

AUGUST 12, 2009

TEST REPORT #209085-1, REVISION 1.1

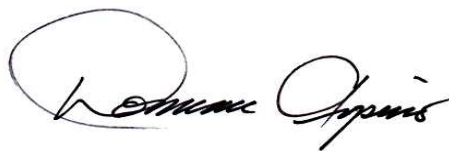
QUALIFICATION TESTING

PART NUMBERS

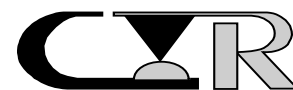
IP5-08-05.0-L-D-1

IJ5-08-05.0-L-D-1

SAMTEC, INC.

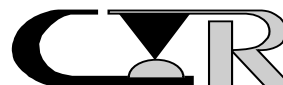


APPROVED BY: DOMINIC ARPINO
PROJECT ENGINEERING MANAGER
CONTECH RESEARCH, INC.



Contech Research

An Independent Test and Research Laboratory

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Contech Research

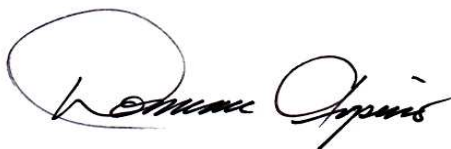
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CERTIFICATION

This is to certify that the evaluation described herein was designed and executed by personnel of Contech Research, Inc. It was performed with the concurrence of Samtec, Inc. of New Albany, IN who was the test sponsor.

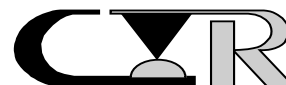
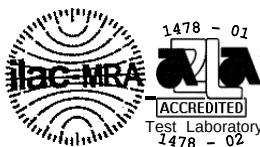
All equipment and measuring instruments used during testing were calibrated and traceable to NIST according to ISO 10012-1 and ANSI/NCSL Z540-1 and MIL-STD-45662 as applicable.

All data, raw and summarized, analysis and conclusions presented herein are the property of the test sponsor. No copy of this report, except in full, shall be forwarded to any agency, customer, etc., without the written approval of the test sponsor and Contech Research.



APPROVED BY: DOMINIC ARPINO
PROJECT ENGINEERING MANAGER
CONTECH RESEARCH, INC.

DA:ld



SCOPE

To perform Qualification testing on IX5 connectors as manufactured and submitted by the test sponsor Samtec, Inc.

APPLICABLE DOCUMENTS

1. Unless otherwise specified, the following documents of issue in effect at the time of testing performed form a part of this report to the extent as specified herein. The requirements of sub-tier specifications and/or standards apply only when specifically referenced in this report.
2. Samtec test plan: TC0904-2186 (IJ5-08-05.0-L-D-1)
3. Standards: EIA Publication 364

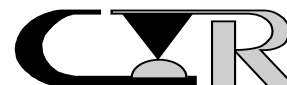
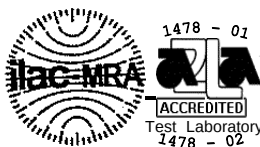
TEST SAMPLES AND PREPARATION

1. The following test samples were submitted by the test sponsor, Samtec, Inc., for the evaluation to be performed by Contech Research, Inc.

Part Numbers

- a) IP5-08-05.0-L-D-1
 - b) IJ5-08-05.0-L-D-1
2. Test samples were supplied assembled and terminated to test boards by the test sponsor.
 3. The test samples were tested mounted to printed circuit boards.
 4. Test leads were attached to the appropriate measurement areas of the test samples and applicable mating elements.
 5. The test samples were tested in their 'as received' condition.
 6. Unless otherwise specified in the test procedures used, no further preparation was used.
 7. The mated test samples were secured via a stabilizing medium to maintain mechanical stability during test.

-continued on next page.



TEST SELECTION

1. See Test Plan Flow Diagram, Figure #1, for test sequences used.
2. Test set ups and/or procedures which are standard or common are not detailed or documented herein provided they are certified as being performed in accordance with the applicable (industry or military) test methods, standards and/or drawings as specified in the detail specification.

SAMPLE CODING

1. All samples were coded. Mated test samples remained with each other throughout the test group/sequences for which they were designated. Coding was performed in a manner which remained legible for the test duration.
2. The test samples were coded in the following manner:

Sequence A: Group B - A-A-1, A-A-2
Group B1 - A-B1-B, A-B1-2
Group B2 - A-B2-1, A-B2-2
Group B3 - A-B3-1, A-B3-2

SIGNAL

Sequence B: Group A1- B-A-1, B-A-2, B-A-3, B-A-4,
B-A-5, B-A-6, through B-A-12

GROUND

Sequence B: Group A2- B-A-1, B-A-2, B-A-3, B-A-4,
B-A-5, B-A-6, through B-A-12

SIGNAL

Sequence C: Group A1- C-A-1, C-A-2, C-A-3, C-A-4
C-A-5, C-A-6, through C-A-12

GROUND

Sequence C: Group A2- C-A-1, C-A-2, C-A-3, C-A-4
C-A-5, C-A-6, through C-A-12

SIGNAL

Sequence D: Group A1- D-A-1, D-A-2, D-A-3

GROUND

Sequence D: Group A2- D-A-1, D-A-2, D-A-3

┌───┐ Board Number
├───┤ Group ID
└───┘ Sequence

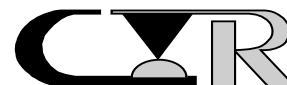
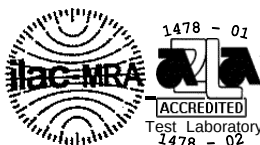
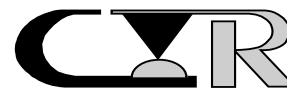
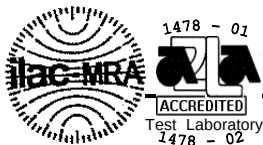
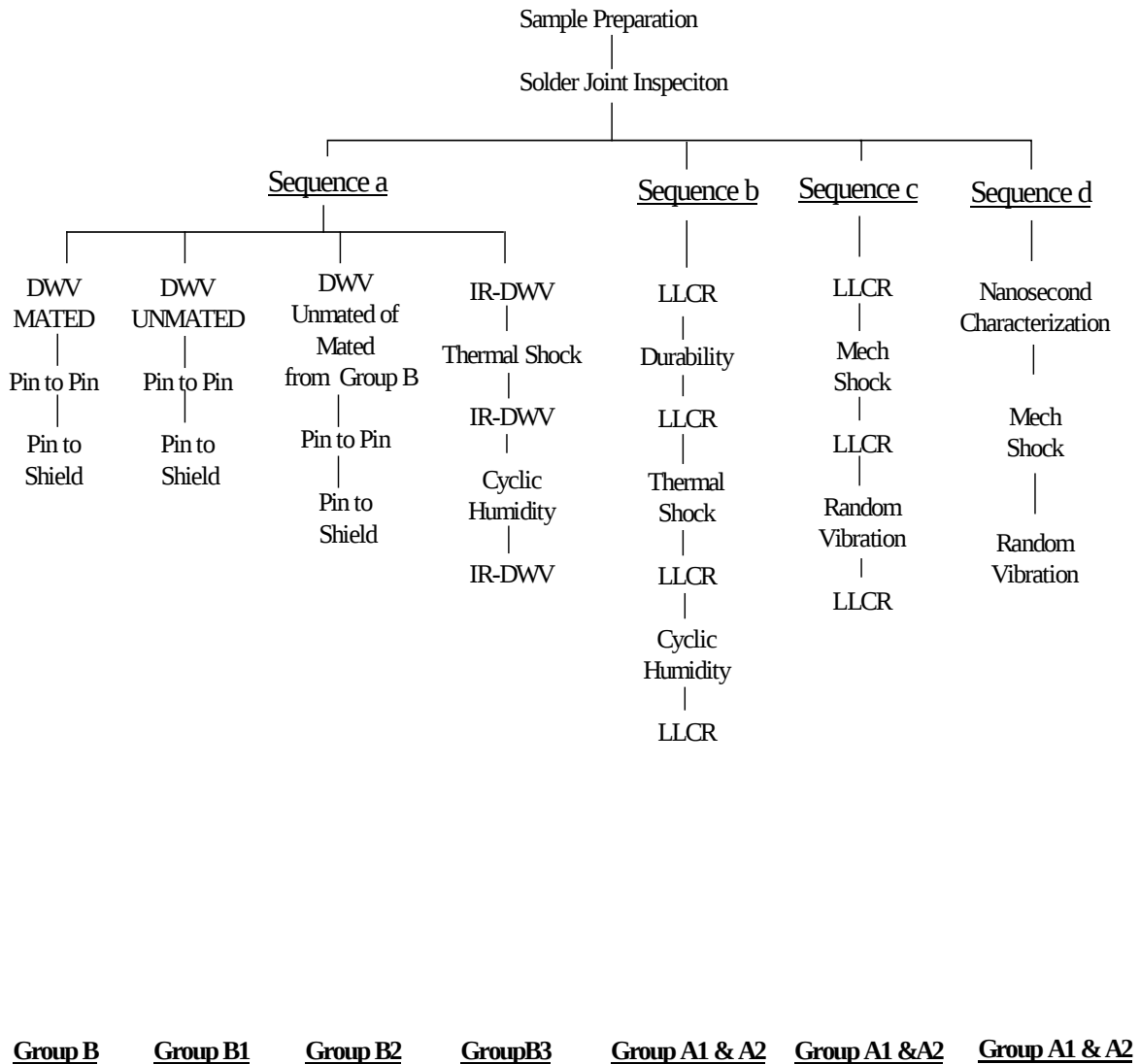


FIGURE #1

TEST PLAN FLOW DIAGRAM



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DATA SUMMARY

TEST

REQUIREMENTS

RESULTS

SEQUENCE A

GROUP B3 - SIGNAL AND GROUND

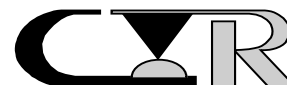
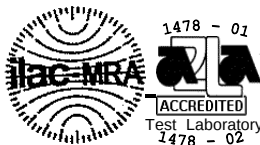
INSULATION RESISTANCE	5000 MEGOHMS MIN.	>50,000 MEGOHMS
DWV	750 VAC	PASSED
THERMAL SHOCK	NO DAMAGE	PASSED
INSULATION RESISTANCE	5000 MEGOHMS MIN.	>50,000 MEGOHMS
DWV	750 VAC	PASSED
CYCLIC HUMIDITY	NO DAMAGE	PASSED
INSULATION RESISTANCE	5000 MEGOHMS MIN.	>50,000 MEGOHMS
DWV	750 VAC	PASSED

SEQUENCE B

GROUP A1 - SIGNAL

Group A2 - GROUND

LLCR SIGNAL	RECORD	17.3 mΩ MAX.
LLCR GROUND	RECORD	2.2 mΩ MAX.
DURABILITY	NO DAMAGE	PASSED
LLCR SIGNAL	+10.0 mΩ MAX.CHG.	+1.8mΩ MAX.CHG.
LLCR GROUND	+10.0 mΩ MAX.CHG.	+2.2 mΩ MAX.CHG.
THERMAL SHOCK	NO DAMAGE	PASSED
LLCR SIGNAL	+10.0 mΩ MAX.CHG.	+1.3 mΩ MAX.CHG.
LLCR GROUND	+10.0 mΩ MAX.CHG.	+1.5 mΩ MAX.CHG.
CYCLIC HUMIDITY	NO DAMAGE	PASSED
LLCR.SIGNAL	+10.0 mΩ MAX.CHG.	+9.9 mΩ MAX.CHG.
LLCR GROUND	+10.0 mΩ MAX.CHG.	+1.2 mΩ MAX.CHG.



