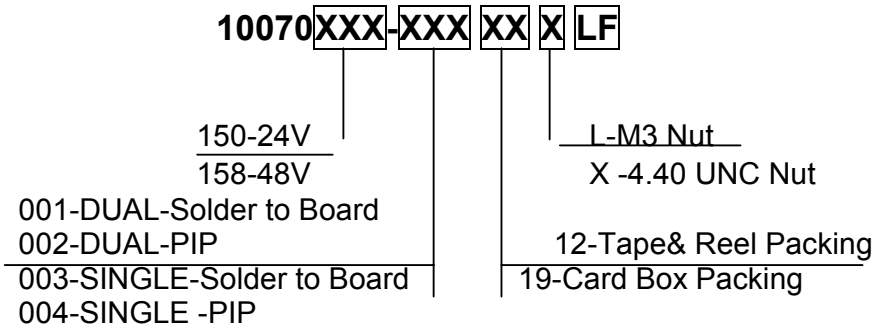
3.2 Design and construction

The connector shall be of design, construction and physical dimensions as specified on the applicable product customer drawings :

Customer Drawings :

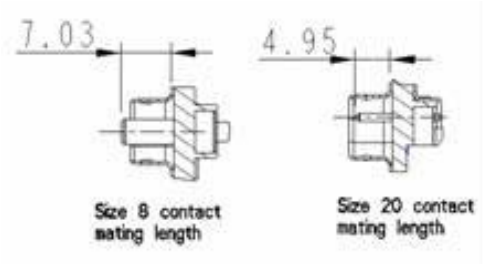
1) 48V PCB DUAL (Solder to Board) :- 10070158-001
2) 48V PCB DUAL (PIP) :- 10070158-002
3) 48V PCB SINGLE (Solder to Board) :- 10070158-003
4) 48V PCB SINGLE (PIP) :- 10070158-004

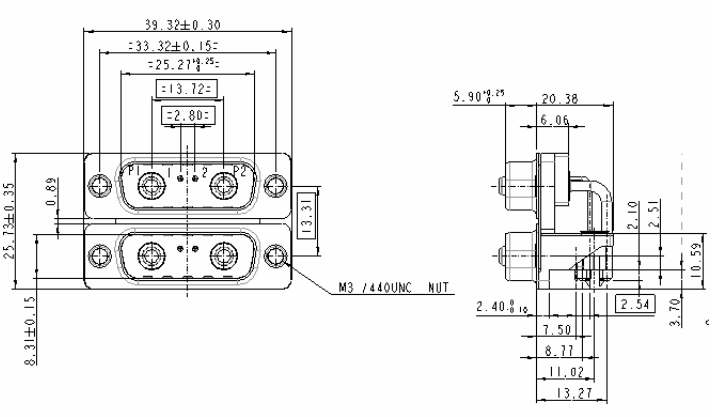
ORDERING INFORMATION



48V PCB DUAL CONNECTOR

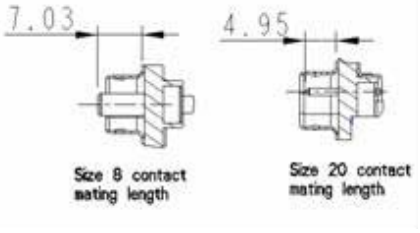
General mating Dimensions

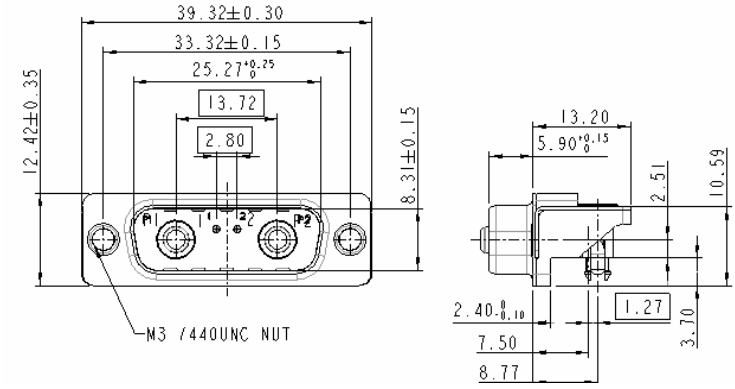




48V PCB SINGLE CONNECTOR

General mating Dimensions





See Customer drawing for more details:-

3.3 Materials and plating

3.3.1 Housing dielectric material

Plastic raw material: Genestar 33% GF, UL94 V-O rating
Black co lour

3.3.2 Terminal material

Power contact Termination :- **Brass**
Power contact Active :-**Brass**
Signal Contacts :- **Brass**

