1. Scope:

1.1 Contents

This specification covers the requirements for product performance, test methods and quality assurance provisions of FBIS-2 Connector.
Applicable product descriptions and part numbers are as shown in Appendix 2.

2. Applicable Documents:

The following documents form a part of this specification to the extent specified herein. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1 AMP Specifications :

A.109-5000 Test Specification,
General Requirements for Test Methods.
B.501-61054 Test Report:

2.2 Commercial Standards and Specifications:

A. MIL-STD-202 : Test Methods for Electronic and
Electrical Component Parts.
B.EIA 364 : Test Specification

Tyco Electronics AMP Korea. (2nd Fl. 1365-10 Seocho-Dong Seocho-Ku Seoul Korea, 137-070)

3. Requirements

3.1 Design and Construction

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.

3.2 Materials

A. Contact

・Material：Copper Alloy

・Finish： Nickel-under plated all over.
Gold plated at contact area.
Gold flash plated at soldering area.

B. Housing

Thermoplastic Molding Compound
Color：Black, UL94V-0 / UL94HB

C. Solder Peg

・Material：Copper Alloy

・Finish： Nickel-under plated all over.
Tin plated all over.

3.3 Ratings

A. Voltage Rating：30V DC

B. Current Rating：1 A /Contact

C. Temperature Rating：－40℃ to +85℃
High limit temperature includes raised temperature by operation.

3.4 Performance Requirements and Test Descriptions

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Fig. 1. All tests shall be performed in the room temperature, unless otherwise specified.

3.5 Test Requirements and Procedures Summary

Para.	Test Items	Requirements	Procedures
3.5.1	Examination of Product	Meets requirements of product drawing.	Visual inspection No physical damage
		Electrical Requirements	
3.5.2	Termination Resistance (Low Level)	50mΩ Max. (Initial) ΔR 10mΩ Max.(Final)	Subject mated contacts assembled in housing to 20 mV Max. open circuit at 100 mA. Fig.1 EIA 364-23
3.5.3	Dielectric withstanding Voltage	No creeping discharge or flashover shall occur. Current leakage：1mA Max.	500VAC for 1 minute. Test between adjacent circuits of mated connectors. EIA 364-20
3.5.4	Insulation Resistance	100MΩ Min.	100V DC for 1 minute. Test between adjacent circuits of mated connectors. EIA 364-21
3.5.5	Temperature Rising	30℃ Max. under loaded rating current.	Measure temperature rising by energized current. EIA 364-70 Method 2
		Mechanical Requirements	
3.5.6	Connector Mating Force	1Pos.: 1 N Max.	Operation Speed：100mm/min. Measure the force required to mate connectors. EIA 364-13
3.5.7	Connector Un-mating Force	1Pos.: 0.1 N Min.	Operation Speed：100mm/min. Measure the force required to unmate connectors. EIA 364-13
3.5.8	Durability (Repeated Mating / Un-mating)	ΔR 10mΩ Max. (Final)	Operation Speed：600cycles/hour Max. Number of Cycles：5,000 cycles (M/C Test) EIA 364-9
3.5.9	Vibration (Low Frequency)	No electrical discontinuity greater than 1μsec. shall occur. ΔR 10mΩ Max.	Mated connectors to 10-55-10 Hz traversed in 1 minute at 1.52mm amplitude 2 hours each of 3 mutually perpendicular planes. 100mA applied. EIA 364-28 Condition I

Fig. 1 (CONT.)

Para.	Test Items	Requirements	Procedures
3.5.10	Physical Shock	No electrical discontinuity greater than 1 μ sec. shall occur. ΔR 10mΩ Max.	Accelerated Velocity: 490m/s^2(50G) Waveform: Half sin Duration: 11m sec. Number of Drops: 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops. 100mA applied. EIA 364-27 Method A
3.5.11	Solder ability	Wet Solder Coverage: 90 % Min.	Solder Temperature : 230 ± 5 ℃ Immersion Duration : 3 ± 0.5 sec. Flux: Alpha 100 EIA 364-52
		Environmental Requirements	
3.5.12	Thermal Shock	ΔR 10mΩ Max.	Mated connector －40℃ /30min. 85℃ /30 min. Make this a cycle, repeat 24 cycles. EIA 364-32
3.5.13	Temperature Life (Heat Aging)	ΔR 10mΩ Max.	Mated connector 85℃, Duration : 96 hours EIA 364-17
3.5.14	Humidity, Steady State	ΔR 10mΩ Max. Insulation Resistance 100MΩ Min. Dielectric Resistance Voltage To meet the spec 3.5.3.	Subject mated connector 90% Min.RH, 60℃ 96hours Measure after leaving 4hour in the room temperature & humidity. EIA 364—31 Method II, Condition B
3.5.15	Salt Spray	ΔR 10mΩ Max. No corrosion that damages function of connector allowed.	Mated connectors with 5 %, 35℃ concentration for 48 hours. EIA 364-26 Condition B
3.5.16	Industrial Gas (SO2)	ΔR 10mΩ Max. No corrosion that damages function of connector allowed.	Mated connector SO2 Gas: 10ppm, 75 % R. H. 40℃, 48 hours AMP Spec. 109-5107 Condition C
3.5.17	Resistance to Soldering Heat	No physical damage shall occur.	Soldering iron Temperature: 380±10℃ 5sec. Max. No Pressurize a Tine. EIA 364-56
3.5.18	Resistance to Reflow Heat	No physical damage allowed.	Temperature profile; as shown in Fig. 3 EIA 364-56