DATA SUMMARY-continued

TEST

REQUIREMENTS

RESULTS

SEQUENCE C

GROUP A1 - SIGNAL

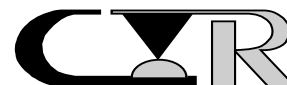
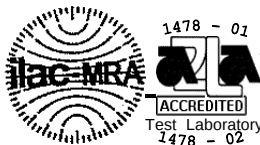
Group A2 - GROUND

LLCR SIGNAL	RECORD	15.8 mΩ MAX.
LLCR GROUND	RECORD	4.7 mΩ MAX.
MECHANICAL SHOCK	NO DAMAGE	PASSED
LLCR SIGNAL	+10.0 mΩ MAX.CHG.	+2.7 mΩ MAX.CHG.
LLCR GROUND	+10.0 mΩ MAX.CHG.	+0.8 mΩ MAX.CHG.
RANDOM VIBRATION	NO DAMAGE	PASSED
LLCR SIGNAL	+10.0 mΩ MAX.CHG.	+4.0 mΩ MAX.CHG.
LLCR GROUND	+10.0 mΩ MAX.CHG.	+1.8 mΩ MAX.CHG.

SEQUENCE D

GROUP A1 & A2

MECHANICAL SHOCK	NO DAMAGE	PASSED
	50 NANOSECOND	PASSED
RANDOM VIBRATION	NO DAMAGE	PASSED
	50 NANOSECOND	PASSED



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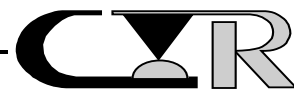
EQUIPMENT LIST

ID#	Next Cal	Last Cal	Equipment Name	Manufacturer	Model #	Serial #	Accuracy	Freq.Cal
27			Temp. Humid. Chamber	Blue M Co.	FR-256PC-1	F2-249	See Cal Cert	Ea Test
192	5/27/2010	5/27/2009	Vertical Thermal Shock	Cincinnati Sub-Zero	VTs-1-5-3	88-11094	See Cal Cert	12mon
200	1/9/2010	1/9/2009	Power Supply	PCB Piezotronics	482A	4210	N/A	12mon
207	12/9/2009	12/9/2008	Micro-Ohm Meter	Keithley Co.	580	438208	See Cal Cert	12mon
282			Vibration Shaker Table	Ling Dynamics	V-730	163	N/A	N/A
340			X-Y Table	NE Affiliated Tech.	XY-6060	N/A	N/A	N/A
421	3/31/2010	3/31/2009	Megohmmeter	Hipotronics Co.	HM3A	031423-00	See Cal Cert	12 mon.
614			Oven	Tenney Co.	TH Jr.	9712-510	See Manual	Ea Test
874			Computer	M&P	Vectra	us75203327	N/A	N/A
1028	2/4/2010	2/4/2009	Event Detector	Analysis Tech	32 EHD	981019	See Cal.Cert.	12mon
1125	9/22/2009	9/22/2008	Microohm Meter	Keithley	580	451920	See Cal Cert	12mon
1219			Computer	ARC Co.	350	350	±2%	N/A
1276			Computer	ARC.Co.	Pent-450	N/A	N/A	N/A
1315	1/21/2010	1/21/2009	Data Aquisition Multimeter	Keithley Co.	2700	0862680	See CERT	12mon
1339	4/21/2010	4/21/2009	Hipot Tester A/C-DC	Quad Tech	Sentry 30	2052040	See Cert	12months
1366			Main Frame	Agilent H.P.	8408A		N/A	N/A
1367			Interface	Agilent H.P.	E8491A		N/A	N/A
1368	4/22/2010	4/22/2009	Sine/Rnd Control digitizer	Agilent H.P.	E1432A	US35470169	See Manual	12mon
1382			Force Gage Stand	Chatillon	20025	N/A	N/A	N/A
1474			Vib Pwr Amp	tira	A58312	003/06	N/A	N/A
1521	4/20/2010	4/20/2009	Accelerometer	PCB	353B04	118492	See Cal Cert	12mon
1549	1/30/2010	1/30/23009	Multiplexer Card	Keithley	7708	171629	See Cert	12mon
1550	1/21/2010	1/21/2009	Multiplexer Card	Keithley	7708	171626	See Cert	12mon



TEST RESULTS

SEQUENCE A GROUP B3



PROJECT NO.: 209085-1

SPECIFICATION: TC0904-2186 REV.1

PART NO.: See Page 4

PART DESCRIPTION: See Page 4

SAMPLE SIZE: 6 Samples pairs

TECHNICIAN: MOB

START DATE: 7/6/09

COMPLETE DATE: 7/6/09

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 44%

EQUIPMENT ID#: 421

INSULATION RESISTANCE(IR)

PURPOSE:

To determine the resistance of insulation materials to leakage of current through or on the surface of these materials when a DC potential is applied.

PROCEDURE:

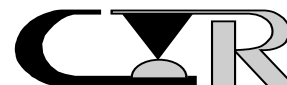
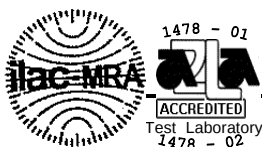
1. The test was performed in accordance with EIA 364, Test Procedure 21.
2. Test Conditions:
 - a) Between Adjacent Contacts : Yes
 - b) Between Rows : Yes
 - c) Mated Condition : Mated and Unmated
 - d) Mounting Condition : Mounted and Unmounted
 - e) Test Voltage : 500 DC
3. The test voltage was applied to specific test points on the test board.

REQUIREMENTS:

When the specified test voltage is applied, the insulation resistance shall not be less than 5,000 megohms.

RESULTS:

The insulation resistance exceeded 50,000 megohms.



PROJECT NO.: 209085-1

SPECIFICATION: TC0904-2186 REV.1

PART NO.: See Page 4

PART DESCRIPTION: See Page 4

SAMPLE SIZE: 6 Samples pairs

TECHNICIAN: MOB

START DATE: 7/6/09

COMPLETE DATE: 7/6/09

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 46%

EQUIPMENT ID#: 1339

DIELECTRIC WITHSTANDING VOLTAGE (SEA LEVEL)

PURPOSE:

To determine if the mated connectors can operate at its rated voltage and withstand momentary overpotentials due to switching, surges and other similar phenomenon.

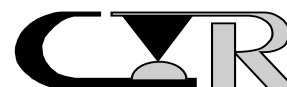
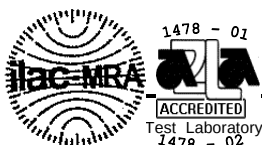
PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 20.

Test Conditions:

- | | | | |
|----|---------------------------|---|---------------------------|
| a) | Between Adjacent Contacts | : | Yes |
| b) | Between Rows | : | Yes |
| c) | Mated Condition | : | Mated and Unmated |
| d) | Mounting Condition | : | Mounted and Unmounted |
| e) | Hold Time | : | 60 seconds |
| f) | Rate of Application | : | 500 volts/sec. |
| g) | Test Voltage | : | 75% of Breakdown voltage |
| h) | Applied Voltage | : | 600 VAC (applied voltage) |
2. Per the customer's request the Dielectric Withstanding Voltage (DWV) was determined by applying AC voltage to the specified test points until breakdown. Seventy-five percent (75%) of the breakdown voltage was used to perform all of the DWV testing. An extra sample was provided to determine the breakdown voltage.
 3. The test voltage was applied to specific test points on the test board and on unmounted connectors.

REQUIREMENTS: See Next Page.

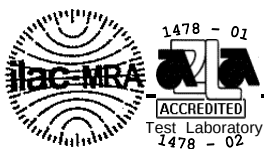


REQUIREMENTS:

When the specified test voltage is applied, there shall be no evidence of breakdown, arcing, etc.

RESULTS:

All test samples as tested met the requirements as specified.



PROJECT NO.: 209085-1

SPECIFICATION: TC0904-2186 REV.1

PART NO.: See Page 4

PART DESCRIPTION: See Page 4

SAMPLE SIZE: 6 Samples pairs

TECHNICIAN: MOB

START DATE: 7/9/09

COMPLETE DATE: 7/13/09

ROOM AMBIENT: 21°C

RELATIVE HUMIDITY: 48%

EQUIPMENT ID#: 192, 1315, 1549, 1550

THERMAL SHOCK

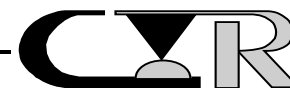
PURPOSE:

To determine the resistance of a given electrical connector to exposure at extremes of high and low temperatures and the shock of alternate exposures to these extremes, simulating the worst probable conditions of storage, transportation and application.

PROCEDURE:

1. The test environment was performed in accordance with EIA 364, Test Procedure 32, with the following conditions.
2. Test Conditions:
 - a) Number of Cycles : 100 Cycles
 - b) Hot Extreme : +85°C +3°C/-0°C
 - c) Cold Extreme : -55°C +0°C/-3°C
 - d) Time at Temperature : 30 Minutes
 - e) Mating Conditions : Mated
 - f) Mounting Conditions : Mounted and unmounted
 - g) Transfer Time : Within 1.0 minute
3. The total number of cycles was performed continuously.
4. All subsequent variable testing was performed in accordance with the procedures as previously indicated.
5. Prior to performing variable measurements, the test samples were allowed to recover to room ambient conditions.

REQUIREMENTS: See Next Page.

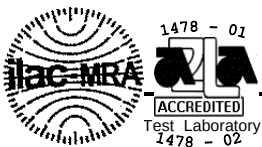


REQUIREMENTS:

1. There shall be no evidence of physical damage to the test samples as tested.
2. The insulation resistance shall not be less than 5,000 megohms.

RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. The insulation resistance exceeded 50,000 megohms.



PROJECT NO.: 209085-1

SPECIFICATION: TC0904-2186 REV.1

PART NO.: See Page 4

PART DESCRIPTION: See Page 4

SAMPLE SIZE: 6 Samples pairs TECHNICIAN: AJP

START DATE: 7/14/09

COMPLETE DATE: 7/29/09

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 44%

EQUIPMENT ID#: 27, 614

HUMIDITY (THERMAL CYCLING)

PURPOSE:

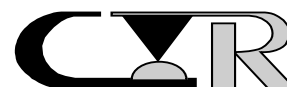
The purpose of this test is to permit evaluation of the properties of materials used in connectors as they are influenced or deteriorated by the effects of high humidity and heat conditions. Measurements made under high humidity conditions may reflect the peculiar conditions under which the readings were made, and should be compared only to initial readings when careful analysis indicates that such a comparison is valid and applicable.

PROCEDURE:

1. The test environment was performed in accordance with EIA 364, Test Procedure 31, with the following conditions.
2. Test Conditions:

a) Preconditioning (24 hours)	: 50°C ± 5°C
b) Relative Humidity	: 90% to 95%
c) Temperature Conditions	: 25°C to 65°C
d) Cold Cycle	: No
e) Polarizing Voltage	: No
f) Mating Conditions	: Mated and unmated
g) Mounting Conditions	: Mounted and unmounted
h) Duration	: 240 hours
3. Prior to performing variable measurements, the test samples were allowed to recover to room ambient conditions.

-continued on next page.



PROCEDURE: -continued

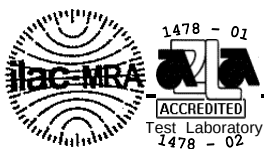
4. All subsequent variable testing was performed in accordance with the procedures previously indicated.