3.3.3 Terminal Plating

Power termination :Sn over Cu
Power active : Cu + Ni + Au

Signal contact : Au

3.3.4 Shell material

Steel

3.3.5 Shell Plating

Nickel

3.3.6 Accessory Material

Riveted Quality Brass for Clinch Nut
Metal Bracket : Phosphor Bronze
Harpoon : Brass
LIF Harpoon : Brass

3.3.7 Accessory Plating

Riveted Quality Brass for Clinch Nut : Nickel
Metal Bracket : Phosphor Bronze : Nickel
Harpoon : Brass : Tin over Nickel
LIF Harpoon : Brass Tin over Nickel

4. Characteristics &Test schedule

4.1 Characteristics

4.1.1 ***Environmental Characteristics***

- Operating Temperature : 70º; + 30º temperature rise.
- Temperature Range : -50°C to 125 °C
- Self Existing capacity of plastics : UL V0
- Damp Heat Steady state : 21 days
- Salt Spray : 48 hours
- Resistance to atmospheric corrosion : Std Requirement for telecom

4.1.2 ***Electrical Characteristics***

- Max. Current rating / contact (IEC 60512-5-2) : 48V – 24A (Power contact) - Temperature rise 30º :0.375A (Signal contact)
- Creepage clearance (IEC-60 664-1) : Between all cts and shells 1.5 except between Signal cts: 0.4.

- Insulation voltage (IEC-60512-4-1) : 1000 Vrms
- Contact Resistance (IEC-60512-2-1) : ≤10 milli Ohms (Power)
  : ≤25 milli Ohms (Power)
- Insulation Resistance (IEC-60512-3-1) : 5000 MΩ initial / 500 MΩ after tests (under 1000 V)
- Hot swap : Yes , but with signal contacts monitoring (first break/last mate)
- Engagement under electrical load : 200 cycles -5V at 0.2A

4.1.3 Mechanical Characteristics

- Mechanical operation : 200 mating cycles (Speed -10mm/sec max.)
- Engaging &Separating forces : Maximum Engaging force -100N
  : Maximum Separating force -65N
- Max. Bottoming force : 200N at one minute duration of insertion
- Vibration : 10-500 Hz 50 m/s² 3 x8 x 3 axis 1 µs monitoring
- Shock : 300 m/s² 11 ms 1 µs monitoring
- Contact diameter on active area : 3.6mm (Power contact)
  : 1.0mm (signal contact)

4.2 *Test Schedule*

- This section defines 5 groups of connector test requirements referred from GR-12-17-CORE.These applicable to all connector mounted on a Micro TCA system.

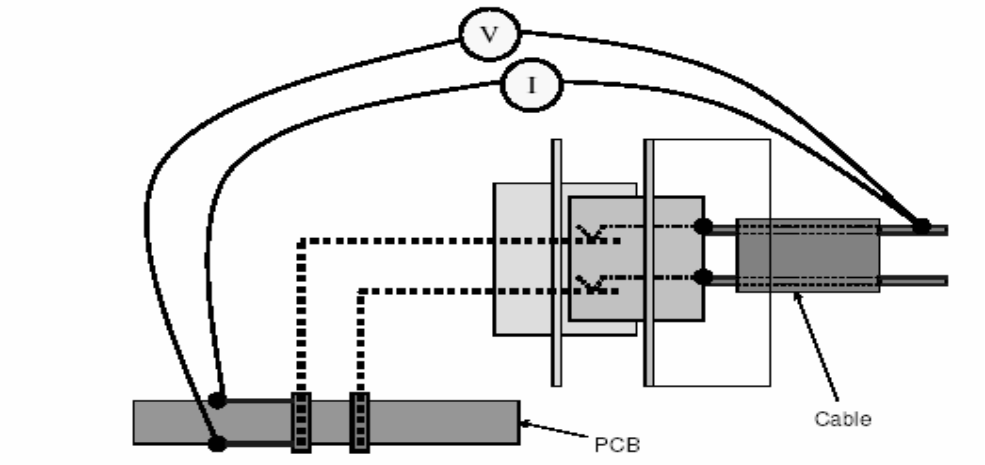
- Test Group A - Mixed Flowing Gas
- Test Group B - Mechanical Endurance and Dust
- Test Group C - Thermal Shock & Moisture
- Test Group D - High Temperature
- Test Group E - Electrical Load Temperature Rise