Fig. 1 (End)

3.6 Product Qualification Test Sequence

Test Examination	Test Group									
	1	2	3	4	5	6	7	8	9	10
	Test Sequence (a)									
Examination of Product	1,7	1,10	1,6	1,6	1,10	1,6	1,6	1,4	1,3	1,3
Termination Resistance (Low Level)	3,6	3,9	3,5	3,5	3,9	3,5	3,5			
Dielectric withstanding Voltage					5,8					
Insulation Resistance					4,7					
Temperature Rising								3		
Vibration (Low Frequency)	4									
Physical Shock	5									
Connector Mating Force		4,7								
Connector Un-mating Force		5,8								
Durability (Repeated Mate / Un-mating)		6								
Solderability									2	
Thermal Shock			4							
Temperature Life (Heat Aging)				4						
Humidity (Steady State)					6					
Salt Spray						4				
Industrial SO_2 Gas							4			
Resistance to Soldering										2
Resistance to Reflow Heat	2	2	2	2	2	2	2	2		

Appendix 1

(a) Numbers indicate sequence in which the tests are performed.

The applicable product descriptions and part numbers are as shown in Appendix.2.

Product Part No.	Description
x-2108074-x	FBIS-II RECEPTACLE CONNECTOR
x-2108070-x x-2108078-x	FBIS-II PLUG CONNECTOR

Appendix 2

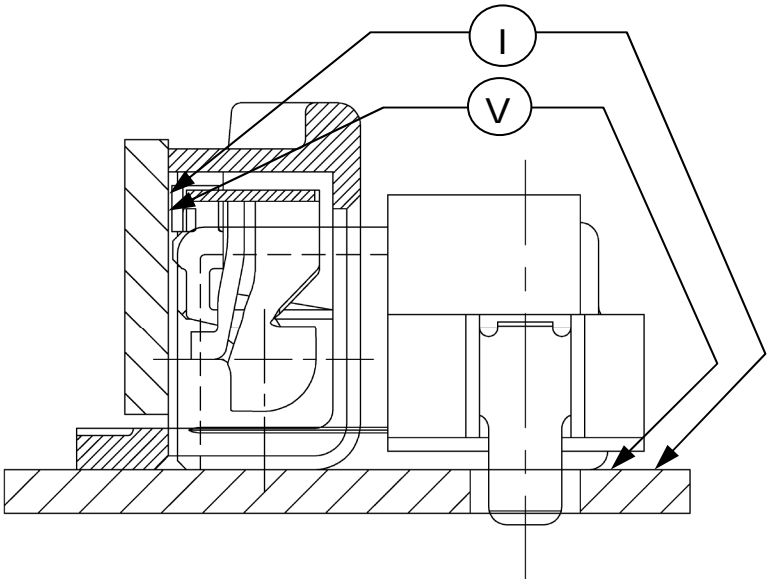
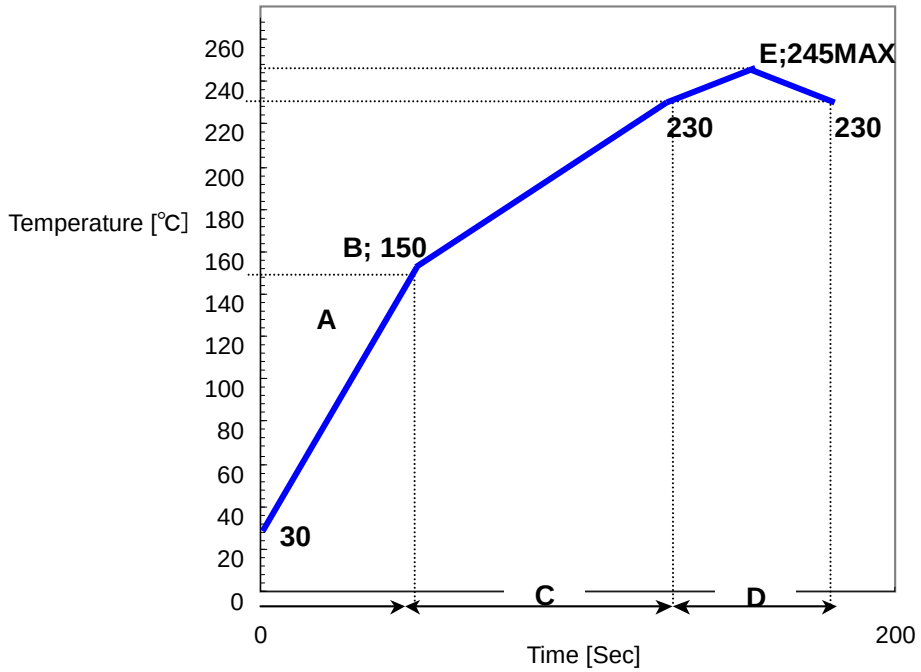


Fig.1 Termination Resistance Measuring Points



	Condition
A : The Speed of Temperature Rising	0.5~2.0℃／sec
B : The Start Temperature of Pre-Heating	150～200℃
C : Time of Pre-Heating	60~100 sec
D : Time of upper 230 ℃	45~60 sec
E : Temperature of Peak Point	245℃

※ Number of Reflow times; 2 times.

Fig.3 Temperature profile for Reflow.