REQUIREMENTS:

1. There shall be no evidence of physical deterioration of the test samples as tested.
2. The final insulation resistance shall not be less than 5,000 megohms.

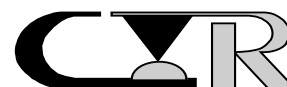
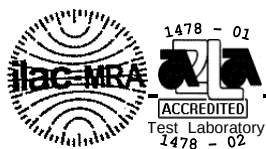
RESULTS:

1. The test samples as tested showed no evidence of physical deterioration.
2. The final insulation resistance exceeded 50,000 megohms after air dry of 2 hours.



TEST RESULTS

SEQUENCE B GROUP A1 & A2



PROJECT NO.: 209085-1

SPECIFICATION: TC0904-2186 REV.1

PART NO.: See Page 4

PART DESCRIPTION: See Page 4

SAMPLE SIZE: 12 Samples

TECHNICIAN: MOB

START DATE: 6/29/09

COMPLETE DATE: 6/30/09

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 50%

EQUIPMENT ID#: 1125, 1219

LOW LEVEL CIRCUIT RESISTANCE (LLCR)

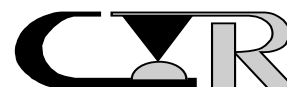
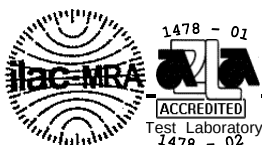
PURPOSE:

1. To evaluate contact resistance characteristics of the contact systems under conditions where applied voltages and currents do not alter the physical contact interface and will detect oxides and films which degrade electrical stability. It is also sensitive to and may detect the presence of fretting corrosion induced by mechanical or thermal environments as well as any significant loss of contact pressure.
2. This attribute was monitored after each preconditioning and/or test exposure in order to determine said stability of the contact systems as they progress through the applicable test sequences.
3. The electrical stability of the system is determined by comparing the initial resistance value to that observed after a given test exposure. The difference is the change in resistance occurring whose magnitude establishes the stability of the interface being evaluated.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 23 with the following conditions.

-continued next page.



PROCEDURE: -continued

2. Test Conditions:

- a) Test Current : 10 milliamps maximum
- b) Open Circuit Voltage : 20 millivolts
- c) No. of Positions Tested : 25 per test sample

REQUIREMENTS:

Low level circuit resistance shall be measured and recorded.

RESULTS:

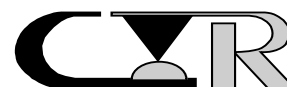
1. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

SIGNAL DATA

<u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
B-A1-1	14.6	17.3	13.3
B-A1-2	14.1	14.6	13.2
B-A1-3	13.6	14.1	12.7
B-A1-4	13.7	14.1	13.4
B-A1-5	13.9	14.9	13.1
B-A1-6	13.9	14.6	13.3
B-A1-7	14.0	15.7	13.2
B-A1-8	13.8	14.7	13.0
B-A1-9	14.2	14.9	13.6
B-A1-10	13.8	14.2	13.4
B-A1-11	13.6	14.6	12.4
B-A1-12	14.0	14.8	12.4

2. See data files 20908501 through 20908512 for individual signal data points.

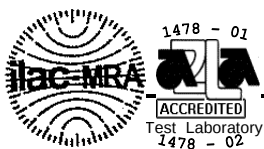


RESULTS: -continued

GROUND DATA

<u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
B-A2-1	3.2	4.0	2.8
B-A2-2	3.0	3.2	2.7
B-A2-3	2.9	3.1	2.7
B-A2-4	3.2	4.5	2.7
B-A2-5	2.9	3.4	2.5
B-A2-6	3.2	3.9	2.7
B-A2-7	2.9	3.3	2.6
B-A2-8	2.7	2.9	2.5
B-A2-9	2.9	3.2	2.6
B-A2-10	2.9	3.7	1.9
B-A2-11	3.0	4.1	2.5
B-A2-12	3.0	3.3	2.8

3. See data files 20908501G through 20908512G for individual ground data points.



PROJECT NO.: 209085-1

SPECIFICATION: TC0904-2186 REV.1

PART NO.: See Page 4

PART DESCRIPTION: See Page 4

SAMPLE SIZE: 12 Samples

TECHNICIAN: MHB

START DATE: 6/30/09

COMPLETE DATE: 7/1/09

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 50%

EQUIPMENT ID#: 340, 1382

DURABILITY

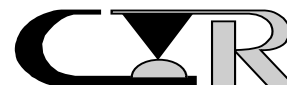
PURPOSE:

1. This is a conditioning sequence which is used to induce the type of wear on the contacting surfaces which may occur under normal service conditions. The connectors are mated and unmated a predetermined number of cycles. Upon completion, the units being evaluated are exposed to the environments as specified to assess any impact on electrical stability resulting from wear or other wear dependent phenomenon.
2. This type of conditioning sequence is also used to mechanically stress the connector system as would normally occur in actual service. This sequence in conjunction with other tests is used to determine if a significant loss of contact pressure occurs from said stresses which in turn, may result in an unstable electrical condition to exist.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 09.
2. Test Conditions:
 - a) No. of Cycles : 100
 - b) Rate : 1.0 inch per minute
3. The plug side was assembled to special holding devices, the receptacle side was attached to an X-Y table. Speed is approximate.

-continued on next page.



PROCEDURE:-continued

4. The test samples were axially aligned to accomplish the mating and unmating function allowing for self-centering movement.
5. Care was taken to prevent the mating faces of the test samples from contacting each other.
6. All subsequent variable testing was performed in accordance with the procedures previously indicated.

REQUIREMENTS:

1. There shall be no evidence of physical damage to the test samples so tested.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.

RESULTS:

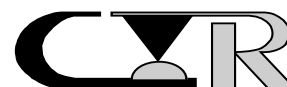
1. There was no evidence of physical damage to the test samples as tested.
2. The following is a summary of the data observed:

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

SIGNAL DATA

<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
B-A1-1	-0.9	+0.3
B-A1-2	-0.1	+0.9
B-A1-3	+0.3	+1.5
B-A1-4	-0.2	+0.2
B-A1-5	-0.1	+1.8
B-A1-6	+0.0	+0.6
B-A1-7	-0.3	+1.5
B-A1-8	-0.3	+1.0
B-A1-9	-0.4	+0.4
B-A1-10	+0.1	+1.1
B-A1-11	+0.0	+1.2
B-A1-12	+0.0	+0.8

3. See data files 20908501 through 20908512 for individual signal data points.



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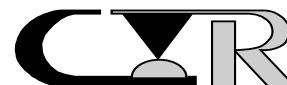
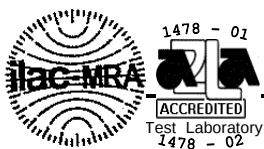
RESULTS: -continued

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

GROUND DATA

<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
B-A2-1	-0.1	+0.3
B-A2-2	+0.0	+0.4
B-A2-3	+0.0	+0.1
B-A2-4	-0.2	+0.9
B-A2-5	+0.0	+0.9
B-A2-6	+0.1	+0.7
B-A2-7	+0.0	+0.3
B-A2-8	+0.1	+0.6
B-A2-9	+0.0	+0.6
B-A2-10	+0.2	+1.2
B-A2-11	+0.0	+0.6
B-A2-12	+0.2	+2.2

3. See data files 20908501G through 20908512G for individual grounddata points.



PROJECT NO.: 209085-1
PART NO.: See Page 4
SAMPLE SIZE: 12 Samples
START DATE: 7/10/09
ROOM AMBIENT: 22°C
EQUIPMENT ID#: 192

SPECIFICATION: TC0904-2186 REV.1
PART DESCRIPTION: See Page 4
TECHNICIAN: MOB
COMPLETE DATE: 7/13/09
RELATIVE HUMIDITY: 44%

THERMAL SHOCK

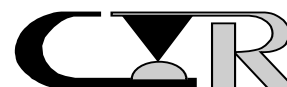
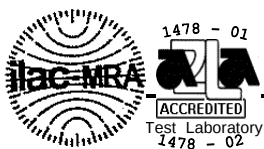
PURPOSE:

To determine the resistance of a given electrical connector to exposure at extremes of high and low temperatures and the shock of alternate exposures to these extremes, simulating the worst probable conditions of storage, transportation and application.

PROCEDURE:

3. The test environment was performed in accordance with EIA 364, Test Procedure 32, with the following conditions.
3. Test Conditions:
 - a) Number of Cycles : 100 Cycles
 - b) Hot Extreme : +85°C +3°C/-0°C
 - c) Cold Extreme : -55°C +0°C/-3°C
 - d) Time at Temperature : 30 Minutes
 - e) Mating Conditions : Mated
 - f) Mounting Conditions : Mounted
 - g) Transfer Time : Within 1.0 minute
3. The total number of cycles was performed continuously.
3. All subsequent variable testing was performed in accordance with the procedures as previously indicated.
3. Prior to performing variable measurements, the test samples were allowed to recover to room ambient conditions.

REQUIREMENTS: See Next Page.



REQUIREMENTS:

3. There shall be no evidence of physical damage to the test samples as tested.
3. The change in low level circuit resistance shall not exceed +10.0 milliohms.

RESULTS:

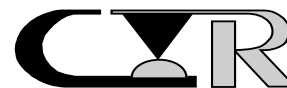
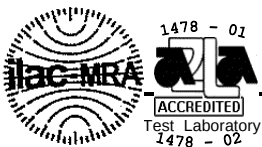
3. There was no evidence of physical damage to the test samples as tested.
3. The following is a summary of the observed data:

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

SIGNAL DATA

<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
B-A1-1	-1.0	-0.1
B-A1-2	-0.3	+0.5
B-A1-3	+0.2	+1.3
B-A1-4	-0.5	+0.1
B-A1-5	-0.4	+1.0
B-A1-6	-0.2	+0.9
B-A1-7	-0.5	+0.8
B-A1-8	-0.1	+1.2
B-A1-9	-0.2	+0.5
B-A1-10	-0.3	+0.7
B-A1-11	+0.1	+1.3
B-A1-12	-0.3	+0.5

3. See data files 20908501 through 20908512 for individual signal data points.



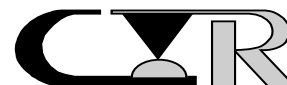
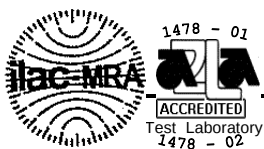
RESULTS: -continued

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

GROUND DATA

<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
B-A2-1	-0.1	+0.7
B-A2-2	+0.2	+0.9
B-A2-3	+0.0	+0.1
B-A2-4	-0.5	+0.1
B-A2-5	+0.0	+0.4
B-A2-6	+0.1	+0.5
B-A2-7	+0.2	+1.5
B-A2-8	+0.4	+1.5
B-A2-9	+0.4	+1.5
B-A2-10	+0.2	+1.0
B-A2-11	-0.1	+1.1
B-A2-12	+0.3	+0.7

4. See data files 20908501G through 20908512G for individual ground data points.



PROJECT NO.: 209085-1

SPECIFICATION: TC0904-2186 REV.1

PART NO.: See Page 4

PART DESCRIPTION: See Page 4

SAMPLE SIZE: 12 Samples

TECHNICIAN: MOB

START DATE: 7/14/09

COMPLETE DATE: 7/27/09

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 44%

EQUIPMENT ID#: 27, 614

HUMIDITY (THERMAL CYCLING)

PURPOSE:

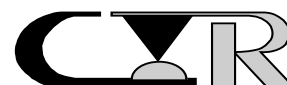
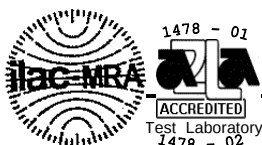
To evaluate the impact on electrical stability of the contact system when exposed to any environment which may generate thermal/moisture type failure mechanisms such as:

- a) Fretting corrosion due to wear resulting from micromotion, induced by thermal cycling. Humidity accelerates the oxidation process.
- b) Oxidation of wear debris or from particulates from the surrounding atmosphere which may have become entrapped between the contacting surfaces.
- c) Failure mechanisms resulting from a wet oxidation process.