4.2.1 ***Specimen measurement arrangements***

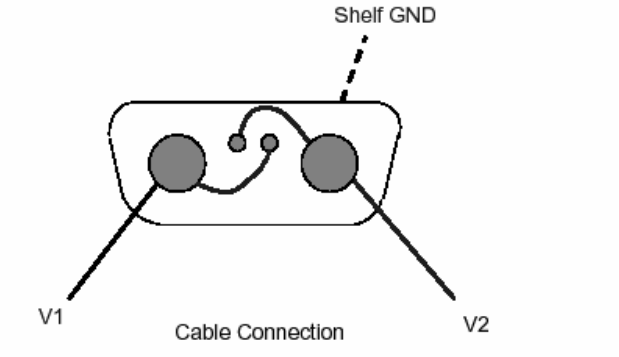
- Set 1: Contact Resistance measurement arrangement.
- Set 2: Insulation Resistance & Voltage –proofing measurement arrangement.
- Set 3: Current carrying measurement arrangement.

- Set 4: Contact Disturbance measurement arrangement.
- Set 5: Shock & Vibration test setup.

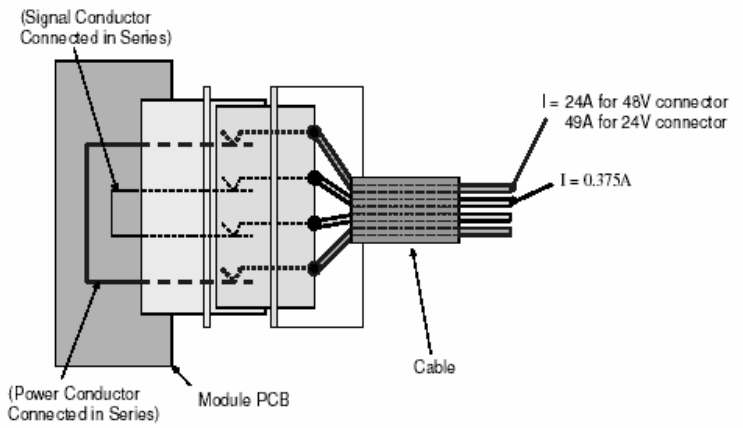
Set 1: Power Module Input Connector contact resistance measurement arrangement:



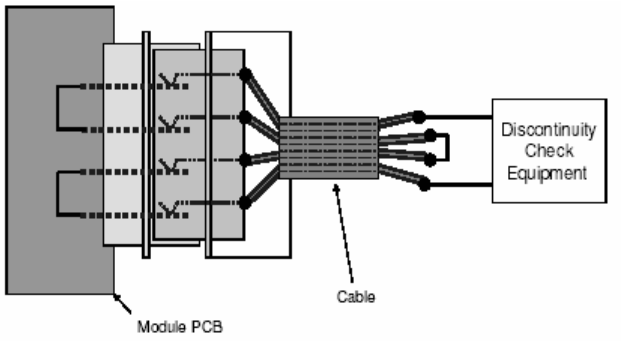
Set 2: Power Module Input Connector insulation resistance and voltage-proof measurement arrangement:



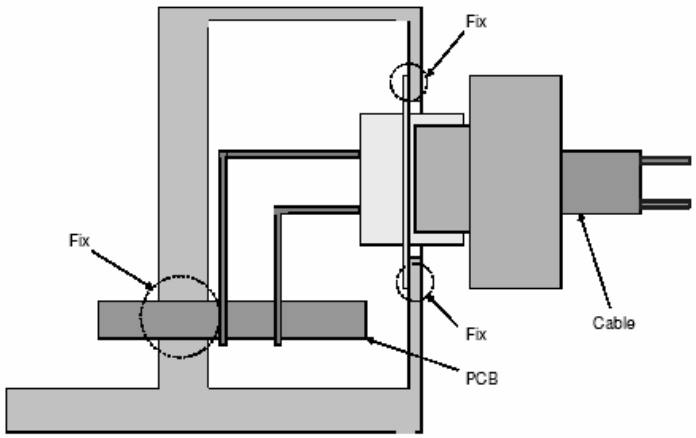
Set 3: Power Module Input Connector current-carrying capacity measurement arrangement.



