


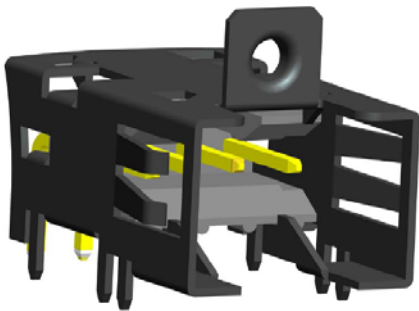
6 NUMBER GS-12-431	TYPE PRODUCT SPECIFICATION		
TITLE Friction Latch & Minitek Metal Shielded Header Assemblies		PAGE 1 of 6	REVISION B
		AUTHORIZED BY S. Fierro	DATE 22 AUG 07
		CLASSIFICATION UNRESTRICTED	

1.0 **OBJECTIVE**

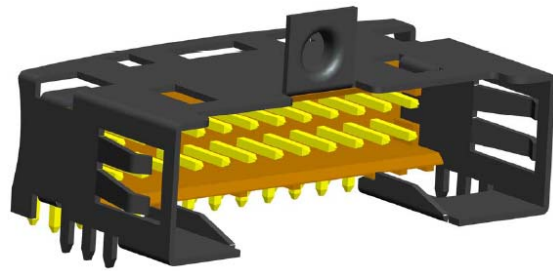
The objective of this document is to cover performance, tests and quality requirements for Shielded Friction Latch and Minitek Header Assemblies when mounted to the appropriate PCB.

2.0 **SCOPE**

This specification to provide Electrical, Mechanical and Environmental parameters for testing shielded header assemblies as mounted to an appropriate PCB.



Power Shield Header Assembly




Signal Shield Header Assembly

3.0 **GENERAL**

This document is composed of the following sections:

<u>Paragraph</u>	<u>Title</u>
1.0	OBJECTIVES
2.0	SCOPE
3.0	GENERAL
4.0	PROCEDURE
4.1	Electrical Characteristics
4.2	Mechanical Characteristics
4.3	Environmental Conditions
4.4	Material
5.0	REFERENCE DOCUMENTS
6.0	CONNECTOR QUALIFICATION
7.0	RECORD RETENTION

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4.0 PROCEDURE

4.1 Electrical Characteristics

- 4.1.1 Working Voltage: 105VAC, -48VDC for both Signal and Power Shield assembly.
- 4.1.2 Electrical testing for Signal Header to be qualified per DPS-12- 011 and
Electrical testing for Power Header to have been qualified per BUS-12-075.

4.2 Mechanical Characteristics

4.2.1 Solderability

The test shall be applied to solder legs on both header and shield. No less than 90% of the dipped surface of the solder legs shall be wet when each solder leg is dipped in a solder bath. The test shall be in accordance with EIA-364-52 and JEDEC-STD-002B and the following details shall apply:

- a. Flux: RMA Type
- b. Solder: Lead Free
- c. Flux Immersion Time: 5 to 10 seconds
- d. Solder Temperature: 260° C ° Minimum
- e. Dipping Time: 30 ± 0.5 seconds

4.2.2 Torque Test

The torque test shall be applied to the threaded extrusion of the shield using an M 2.5 threaded steel screw with Grip Torx Size T8 FCI P/N 72780-001LF. The spacer should be 10.6 mm long Minimum. The torque force should be 0.5 N-m (4.4 lbf-in) Minimum. See Figure 1.

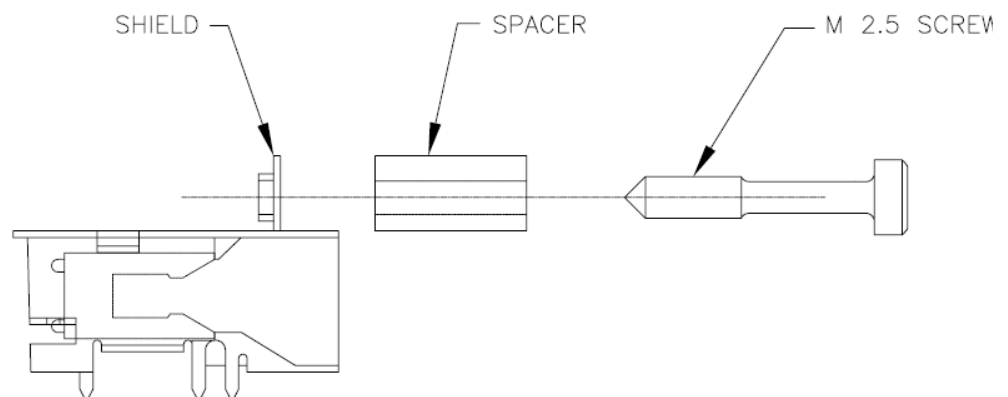



Figure 1

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Environmental Conditions

4.3.1 Industrial Mixed Flowing Four Gas Test. Test Per Telcordia GR1217 CORE General Office Performance Level 4 System Level II

This Mixed Flowing Gas Test should be done in conjunction with the mating cable receptacles per Signal GS-12-383 section 3.4.7 and Power GS-12-385 Section 8.6.