PROCEDURE:

1. The test environment was performed in accordance with EIA 364, Test Procedure 31, with the following conditions.
2. Test Conditions:
 - a) Preconditioning (24 hours) : 50°C ± 5°C
 - b) Relative Humidity : 90% to 95%
 - c) Temperature Conditions : 25°C to 65°C
 - d) Cold Cycle : No
 - e) Polarizing Voltage : No
 - f) Mating Conditions : Mated
 - g) Mounting Conditions : Mounted
 - h) Duration : 240 hours

-continued on next page.



PROCEDURE:-continued

3. Prior to performing variable measurements, the test samples were allowed to recover to room ambient conditions.
4. All subsequent variable testing was performed in accordance with the procedures previously indicated.

REQUIREMENTS:

1. There shall be no evidence of physical deterioration of the test samples as tested.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.

RESULTS:

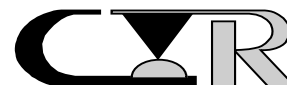
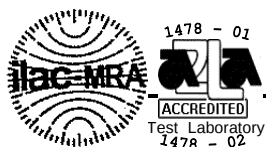
1. The test samples as tested showed no evidence of physical deterioration.
2. The following is a summary of the data observed:

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

SIGNAL DATA

<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
B-A1-1	-1.1	-0.2
B-A1-2	-0.3	+0.7
B-A1-3	+0.9	+9.9
B-A1-4	-0.4	+0.3
B-A1-5	-0.3	+1.0
B-A1-6	+0.0	+1.6
B-A1-7	-0.3	+0.5
B-A1-8	-0.3	+1.0
B-A1-9	-0.4	+0.7
B-A1-10	-0.3	+0.8
B-A1-11	+0.6	+1.7
B-A1-12	-0.1	+0.5

3. See data files 20908501 through 20908512 for individual signal data points.



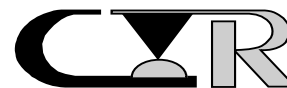
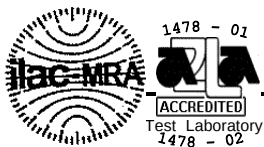
RESULTS: -continued

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

GROUND DATA

<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
B-A2-1	+0.1	+0.9
B-A2-2	+0.3	+0.6
B-A2-3	+0.3	+0.8
B-A2-4	-0.2	+0.4
B-A2-5	-0.1	+0.5
B-A2-6	+0.1	+1.2
B-A2-7	+0.0	+0.7
B-A2-8	+0.1	+0.4
B-A2-9	+0.2	+0.7
B-A2-10	+0.1	+1.1
B-A2-11	+0.0	+0.7
B-A2-12	+0.1	+0.9

2. See data files 20908501G through 20908512G for individual ground data points.



LLCR DATA FILES

FILE NUMBERS

20908501

20908502

20908503

20908504

20908505

20908506

20908507

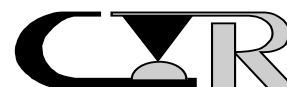
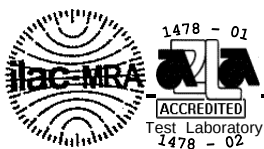
20908508

20908509

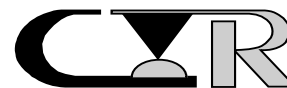
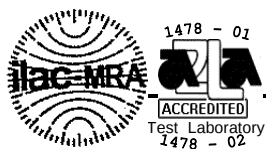
20908510

20908511

20908512



Low Level Circuit Resistance - Actual Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq B Gp A1
Product:	Series IX5 connector				File No:	20908501
Description:	B-A1-1 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	23	22	22	21		
R.H. %	50	50	44	51		
Date:	29Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Cyclic		
			Shock	Humidity		
1	17.3	13.7	13.6	13.5		
2	13.3	13.1	13.2	13.0		
3	14.7	14.2	13.6	13.7		
4	16.2	14.0	13.8	13.7		
5	14.8	13.8	14.3	13.9		
6	14.3	13.6	13.8	13.5		
8	15.5	14.4	14.0	13.9		
10	13.5	13.7	13.2	13.2		
12	14.1	13.8	13.5	13.4		
14	14.5	14.0	14.2	13.5		
16	14.4	13.9	13.6	14.0		
18	14.0	13.3	12.8	13.5		
20	13.8	14.0	13.5	13.5		
23	14.4	13.5	13.7	13.6		
24	15.2	13.4	14.1	13.9		
25	14.0	13.2	13.2	12.9		
MAX	17.3	14.4	14.3	14.0		
MIN	13.3	13.1	12.8	12.9		
AVG	14.6	13.7	13.6	13.5		
STD	1.0	0.4	0.4	0.3		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



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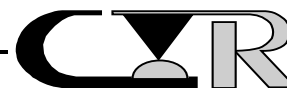
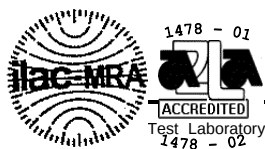
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908502
Description:	B-A1-2 Signal				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	23	22	22	21		
R.H. %	50	50	44	51		
Date:	29Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
1	13.4	-0.4	-0.5	-0.5		
2	13.8	0.1	-0.1	0.0		
3	14.0	-0.6	-0.9	-0.5		
4	13.3	0.5	0.5	0.4		
5	14.6	-0.7	0.1	-0.5		
6	14.6	-0.3	-0.3	-0.4		
8	14.0	-0.2	0.5	-0.3		
10	13.8	0.0	0.0	0.0		
12	13.2	0.3	-0.1	-0.2		
14	14.5	-0.1	-1.1	-0.7		
16	14.3	-0.2	-0.9	-0.9		
18	14.5	-0.3	-0.5	-0.5		
20	14.5	-0.1	-0.6	0.3		
23	14.4	-0.6	-0.7	0.7		
24	13.9	0.9	-0.1	-0.2		
25	14.2	-0.4	-0.6	-0.7		
MAX	14.6	0.9	0.5	0.7		
MIN	13.2	-0.7	-1.1	-0.9		
AVG	14.1	-0.1	-0.3	-0.3		
STD	0.5	0.4	0.5	0.4		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



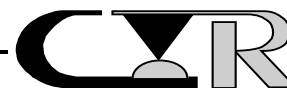
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908503
Description:	B-A1-3 Signal				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100x	Thermal	Humidity		
			Shock			
1	14.0	0.3	0.0	0.1		
2	13.5	-0.4	0.1	-0.1		
3	13.6	0.3	0.0	0.5		
4	13.7	0.0	-0.3	-0.2		
5	13.2	0.0	0.4	9.9		
6	13.8	0.0	0.1	-0.1		
8	14.0	0.9	0.5	0.8		
10	13.4	0.2	0.1	0.2		
12	12.8	1.5	1.0	1.2		
14	12.7	0.6	1.3	0.5		
16	14.1	-0.6	-0.8	-0.6		
18	13.5	0.8	0.1	0.4		
20	13.7	-0.1	0.7	0.8		
23	13.6	0.7	-0.2	0.0		
24	13.8	-0.3	-0.1	0.9		
25	13.4	0.0	0.1	-0.1		
MAX	14.1	1.5	1.3	9.9		
MIN	12.7	-0.6	-0.8	-0.6		
AVG	13.6	0.3	0.2	0.9		
STD	0.4	0.5	0.5	2.5		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



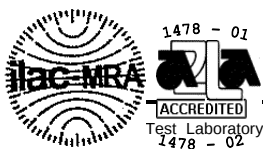
		Low Level Circuit Resistance - Delta Values			
Project:	209085-1				Spec: EIA 364 TP23
Customer:	Samtec				Subgroup: Seq B Gp A1
Product:	Series IX5 connector				File No: 20908504
Description:	B-A1-4 Signal				Tech: MOB
Open circuit voltage:	20mV				Current: 10mA
Units: milliohms					
Temp °C	23	22	22	21	
R.H. %	50	50	44	51	
Date:	29Jun09	01Jul09	14Jul09	30Jul09	
Pos. ID	Initial	100X	Thermal	Humidity	
			Shock		
1	14.1	-0.5	-1.0	-1.1	
2	13.6	0.2	-0.5	0.2	
3	13.7	0.0	-0.4	-0.7	
4	13.9	-0.1	-0.1	-0.1	
5	13.7	-1.4	-0.4	0.3	
6	13.6	0.1	0.0	0.1	
8	14.1	0.2	-0.3	-0.7	
10	13.7	-0.8	-1.1	-0.5	
12	13.9	-0.9	-1.1	-1.3	
14	13.5	0.2	-0.5	0.0	
16	13.6	-0.1	-0.4	-0.6	
18	13.5	0.1	-0.2	-0.7	
20	13.5	-0.1	0.1	0.0	
23	13.5	-0.1	-0.6	-0.4	
24	13.8	0.0	-0.6	-0.3	
25	13.4	-0.3	-0.6	-0.4	
MAX	14.1	0.2	0.1	0.3	
MIN	13.4	-1.4	-1.1	-1.3	
AVG	13.7	-0.2	-0.5	-0.4	
STD	0.2	0.5	0.4	0.5	
Open	0	0	0	0	
Tech	MOB	MOB	MOB	MOB	
Equip ID	1125	1125	1125	1125	
	1219	1219	1219	1219	



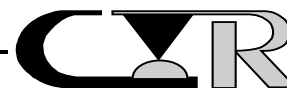
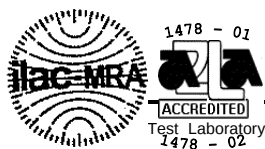
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908505
Description:	B-A1-5 Signal				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	23	22	22	21		
R.H. %	50	50	44	51		
Date:	29Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
1	13.9	0.2	-0.7	-0.6		
2	13.9	0.0	-0.5	-0.7		
3	13.7	-0.1	-0.6	-0.4		
4	13.8	0.4	-0.5	-0.5		
5	14.0	0.1	-0.4	0.2		
6	13.4	-0.6	0.2	0.6		
8	14.9	-1.1	-1.0	-1.2		
10	14.2	-0.5	-1.0	-0.9		
12	14.6	-0.2	-1.1	-1.0		
14	13.7	-1.2	-0.9	-0.6		
16	13.1	1.8	1.0	1.0		
18	14.5	-0.6	-1.5	-1.3		
20	13.7	0.5	0.8	0.7		
23	13.5	0.1	-0.5	-0.2		
24	14.0	-0.2	0.2	-0.6		
25	13.3	0.2	-0.1	-0.1		
MAX	14.9	1.8	1.0	1.0		
MIN	13.1	-1.2	-1.5	-1.3		
AVG	13.9	-0.1	-0.4	-0.3		
STD	0.5	0.7	0.7	0.7		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq B Gp A1
Product:	Series IX5 connector				File No:	20908506
Description:	B-A1-6 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	23	22	22	21		
R.H. %	50	50	44	51		
Date:	29Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
1	14.0	0.2	-0.4	0.1		
2	13.8	0.2	-0.6	-0.3		
3	13.3	0.3	0.4	0.3		
4	13.7	0.2	-0.6	0.1		
5	14.4	-0.5	-0.7	-0.3		
6	13.6	-0.3	0.0	1.6		
8	14.6	-0.1	-0.8	-0.8		
10	14.2	-0.6	-0.4	-0.3		
12	14.0	-0.2	-1.0	-0.3		
14	13.9	0.2	-0.5	-0.4		
16	13.6	-0.1	-0.5	-0.8		
18	13.5	0.2	0.1	0.0		
20	14.5	0.1	-0.1	0.2		
23	13.7	0.2	0.6	0.3		
24	13.5	0.6	0.9	0.5		
25	14.2	-0.4	0.0	-0.4		
MAX	14.6	0.6	0.9	1.6		
MIN	13.3	-0.6	-1.0	-0.8		
AVG	13.9	0.0	-0.2	0.0		
STD	0.4	0.3	0.5	0.6		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