- Set 4: Power Module Input Connector contact disturbance measurement arrangement.



- Set 5 :Power Module Input Connector shock/vibration test setup.



4.2.2 ***Test Schedule Table***

- *Number of specimen on each test Group*

Test groups	**Measurement arrangement**					
	Total	**Set 1**	**Set 2**	**Set 3**	**Set 4**	**Set 5**
Group A	**7**	**4**	**3**			
Group B	**12**	**4**	**3**		**3**	**2**
Group C	**10**	**4**	**3**		**3**	
Group D	**7**	**4**	**3**			
Group E	**3**			**3**		

4.2.2.1 Group A - Mixed flowing gas test:-

- **Mixed flowing gas testing sequence**

Test phase	**Title**	**Specimen**	**Severity /Condition of test**	**Measurement to be performed.**	**Ref. Standard**	**Requirements**
A1	General examination	Set 1 Set 2	Unmated & un mounted connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation.
A2	Contact normal force	Set 1		Contact Force	EIA-364-04	This is for design verification purpose and no requirement. (Preferred = 0.98 N minimum)
A3	Engaging/ Separating Force	Set 2	Speed = 10 mm/s max. Plug-in card insertion and extraction	Engaging and separating forces	IEC 60512-13-1	**Maximum engaging force** 100 N **Maximum separating force** 65 N **Maximum bottoming force** 200 N
A4	Insulation test	Set 2	Standard atmospheric conditions &Mated Condition	insulation resistance	IEC 60512-3-1	5000 MΩ initial / 500 MΩ after tests (under 1000 V)

A5	Voltage stress tests	Set 2	Standard atmospheric conditions &Mated Condition	Voltage-proof	IEC 60512-4-1	1000 Vrms
A6	Contact Resistance	Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
A7	Mechanical Operation	Set 1 Set 2	Speed = 10 mm/s max. Rest 5 s (unmated) Initial 100 operations	Pre-wear	IEC605 12-5.9a	
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
A8	High Temperature(Optional)	Set 1 Set 2	Mated Connectors Ambient temperature 105° C No electrical load Duration 300 h Recovery time 2 h	Temperature Life	EIA-364-17	This section is out of GR-1217-CORE requirement, but preferred to add for tighter environment application use
		Set 1	Max voltage = 20 mV in open circuit Max current = 100 mA	Contact resistance	IEC 60512-2-1	This section is out of GR-1217-CORE requirement, but preferred to add for tighter environment application use ≤10 milli Ohms (Power) ≤25 milli Ohms (Power)

A9	Corrosion industrial atmosphere	Set 1 Set 2	Set 1 Set 2 Central office environmental applications: Connector 5 days NO2: 200ppb(+/-50) Cl2: 10ppb(+/-3) H2S:10ppb(+/-5) SO2: 100ppb(+/-20) Uncontrolled environment application: Unmated Connector 5 days NO2: 200ppb(+/-50) Cl2: 20ppb(+/-5) H2S:100ppb(+/-20) SO2: 200ppb(+/-50)	Mixed flowing gas	EIA-364-65 Class IIA/ IIIA	
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)

		Set 1 Set 2	Set 1 Set 2 Central office environmental applications: Connector 5 days NO2: 200ppb(+/-50) Cl2: 10ppb(+/-3) H2S:10ppb(+/-5) SO2: 100ppb(+/-20) Uncontrolled environment application: Unmated Connector 5 days NO2: 200ppb(+/-50) Cl2: 20ppb(+/-5) H2S:100ppb(+/-20) SO2: 200ppb(+/-50)	Mixed flowing gas	EIA-364-65 Class IIA/ IIIA	
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
		Set 1 Set 2	Uncontrolled environment application: Mated Connector 5 days. NO2: 200ppb(+/-50) Cl2: 20ppb(+/-5) H2S:100ppb(+/-20) SO2: 200ppb(+/-50)	Mixed flowing gas	EIA-364-65 Class IIIA	This section is applied only for uncontrolled environment application test.
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	This section is applied only for uncontrolled environment application test. ≤10 milli Ohms (Power) ≤25 milli Ohms (Power)