Power Shields Only: See GS-12-385

- a. 100 Cycles Durability with Cable Assembly Receptacle.
- b. Subject Unmated Shielded Header Assembly to 10 Day MFG.
- c. Subject Mated Shielded Header Assembly with appropriate Cable Assembly to 10 days MFG.
- d. Disturbance
- e. 100 Durability Cycles

Signal Shield Only; See GS-12-383

4.3.2 Contact Resistance Low Level:

LLCR is to be tested before and after Mixed Flowing 4 Gas in conjunction with the Power /Signal Cable Assemblies identified with the product specification GS-12-385 Section 8.6. and GS-12-383 section 3.4.7. Change in contact resistance shall not exceed 2 milliohms when measured in accordance with EIA-364-23.

4.4 Materials:


4.4.1 Power and Signal Shield Header Assembly:

- a. Contact : The contact shall be Phosphor Bronze Alloy UNS C51000 in accordance with ASTM 159 or other copper alloy as specified on the product drawing.
- b. Insulator : The insulator shall be glass or mineral filled PCT in accordance with ASTM D-2897. All plastic material shall be rated V-0 in accordance with UL-94.
- c. Shield: The contact shall be Phosphor Bronze Alloy UNS C51000 in accordance with ASTM - 159 or other copper alloy as specified on the product drawing.

4.4.2 Shield Finish:

- a. Both Power and Signal Shields shall be plated with Electroplated Nickel matte finish. Parts are stamped from pre-plated stock and will have bare edges.

4.4.3 See Header Product Specifications BUS-12-075 and DPS-12-011 for Header Pin Finishes.

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5.0 REFERENCE DOCUMENTS

EIA Specifications

EIA-364-52 Solderability
EIA-364-23 Contact Resistance

Federal Specifications:


QQ-N-290 Nickel Plating (Electrodeposited)
QQ-S-571 Solder: Lead Alloy, Tin Lead Alloy; and Tin Alloy, Flux Cored Ribbon and Wire, and Solid Form

Industry Specifications / Standards

UL-94 Tests for Flammability of Plastic Materials.
ASTM B-159 Phosphor Bronze Wire
ASTM D-2897 Reinforced & Filled Nylon Injection Molding & Extension Material.

FCI Lab Reports and Supporting Data

EL-2007-01-011 Qualification test for Cable and Shield Assemblies
BUS-12-075 Friction Latch Header Product Specification
DPS-12-011 Minitek II Connectors Product Specification

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6.0 CONNECTOR QUALIFICATION INSPECTION

6.1 Inspection Condition:

Unless otherwise specified, all inspections shall be performed under the following ambient conditions.

- a. Temperature: 25° C ± 5° C
- b. Relative Humidity 30 to 80 %
- c. Barometric Pressure: Local ambient

6.2 Qualification Inspection:

Qualification inspection shall consist of the largest size connector assemblies of the particular design, configuration, and type that are the subject of the test.

6.3 Test Sequence:


The sample assemblies shall be subjected to the inspections specified in Table 1 in the order shown

TABLE 1 Qualification Test Matrix

Examination of Test	Paragraph	Sample Quantity per Test Sample		
		10	10	5
		Test Sample		
		1	2	3
Visual Examination		X	X	X
Solder-ability	4.2.1	X		
Torque Test	4.2.2		X	
LLCR Test	4.3.2			X
Mixed Flowing Four Gas	4.3.1			X
LLCR Test	4.3.2			X

7.0 NOTES N/A

8.0 RECORD RETENTION N/A

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REVISION RECORD

<u>REV.</u>	<u>PAGE</u>	<u>DESCRIPTION</u>	<u>EC#</u>	<u>DATE</u>
A	2	Changed solderability to 260 min. for 30 sec. Released from Preliminary.	V07-0225	3-16-07
B.	All	Section 4.2.1 changed to RMA Type Flux from Alpha 100. Transfer from VG to Mex.	V07-0560	8-22-07