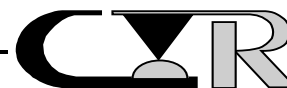
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No: 20908507	
Description:	B-A1-7 Signal				Tech: MOB	
Open circuit voltage:	20mV				Current: 10mA	
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
1	13.5	-0.1	-0.5	-0.2		
2	13.5	0.0	-0.2	-0.2		
3	14.2	-0.2	0.0	-0.4		
4	13.6	-0.2	0.5	0.2		
5	13.6	-0.2	0.1	0.0		
6	13.2	1.5	-0.4	0.4		
8	13.8	0.7	-0.1	0.2		
10	13.8	-0.1	-0.9	-0.2		
12	14.2	-0.4	-0.5	-0.4		
14	14.4	-0.9	-1.3	-0.8		
16	15.2	-1.4	-1.4	-2.0		
18	14.7	-1.2	-1.9	-0.9		
20	15.7	-1.8	-1.8	-1.1		
23	13.7	0.0	0.8	0.4		
24	14.0	-0.4	-0.3	0.5		
25	13.4	-0.1	0.1	-0.3		
MAX	15.7	1.5	0.8	0.5		
MIN	13.2	-1.8	-1.9	-2.0		
AVG	14.0	-0.3	-0.5	-0.3		
STD	0.7	0.8	0.8	0.6		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908508
Description:	B-A1-8 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
1	13.7	0.1	-0.1	-0.2		
2	13.5	0.0	-0.3	-0.1		
3	13.0	1.0	0.4	0.3		
4	14.2	-1.5	0.0	0.1		
5	13.8	0.3	0.2	1.0		
6	13.9	-0.2	-0.5	0.1		
8	14.7	-0.9	-0.4	-0.9		
10	14.4	-0.5	-0.7	-1.4		
12	14.4	-0.6	-0.5	-1.2		
14	13.1	0.2	1.2	-0.1		
16	13.6	0.2	0.3	-0.7		
18	13.6	-0.3	1.0	-0.1		
20	14.6	-1.0	-1.8	-0.7		
23	13.7	-0.1	-0.2	0.1		
24	13.9	-0.3	-0.1	-0.4		
25	13.7	-0.7	-0.9	-1.0		
MAX	14.7	1.0	1.2	1.0		
MIN	13.0	-1.5	-1.8	-1.4		
AVG	13.8	-0.3	-0.1	-0.3		
STD	0.5	0.6	0.7	0.6		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908509
Description:	B-A1-9 Signal				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
1	14.4	0.0	-0.4	-0.6		
2	14.9	-0.6	-0.9	-1.1		
3	14.1	-0.2	-0.3	-0.1		
4	14.6	-0.7	-0.8	-1.0		
5	14.5	-0.1	-0.3	0.1		
6	13.6	-0.1	0.2	-0.4		
8	14.5	-0.7	0.0	-0.4		
10	14.5	-1.1	-0.4	-1.2		
12	13.9	-0.4	0.4	-0.3		
14	14.5	-0.6	-0.9	-1.0		
16	14.5	-1.2	-0.4	-0.7		
18	13.8	0.0	0.5	0.2		
20	14.1	-0.6	-0.2	0.0		
23	13.6	-0.2	0.0	0.5		
24	14.2	-0.7	0.2	0.7		
25	13.6	0.4	-0.3	-0.6		
MAX	14.9	0.4	0.5	0.7		
MIN	13.6	-1.2	-0.9	-1.2		
AVG	14.2	-0.4	-0.2	-0.4		
STD	0.4	0.4	0.4	0.6		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908510
Description:	B-A1-10 Signal				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
1	13.8	0.4	0.0	-0.2		
2	13.8	0.1	0.4	-0.4		
3	14.1	-0.3	-0.9	-1.2		
4	13.6	0.3	-0.1	-0.4		
5	13.5	1.1	0.1	-0.2		
6	13.4	0.5	-0.2	0.6		
8	14.0	0.4	-0.7	-0.8		
10	13.5	0.1	-0.1	-0.2		
12	14.1	-0.4	-0.6	-0.8		
14	13.6	-0.1	-0.5	-0.6		
16	14.0	0.4	0.1	0.1		
18	13.8	-0.3	-0.2	-0.2		
20	13.8	0.1	-0.2	0.8		
23	13.9	-0.5	0.7	0.2		
24	14.0	-0.4	-0.9	-0.6		
25	14.2	-0.7	-1.4	-0.7		
MAX	14.2	1.1	0.7	0.8		
MIN	13.4	-0.7	-1.4	-1.2		
AVG	13.8	0.1	-0.3	-0.3		
STD	0.3	0.5	0.5	0.5		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



Low Level Circuit Resistance - Delta Values					
Project:	209085-1				Spec: EIA 364 TP23
Customer:	Samtec				Subgroup: Seq B Gp A1
Product:	Series IX5 connector				File No: 20908511
Description:	B-A1-11 Signal				Tech: MOB
Open circuit voltage:	20mV				Current: 10mA
Units: milliohms					
Temp °C	22	22	22	21	
R.H. %	50	50	44	51	
Date:	30Jun09	01Jul09	14Jul09	30Jul09	
Pos. ID	Initial	100X	Thermal	Humidity	
			Shock		
1	13.9	0.3	-0.1	0.1	
2	13.3	-0.2	1.3	0.0	
3	13.4	0.0	0.5	1.0	
4	13.8	-0.2	0.6	0.7	
5	12.4	1.2	1.2	1.3	
6	13.6	-0.4	-0.1	1.2	
8	14.6	-0.3	-1.0	0.1	
10	13.2	0.4	-0.5	0.9	
12	13.8	-0.1	0.4	1.4	
14	13.5	0.0	-0.2	0.1	
16	13.8	-0.5	-0.2	-0.1	
18	13.8	-0.5	-0.6	-0.7	
20	13.9	-0.1	0.3	-0.1	
23	13.3	0.3	0.6	0.8	
24	13.8	0.4	0.3	1.7	
25	13.7	0.3	-0.1	0.6	
MAX	14.6	1.2	1.3	1.7	
MIN	12.4	-0.5	-1.0	-0.7	
AVG	13.6	0.0	0.1	0.6	
STD	0.5	0.4	0.6	0.7	
Open	0	0	0	0	
Tech	MOB	MOB	MOB	MOB	
Equip ID	1125	1125	1125	1125	
	1219	1219	1219	1219	



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908512
Description:	B-A1-12 Signal				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
1	14.7	-0.7	-0.4	-0.6		
2	13.9	0.1	0.4	-0.1		
3	13.8	0.7	0.4	0.2		
4	14.0	0.0	-0.1	0.5		
5	14.2	0.2	-1.4	0.2		
6	14.0	0.3	-0.1	0.4		
8	14.5	0.2	0.5	0.5		
10	13.6	0.8	-0.5	0.0		
12	14.8	-0.3	-0.3	-0.5		
14	13.9	-0.5	-0.2	-0.2		
16	14.6	-0.1	-0.3	-0.3		
18	14.2	-0.8	-1.1	-0.5		
20	13.9	-0.8	-1.2	-0.4		
23	13.6	0.3	-0.2	0.5		
24	14.5	-0.2	-0.6	-0.5		
25	12.4	0.1	-0.4	0.0		
MAX	14.8	0.8	0.5	0.5		
MIN	12.4	-0.8	-1.4	-0.6		
AVG	14.0	0.0	-0.3	-0.1		
STD	0.6	0.5	0.5	0.4		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



LLCR DATA FILES

FILE NUMBERS

20908501G

20908502G

20908503G

20908504G

20908505G

20908506G

20908507G

20908508G

20908509G

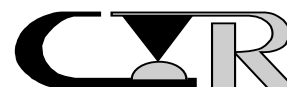
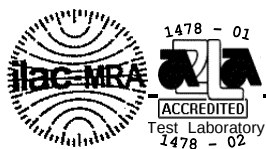
20908510G

20908511G

20908512G



Low Level Circuit Resistance - Delta Values					
Project:	209085-1				Spec: EIA 364 TP23
Customer:	Samtec				Subgroup: Seq b Gp A1
Product:	Series IX5 connector				File No: 20908501G
Description:	B-A2-1 Groundl				Tech: MOB
Open circuit voltage:		20mV			Current: 10mA
Units: milliohms					
Temp °C	23	22	22	21	
R.H. %	50	50	44	51	
Date:	29Jun09	01Jul09	14Jul09	30Jul09	
Pos. ID	Initial	100X	Thermal	Cyclic	
				Humidity	
7	3.2	-0.1	0.0	0.0	
9	3.3	0.0	0.0	0.0	
11	3.0	0.1	0.0	0.1	
13	4.0	-0.9	-1.0	-0.8	
15	2.8	0.3	0.5	0.2	
17	2.8	0.1	0.7	0.2	
19	3.3	-0.4	-0.5	-0.1	
21	2.8	-0.2	-0.3	0.9	
22	3.3	0.2	-0.1	0.0	
MAX	4.0	0.3	0.7	0.9	
MIN	2.8	-0.9	-1.0	-0.8	
AVG	3.2	-0.1	-0.1	0.1	
STD	0.4	0.4	0.5	0.4	
Open	0	0	0	0	
Tech	MOB	MOB	MOB	MOB	
Equip ID	1125	1125	1125	1125	
	1219	1219	1219	1219	



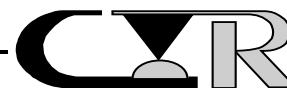
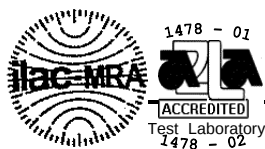
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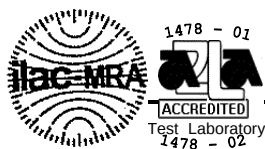
Low Level Circuit Resistance - Delta Values					
Project:	209085-1				Spec: EIA 364 TP23
Customer:	Samtec				Subgroup: Seq B Gp A1
Product:	Series IX5 connector				File No: 20908502G
Description:	B-A2-2 Ground				Tech: MOB
Open circuit voltage:		20mV			Current: 10mA
Units: milliohms					
Temp °C	23	22	22	21	
R.H. %	50	50	44	51	
Date:	29Jun09	01Jul09	14Jul09	30Jul09	
Pos. ID	Initial	100X	Thermal	Humidity	
			Shock		
7	3.1	-0.2	0.9	0.3	
9	3.0	-0.3	0.3	0.2	
11	2.9	0.3	0.2	0.2	
13	2.9	0.1	0.1	0.2	
15	3.0	0.1	0.2	0.6	
17	2.8	0.2	0.3	0.3	
19	2.7	0.4	0.3	0.3	
21	2.9	-0.2	-0.1	0.0	
22	3.2	-0.1	-0.1	0.4	
MAX	3.2	0.4	0.9	0.6	
MIN	2.7	-0.3	-0.1	0.0	
AVG	3.0	0.0	0.2	0.3	
STD	0.1	0.2	0.3	0.2	
Open	0	0	0	0	
Tech	MOB	MOB	MOB	MOB	
Equip ID	1125	1125	1125	1125	
	1219	1219	1219	1219	