		Set 1 Set 2	Uncontrolled environment application: Mated Connector 5 days. NO2: 200ppb(+/-50) Cl2: 20ppb(+/-5) H2S:100ppb(+/-20) SO2: 200ppb(+/-50)	Mixed flowing Gas. Uncontrolled environment	EIA-364-65 Class IIIA	This section is applied only for uncontrolled environment application test.
A9 (Continued)	Corrosion industrial atmosphere (Continued)	Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	This section is applied only for uncontrolled environment application test. ≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
		Set 1	Disturb Module PCB slightly from Connector, and then reseat.	Minute Disturbance	GR-1217-CORE, 9.1.3.2 paragraph 7; 9.1.3.3, paragraph7	
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
A10	Mechanical Operation	Set 1 Set 2	Speed = 10 mm/s max. Rest 5 s (unmated) Remaining 100 operations	Post-wear	IEC 60512-5. Test 9a	

		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
A11	Engaging/ Separating Force	Set 2	Speed = 10 mm/s max. Plug-in card insertion and extraction	Engaging and separating forces	IEC 60512-13-1	
A12	Contact normal force	Set 1		Contact force	EIA-364-04	This is for design verification purpose and no requirement. (Preferred = 0.98 N minimum)
A13 .	General examination	Set 1 Set 2	Unmated Connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation

4.2.2.2 Group B - Mechanical endurance and dust :-

- **Mechanical endurance and dust testing sequence**

Test phase	Tittle	Specimen	Severity /Condition of test	Measurement to be performed.	Ref. Standard	Requirments
B1	General examination	Set 1 Set 2 Set 4	Unmated & un mounted connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation.
B2	Contact normal force	Set 1		Contact Force	EIA-364-04	This is for design verification purpose and no requirement. (Preferred = 0.98 N minimum)
B3	Engaging/ Separating Force	Set 2	Speed = 10 mm/s max. Plug-in card insertion and extraction	Engaging and separating forces	IEC 60512-13-1	

B4	Insulation test	Set 2	Section 7.5.3.5&Mated Condition	insulation resistance	IEC 60512-3-1	5000 MΩ initial / 500 MΩ after tests (under 1000 V)
B5	Voltage stress tests	Set 2	Section 7.5.3.2&Mated Condition	Voltage-proof	IEC 60512-4-1	1000 Vrms (There shall b no breakdown /flashover)
B6	Contact Resistance	Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
B7	Mechanical Operation	Set 1 Set 2	Speed = 10 mm/s max. Rest 5 s (unmated) Initial 100 operations	Pre-wear	IEC6051 2-5.9a	
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
B8	Dust	Set 1 Set 4	Unmated and mounted Connectors + Module PCB's Benign dust concentration of 300 g/m3 of chamber volume, flow rate = 300 m/s and an exposure time of 1 h. According to GR-1217-CORE, Sections 9.1.1.1 and 9.1.1.2 Recovery time 2 h	Dust exposure	EIA-364-91	
		Set 1	Max voltage = 20 mV in open circuit Max current = 100 mA	Contact resistance	IEC 60512-2-1	This section is out of GR-1217-CORE requirement, but preferred to add for tighter environment application use ≤10 milli Ohms (Power) ≤25 milli Ohms (Power)

B9	Vibration	Set 1 Set 2 Set 4 Set 5	Frequency 10 Hz to 500 Hz Amplitude 0.35 mm or 50 m/s² Full duration 3 x 8 h in three axes (32 sweepings in each direction)	Monitored vibration	IEC 60512-6-4	
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
B10	Shock	Set 1 Set 2 Set 4 Set 5	Shock acceleration 300 m/s² Duration of impact 11 ms Three shocks in two directions along 3 axes (18 shocks total)	Monitored mechanical shock	IEC 60512-6-3	This section is applied only for uncontrolled environment application test.
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
B11	Mechanical Operation	Set 1 Set 2 Set 4	Speed = 10 mm/s max. Rest 5 s (unmated) Remaining 100 operations	Post-wear	IEC 60512-5. Test 9a	
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
B12	Engaging/ Separating Force	Set 2	Speed = 10 mm/s max. Plug-in card insertion and extraction	Engaging and separating forces	IEC 60512-13-1	
B13	Insulation test	Set 2	Section 7.5.3.5&Mated Condition	insulation resistance	IEC 60512-3-1	5000 MΩ initial / 500 MΩ after tests (under 1000 V)
B14	Voltage stress tests	Set 2	Section 7.5.3.2&Mated Condition	Voltage-proof	IEC 60512-4-1	1000 Vrms (There shall b no breakdown