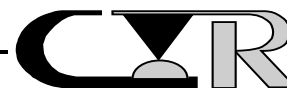
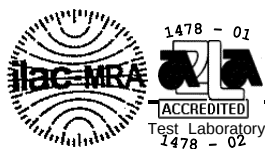
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq B Gp A1
Product:	Series IX5 connector				File No:	20908503G
Description:	B-A2-3 Ground				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100x	Thermal	Humidity		
			Shock			
7	3.1	0.0	0.1	0.1		
9	2.9	0.0	-0.2	0.1		
11	2.9	0.0	0.1	0.1		
13	2.8	0.1	0.1	0.1		
15	2.8	-0.1	0.0	0.8		
17	2.9	0.0	0.0	0.7		
19	2.7	0.1	0.1	0.3		
21	2.7	0.0	0.0	0.2		
MAX	3.1	0.1	0.1	0.8		
MIN	2.7	-0.1	-0.2	0.1		
AVG	2.9	0.0	0.0	0.3		
STD	0.1	0.1	0.1	0.3		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



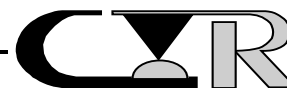
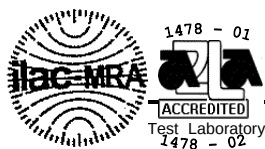
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq B Gp A1
Product:	Series IX5 connector				File No:	20908504G
Description:	B-A2-4 Ground				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	23	22	22	21		
R.H. %	50	50	44	51		
Date:	29Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
7	3.2	-0.3	-0.4	0.0		
9	3.4	-0.6	-0.6	-0.4		
11	4.5	-1.5	-1.7	-1.4		
13	3.1	0.9	-0.3	-0.3		
15	3.0	-0.4	-0.2	-0.2		
17	3.1	-0.4	-0.4	0.0		
19	2.8	0.5	0.1	0.4		
21	2.7	0.0	-0.4	-0.1		
22	3.2	0.0	-0.3	0.0		
MAX	4.5	0.9	0.1	0.4		
MIN	2.7	-1.5	-1.7	-1.4		
AVG	3.2	-0.2	-0.5	-0.2		
STD	0.5	0.7	0.5	0.5		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



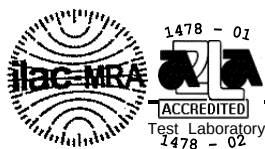
Low Level Circuit Resistance - Delta Values					
Project:	209085-1				Spec: EIA 364 TP23
Customer:	Samtec				Subgroup: Seq B Gp A1
Product:	Series IX5 connector				File No: 20908505G
Description:	B-A2-5 Ground				Tech: MOB
Open circuit voltage:	20mV				Current: 10mA
Units: milliohms					
Temp °C	23	22	22	21	
R.H. %	50	50	44	51	
Date:	29Jun09	01Jul09	14Jul09	30Jul09	
Pos. ID	Initial	100X	Thermal	Humidity	
			Shock		
7	2.9	0.9	0.2	0.0	
9	2.9	0.0	0.1	0.1	
11	3.4	-0.4	-0.6	-0.6	
13	2.9	-0.3	0.0	-0.1	
15	3.1	-0.2	0.0	-0.3	
17	2.8	0.1	0.2	0.1	
19	3.3	-0.4	-0.4	-0.5	
21	2.5	0.1	-0.2	0.2	
22	2.7	0.3	0.4	0.5	
MAX	3.4	0.9	0.4	0.5	
MIN	2.5	-0.4	-0.6	-0.6	
AVG	2.9	0.0	0.0	-0.1	
STD	0.3	0.4	0.3	0.3	
Open	0	0	0	0	
Tech	MOB	MOB	MOB	MOB	
Equip ID	1125	1125	1125	1125	
	1219	1219	1219	1219	



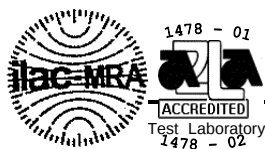
Low Level Circuit Resistance - Delta Values					
Project:	209085-1				Spec: EIA 364 TP23
Customer:	Samtec				Subgroup: Seq B Gp A1
Product:	Series IX5 connector				File No: 20908506G
Description:	B-A2-6 Ground				Tech: MOB
Open circuit voltage:	20mV				Current: 10mA
Units: milliohms					
Temp °C	23	22	22	21	
R.H. %	50	50	44	51	
Date:	29Jun09	01Jul09	14Jul09	30Jul09	
Pos. ID	Initial	100X	Thermal	Humidity	
			Shock		
7	3.0	0.0	0.1	0.1	
9	3.0	0.7	0.1	0.4	
11	3.1	0.0	0.3	-0.3	
13	3.3	0.0	0.5	0.1	
15	3.0	0.4	0.4	0.3	
17	3.9	-0.8	-0.6	-0.8	
19	3.5	-0.3	-0.3	-0.2	
21	2.7	0.4	0.4	1.2	
22	3.4	0.0	0.2	0.0	
MAX	3.9	0.7	0.5	1.2	
MIN	2.7	-0.8	-0.6	-0.8	
AVG	3.2	0.1	0.1	0.1	
STD	0.4	0.4	0.4	0.6	
Open	0	0	0	0	
Tech	MOB	MOB	MOB	MOB	
Equip ID	1125	1125	1125	1125	
	1219	1219	1219	1219	



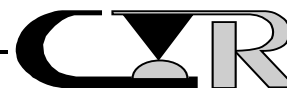
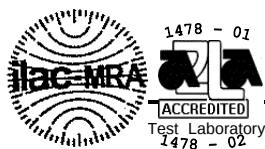
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908507G
Description:	B-A2-7 Ground				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
7	2.8	0.2	0.1	0.1		
9	2.9	0.3	0.1	0.0		
11	3.3	0.3	1.5	-0.6		
13	2.9	0.1	0.5	-0.1		
15	2.9	0.0	-0.1	-0.1		
17	2.8	-0.1	-0.5	0.0		
19	2.6	0.0	0.1	0.2		
21	2.6	-0.5	0.4	0.7		
22	3.2	-0.2	-0.2	-0.3		
MAX	3.3	0.3	1.5	0.7		
MIN	2.6	-0.5	-0.5	-0.6		
AVG	2.9	0.0	0.2	0.0		
STD	0.2	0.2	0.6	0.4		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



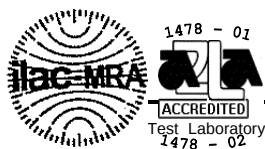
Low Level Circuit Resistance - Delta Values					
Project:	209085-1				Spec: EIA 364 TP23
Customer:	Samtec				Subgroup: Seq B Gp A1
Product:	Series IX5 connector				File No: 20908508G
Description:	B-A2-8 Ground				Tech: MOB
Open circuit voltage:		20mV			Current: 10mA
Units: milliohms					
Temp °C	22	22	22	21	
R.H. %	50	50	44	51	
Date:	30Jun09	01Jul09	14Jul09	30Jul09	
Pos. ID	Initial	100X	Thermal	Humidity	
			Shock		
7	2.6	0.3	0.3	0.4	
9	2.8	0.3	1.0	0.1	
11	2.9	0.6	0.1	0.0	
13	2.6	0.3	1.5	0.2	
15	2.8	0.1	0.0	0.0	
17	2.8	0.4	-0.2	0.2	
19	2.7	-0.3	-0.1	-0.1	
21	2.5	0.1	1.1	0.3	
22	2.9	-0.7	-0.1	0.0	
MAX	2.9	0.6	1.5	0.4	
MIN	2.5	-0.7	-0.2	-0.1	
AVG	2.7	0.1	0.4	0.1	
STD	0.1	0.4	0.6	0.2	
Open	0	0	0	0	
Tech	MOB	MOB	MOB	MOB	
Equip ID	1125	1125	1125	1125	
	1219	1219	1219	1219	



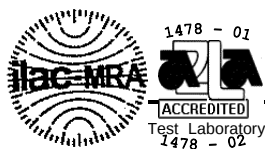
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq B Gp A1
Product:	Series IX5 connector				File No:	20908509G
Description:	B-A2-9 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
7	3.1	-0.2	-0.4	0.1		
9	2.9	-0.2	-0.3	0.3		
11	3.1	-0.5	-0.1	0.7		
13	3.2	0.2	1.1	0.1		
15	3.0	0.2	0.0	-0.8		
17	2.6	0.6	1.5	0.5		
19	2.8	0.1	-0.1	0.2		
21	2.8	0.0	0.1	0.3		
22	2.9	0.1	1.4	0.1		
MAX	3.2	0.6	1.5	0.7		
MIN	2.6	-0.5	-0.4	-0.8		
AVG	2.9	0.0	0.4	0.2		
STD	0.2	0.3	0.7	0.4		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



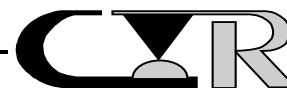
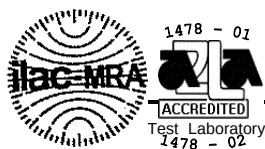
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908510G
Description:	B-A2-10 Ground				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
7	1.9	1.2	1.0	1.1		
9	3.1	0.0	-0.1	-0.1		
11	3.1	0.1	0.1	0.0		
13	3.0	0.3	0.0	-0.5		
17	3.3	0.0	0.1	0.3		
19	2.2	0.7	0.6	0.7		
21	3.7	-1.0	-0.1	-0.6		
22	3.0	0.2	-0.1	0.0		
MAX	3.7	1.2	1.0	1.1		
MIN	1.9	-1.0	-0.1	-0.6		
AVG	2.9	0.2	0.2	0.1		
STD	0.6	0.6	0.4	0.6		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq B Gp A1
Product:	Series IX5 connector				File No:	20908511G
Description:	B-A2-11 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	22	21		
R.H. %	50	50	44	51		
Date:	30Jun09	01Jul09	14Jul09	30Jul09		
Pos. ID	Initial	100X	Thermal	Humidity		
			Shock			
7	3.0	0.4	0.0	0.7		
9	4.1	-1.1	-1.6	-1.1		
11	3.1	-0.1	0.0	-0.1		
13	2.7	0.2	0.1	0.2		
15	2.9	0.6	-0.2	-0.1		
17	2.9	-0.2	-0.1	-0.2		
19	3.0	0.0	-0.2	0.3		
21	2.5	0.2	1.1	0.2		
22	3.0	0.1	0.2	0.5		
MAX	4.1	0.6	1.1	0.7		
MIN	2.5	-1.1	-1.6	-1.1		
AVG	3.0	0.0	-0.1	0.0		
STD	0.4	0.5	0.7	0.5		
Open	0	0	0	0		
Tech	MOB	MOB	MOB	MOB		
Equip ID	1125	1125	1125	1125		
	1219	1219	1219	1219		

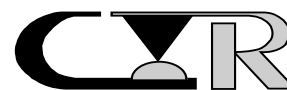
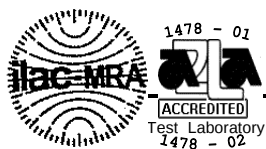