						/flashover)
B15	Contact normal force	Set 1		Contact force	EIA-364-04	This is for design verification purpose and no requirement. (Preferred = 0.98 N minimum)
B14 .	General examination	Set 1 Set 2	Unmated Connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation

4.2.2.3 Group C - Thermal shock and moisture

- **Thermal shock and moisture testing sequence**

Test phase	Tittle	Specimen	Severity /Condition of test	Measurement to be performed.	Ref. Standard	Requirments
C1	General examination	Set 1 Set 2 Set 3	Unmated & un mounted connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation.
C2	Contact normal force	Set 1		Contact Force	EIA-364-04	This is for design verification purpose and no requirement. (Preferred = 0.98 N minimum)
C3	Engaging/ Separating Force	Set 2	Speed = 10 mm/s max. Plug-in card insertion and extraction	Engaging and separating forces	IEC 60512-13-1	

C4	Insulation test	Set 2	Section 7.5.3.5&Mated Condition	insulation resistance	IEC 60512-3-1	5000 MΩ initial / 500 MΩ after tests (under 1000 V)
C5	Voltage stress tests	Set 2	Section 7.5.3.2&Mated Condition	Voltage-proof	IEC 60512-4-1	1000 Vrms (There shall b no breakdown /flashover)
C6	Contact Resistance	Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
C7	Mechanical Operation	Set 1 Set 2	Speed = 10 mm/s max. Rest 5 s (unmated) Initial 100 operations	Pre-wear	IEC6051 2-5.9a	
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
C8	Dust	Set 1 Set 4	Unmated and mounted Connectors + Module PCB's Benign dust concentration of 300 g/m3 of chamber volume, flow rate = 300 m/ s and an exposure time of 1 h. According to GR-1217-CORE, Sections 9.1.1.1 and 9.1.1.2 Recovery time 2 h	Dust exposure	EIA-364-91	
		Set 1	Max voltage = 20 mV in open circuit Max current = 100 mA	Contact resistance	IEC 60512-2-1	This section is out of GR-1217-CORE requirement, but preferred to add for tighter environment application use ≤10 milli Ohms (Power) ≤25 milli Ohms (Power)

C9	Thermal Shock	Set 1 Set 2 Set 4	Five cycles of alternating high and low temperature. 30 minutes dwell at each extreme, with a max. transfer time of 5 s between extremes. Central office environment application: -55 °C to 85°C According to GR-1217-CORE, Section 6.3.3, R6-57 Uncontrolled environment application: -65 °C to 105°C According to GR-1217-CORE, Section 6.3.3, R6-58	Monitored thermal shock	EIA-364-32	There shall be no contact disturbance longer than 1 µs
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
C10	Damp heat, cyclic	Set 1 Set 2 Set 4	Mated Connectors Central office environment application: Thermal cycling between 25 °C and 65 °C with 80% to 98% relative humidity 50 cycles, duration 500 h According to GR-1217-CORE, Section 6.3.4, R6-64 Uncontrolled environment	Temperature/ Humidity cycling	EIA-364-31	

			application: Thermal cycling between 5 °C and 85 °C with 80% to 98% relative humidity 50 cycles, duration 500 h According to GR-1217-CORE, Section 6.3.4, R6-65			
		Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
C11	Engaging/ Separating Force	Set 2	Speed = 10 mm/s max. Plug-in card insertion and extraction	Engaging and separating forces	IEC 60512-13-1	
C12	Insulation test	Set 2	Section 7.5.3.5&Mated Condition	insulation resistance	IEC 60512-3-1	5000 MΩ initial / 500 MΩ after tests (under 1000 V)
C13	Voltage stress tests	Set 2	Section 7.5.3.2&Mated Condition	Voltage-proof	IEC 60512-4-1	1000 Vrms (There shall b no breakdown /flashover)
C14	Contact normal force	Set 1		Contact force	EIA-364-04	This is for design verification purpose and no requirement. (Preferred = 0.98 N minimum)
C15.	General examination	Set 1 Set 2	Unmated Connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation

4.2.2.3 Group D - High temperature and electrical load

High temperature and electrical load testing sequence:-

Test phase	Tittle	Specimen	Severity /Condition of test	Measurement to be performed.	Ref. Standard	Requirments

D1	General examination	Set 1 Set 2 Set 3	Unmated & un mounted connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation.
D2	Contact normal force	Set 1		Contact Force	EIA-364-04	This is for design verification purpose and no requirement. (Preferred = 0.98 N minimum)
D3	Engaging/ Separating Force	Set 2	Speed = 10 mm/s max. Plug-in card insertion and extraction	Engaging and separating forces	IEC 60512-13-1	
D4	Insulation test	Set 2	Section 7.5.3.5&Mated Condition	insulation resistance	IEC 60512-3-1	5000 MΩ initial / 500 MΩ after tests (under 1000 V)
D5	Voltage stress tests	Set 2	Section 7.5.3.2&Mated Condition	Voltage-proof	IEC 60512-4-1	1000 Vrms (There shall b no breakdown /flashover)
D6	Contact Resistance	Set 1	Max. voltage = 20 mV in open circuit Max. current = 100 mA	Contact Resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
D7	High Temperature Life	Set 1 Set 2	Mated Connectors Ambient temperature 105° C No electrical load Duration 300 h Recovery time 2 h	Temperatur e Life	EIA-364-17	Even the central office environment application, Connectors in MicroTCA **shall** be tested at this temperature condition
		Set 1	Max voltage = 20 mV in open circuit Max current = 100 mA	Contact resistance	IEC 60512-2-1	≤10 milli Ohms (Power) ≤25 milli Ohms (Power)
D8	Static Load Retention .	Set 2	Unmated & un mounted connectors	visual examination	IEC 60512-1-1	There shall be no damage that would impair normal operation

D9	Engaging/ Separating Force	Set 2	Speed = 10 mm/s max. Plug-in card insertion and extraction	Engaging and separating forces	IEC 60512-5 test9a	
D10	Insulation test	Set 2	Section 7.5.3.5&Mated Condition	insulation resistance	IEC 60512-3-1	5000 MΩ initial / 500 MΩ after tests (under 1000 V)
D11	Voltage stress tests	Set 2	Section 7.5.3.2&Mated Condition	Voltage-proof	IEC 60512-4-1	1000 Vrms (There shall b no breakdown /flashover)
C12	Contact normal force	Set 1		Contact force	EIA-364-04	This is for design verification purpose and no requirement. (Preferred = 0.98 N minimum)
C13 .	General examination	Set 1 Set 2	Unmated Connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation

4.2.2.3 Group E- Electrical load and temperature
Electrical load and temperature testing sequence:-

Test phase	Tittle	Specimen	Severity /Condition of test	Measurement to be performed.	Ref. Standard	Requirments
E1	General examination	Set 3	Unmated & un mounted connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation.
E2	Electrical load &temperature	Set 3		Current carrying capacity	IEC 60512-5-5	This is for design verification purpose and no requirement. (Preferred = 0.98 N minimum)

E3	General examination	Set 3	Unmated & un mounted connectors	Visual examination	IEC 60512-1-1	There shall be no defect that would impair normal operation.

4.2 ***Accessories***

Insert M3/4.40UNC : Retention against torque 0.7N.m Min.
Female screw lock : Retention against torque 0.5N.m Min.

5. Reflow process

Lead free soldering

In accordance with: JSTD_020C 5 (solder pick to 265º)

6. Packaging

Packing According to GS-14-1104 . The traceability of all parts must be guaranteed by date code on each product.

7.Revision record

Rev.	Page	Description	ECN	YY/MM/DD
A	All	Released	I07-0005	2007/01/10

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- ### Address :

  401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
  Minhang District, Shanghai , China

- ### Sales :

  Direct +86 (21) 6401-6692

  Email amall@ameya360.com

  QQ 800077892

  Skype ameyasales1 ameyasales2

- ### Customer Service :

  Email service@ameya360.com

- ### Partnership :

  Tel +86 (21) 64016692-8333

  Email mkt@ameya360.com