Low Level Circuit Resistance - Delta Values					
Project:	209085-1				Spec: EIA 364 TP23
Customer:	Samtec				Subgroup: Seq B Gp A1
Product:	Series IX5 connector				File No: 20908512G
Description:	B-A2-12 Ground				Tech: MOB
Open circuit voltage:		20mV			Current: 10mA
Units: milliohms					
Temp °C	22	22	22	21	
R.H. %	50	50	44	51	
Date:	30Jun09	01Jul09	14Jul09	30Jul09	
Pos. ID	Initial	100X	Thermal	Humidity	
			Shock		
7	3.1	2.2	0.4	-0.1	
9	3.1	-0.1	0.7	0.4	
11	3.0	-0.3	0.1	0.1	
13	2.9	0.4	0.4	0.9	
15	2.9	-0.2	0.3	0.0	
17	3.0	-0.9	0.0	-0.2	
19	3.0	0.5	0.7	0.5	
21	2.8	-0.1	0.2	-0.6	
22	3.3	0.4	-0.1	-0.4	
MAX	3.3	2.2	0.7	0.9	
MIN	2.8	-0.9	-0.1	-0.6	
AVG	3.0	0.2	0.3	0.1	
STD	0.1	0.9	0.3	0.5	
Open	0	0	0	0	
Tech	MOB	MOB	MOB	MOB	
Equip ID	1125	1125	1125	1125	
	1219	1219	1219	1219	



TEST RESULTS

**SEQUENCE C
GROUP A1& A2**



PROJECT NO.: 209085-1

SPECIFICATION: TC0904-2186 REV.1

PART NO.: See Page 4

PART DESCRIPTION: See Page 4

SAMPLE SIZE: 12 Samples

TECHNICIAN: MOB, MHB

START DATE: 7/7/09

COMPLETE DATE: 7/8/09

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 48%

EQUIPMENT ID#: 207, 1125, 1219, 1276

LOW LEVEL CIRCUIT RESISTANCE (LLCR)

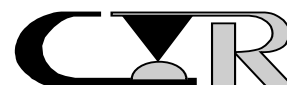
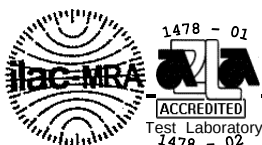
PURPOSE:

3. To evaluate contact resistance characteristics of the contact systems under conditions where applied voltages and currents do not alter the physical contact interface and will detect oxides and films which degrade electrical stability. It is also sensitive to and may detect the presence of fretting corrosion induced by mechanical or thermal environments as well as any significant loss of contact pressure.
4. This attribute was monitored after each preconditioning and/or test exposure in order to determine said stability of the contact systems as they progress through the applicable test sequences.
5. The electrical stability of the system is determined by comparing the initial resistance value to that observed after a given test exposure. The difference is the change in resistance occurring whose magnitude establishes the stability of the interface being evaluated.

PROCEDURE:

6. The test was performed in accordance with EIA 364, Test Procedure 23 with the following conditions.
7. Test Conditions:
 - a) Test Current : 10 milliamps maximum
 - b) Open Circuit Voltage : 20 minutes
 - c) No. of Positions Tested : 25 per test sample

-continued on next page.



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PROCEDURE:-continued

8. The points of application are shown in Figure #3.

REQUIREMENTS:

Low level circuit resistance shall be measured and recorded.

RESULTS:

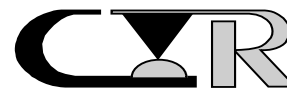
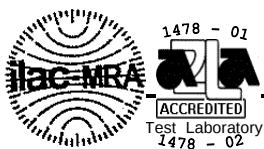
9. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

SIGNAL DATA

<u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
C-A1-1	14.6	15.5	13.8
C-A1-2	14.0	14.3	13.5
C-A1-3	13.8	14.3	13.4
C-A1-4	14.3	15.1	13.4
C-A1-5	14.0	14.9	13.4
C-A1-6	14.2	15.5	13.5
C-A1-7	14.1	14.7	13.4
C-A1-8	14.5	15.5	13.8
C-A1-9	14.2	15.8	12.5
C-A1-10	14.0	14.7	13.4
C-A1-11	14.2	15.1	13.8
C-A1-12	14.4	15.2	13.5

10. See data files 20908513 through 20908524 for individual signal data points.



RESULTS:-continued

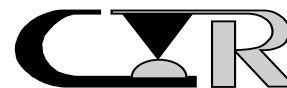
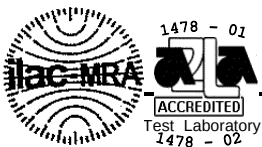
11. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

GROUND DATA

<u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
C-A2-1	3.0	3.6	2.7
C-A2-2	3.0	4.2	2.8
C-A2-3	3.2	3.6	2.7
C-A2-4	2.9	3.4	2.3
C-A2-5	3.4	3.8	3.0
C-A2-6	2.9	3.2	2.1
C-A2-7	3.3	4.7	2.9
C-A2-8	3.1	3.8	2.8
C-A2-9	3.0	3.2	2.7
C-A2-10	3.0	3.5	2.6
C-A2-11	3.1	3.4	2.9
C-A2-12	3.1	3.4	2.9

12. See data files 20908513G through 20908524G for individual ground data points.



PROJECT NO.: 209085-1	SPECIFICATION: TC0904-2186 REV.1
PART NO.: See Page 4	PART DESCRIPTION: See Page 4
SAMPLE SIZE: 12 Samples	TECHNICIAN: MHB
START DATE: 7/27/09	COMPLETE DATE: 7/27/09
ROOM AMBIENT: 22°C	RELATIVE HUMIDITY: 45%

EQUIPMENT ID#: 200, 282, 874, 1028, 1366, 1367, 1368, 1474, 1521

MECHANICAL SHOCK (SPECIFIED PULSE)

PURPOSE:

To determine the mechanical and electrical integrity of connectors for use with electronic equipment subjected to shocks such as those expected from handling, transportation, etc.

PROCEDURE:

13. The test was performed in accordance EIA 364, Test Procedure 27.

14. Test Conditions:

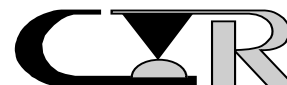
- a) Peak Value : 100 G
- b) Duration : 6 Milliseconds
- c) Wave Form : Half-Sine
- d) Velocity : 9.7 feet Per Second
- e) No. of Shocks : 3 Shocks/Direction, 3 Axis (18 Total)

15. A stabilizing medium was used such that the mated test samples did not separate during the test.

16. Figure #2 illustrates the test sample fixturing utilized during the test.

17. All subsequent variable testing was performed in accordance with the procedures previously indicated.

REQUIREMENTS: See Next Page.



REQUIREMENTS:

18. There shall be no evidence of physical damage to the test samples as tested.
19. The change in low level circuit resistance shall not exceed +10.0 milliohms.

RESULTS:

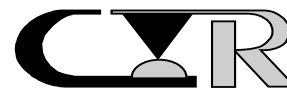
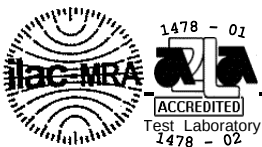
20. There was no evidence of physical damage to the test samples as tested.
21. The following is a summary of the data observed:

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

SIGNAL DATA

<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
C-A1-1	-0.1	+0.9
C-A1-2	+0.2	+0.7
C-A1-3	+0.1	+0.8
C-A1-4	-0.3	+0.8
C-A1-5	+0.2	+0.8
C-A1-6	+0.4	+2.7
C-A1-7	-0.1	+0.9
C-A1-8	-0.6	+0.0
C-A1-9	+0.2	+1.4
C-A1-10	-0.0	+0.5
C-A1-11	+0.0	+0.5
C-A1-12	+0.0	+1.3

22. See data files 20908512 through 20908524 for individual signal data points.



RESULTS: -continued

23. There was no evidence of physical damage to the test samples as tested.

24. The following is a summary of the data observed:

CHANGE IN LOW LEVEL CIRCUIT RESISTANCE (Milliohms)		
<u>GROUND DATA</u>		
<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
C-A2-1	+0.0	+0.6
C-A2-2	+0.1	+0.4
C-A2-3	-0.2	+0.0
C-A2-4	+0.1	+0.6
C-A2-5	+0.0	+0.2
C-A2-6	+0.1	+0.8
C-A2-7	+0.1	+0.7
C-A2-8	-0.1	+0.0
C-A2-9	+0.0	+0.1
C-A2-10	-0.2	+0.1
C-A2-11	+0.0	+0.2
C-A2-12	+0.0	+0.1

25. See data files 20908512G through 20908524G for individual ground data points.

26. The Mechanical Shock characteristics are shown in Figures #3 (Calibration Pulse) and #4 (Test Pulse). Each figure displays the shock pulse contained within the upper and lower limits as defined by the appropriate test specification.

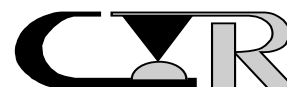
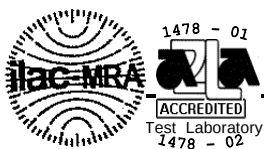


FIGURE #2

TYPICAL FIXTURING - MECHANICAL SHOCK

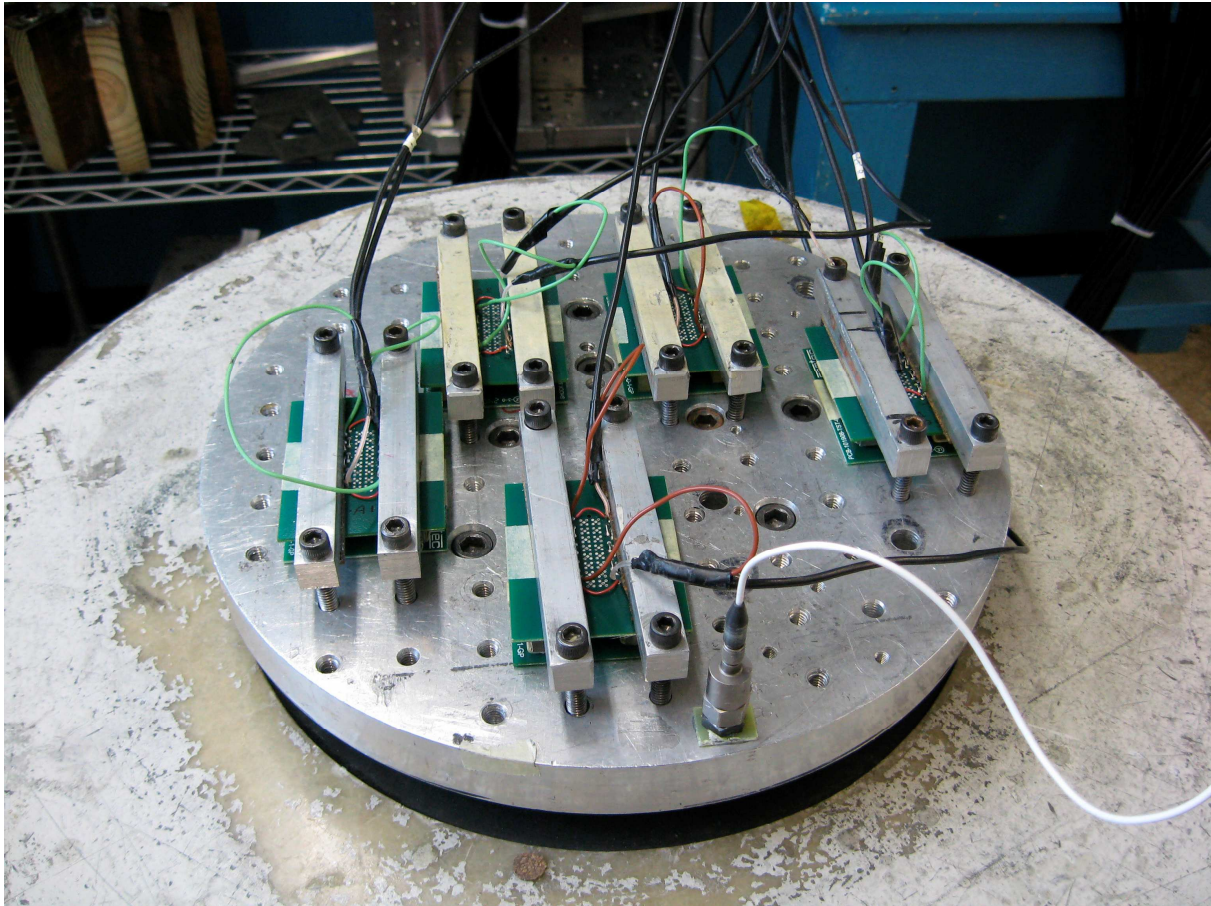
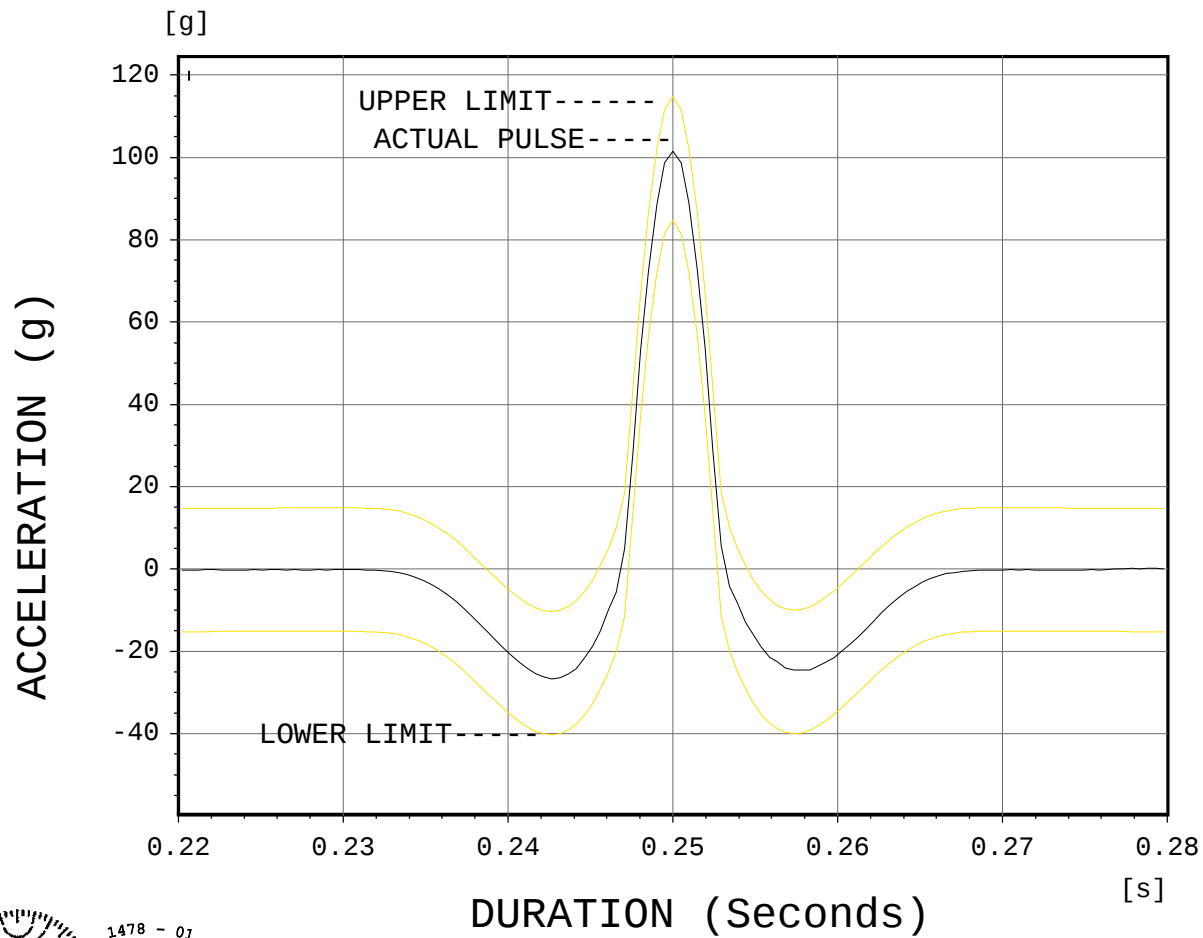


FIGURE #3

Classical Shock

Channel 5



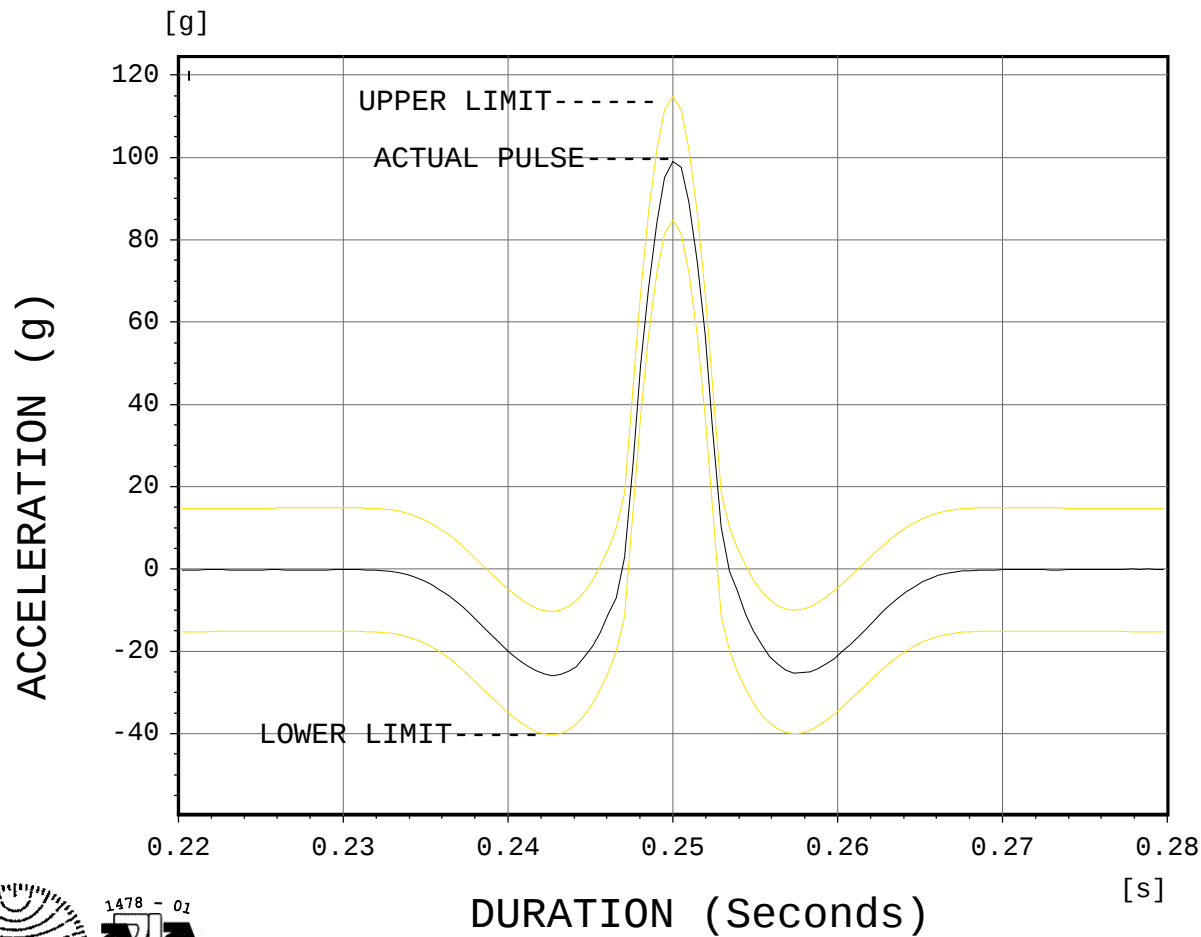
Project 209085-1
Samtec
Cal. Wave 1
Tech: MHB
Date: 27 Jul 09



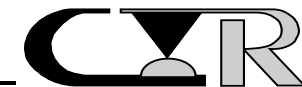
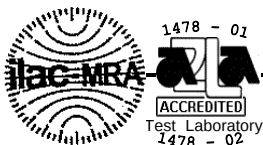
FIGURE #4

Classical Shock

Channel 5



Project 209085-1
Samtec
Actual Wave
Tech: MHB
Date: 27Jul09



PROJECT NO.: 209085-1

PART NO.: See Page 4

SAMPLE SIZE: 12 Samples

START DATE: 7/28/09

ROOM AMBIENT: 22°C

EQUIPMENT ID#: 200, 282, 874, 1028, 1366, 1367, 1368, 1474

SPECIFICATION: TC0904-2186 REV.1

PART DESCRIPTION: See Page 4

TECHNICIAN: MHB

COMPLETE DATE: 7/29/09

RELATIVE HUMIDITY: 47%

VIBRATION, RANDOM

PURPOSE:

27. To establish the mechanical integrity of the test samples exposed to external mechanical stresses.
28. To determine if the contact system is susceptible to fretting corrosion.
29. To determine if the electrical stability of the system has degraded when exposed to a vibratory environment.

PROCEDURE:

30. The test was performed in accordance with EIA 364, Test Procedure 28.

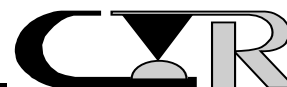
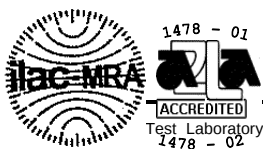
31. Test Conditions:

- a) Power Spectral Density : 0.01 G²/Hz
- b) G 'RMS' : 7.56
- c) Frequency : 50 to 2000 Hz
- d) Duration : 2.0 hour per axis (3 axis total)

32. A stabilizing medium was used such that the mated test samples did not separate during the test.

33. Figure #5 illustrates the test sample fixturing utilized during the test.

-continued on next page.



PROCEDURE: -continued

34. All subsequent variable testing was performed in accordance with procedures previously indicated.

REQUIREMENTS:

35. There shall be no evidence of physical damage to the test samples as tested.

36. The change in low level circuit resistance shall not exceed +10.0 milliohms.

RESULTS:

37. There was no evidence of physical damage to the test samples as tested.

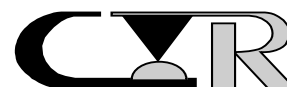
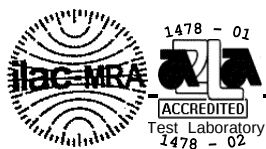
38. The following is a summary of the data observed:

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

SIGNAL DATA

<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
C-A1-1	-0.2	+0.7
C-A1-2	+0.2	+0.9
C-A1-3	-0.2	+1.3
C-A1-4	-0.4	+0.4
C-A1-5	+0.4	+2.2
C-A1-6	+0.1	+4.0
C-A1-7	+0.0	+0.9
C-A1-8	-0.2	+0.8
C-A1-9	+0.8	+2.4
C-A1-10	+0.1	+1.3
C-A1-11	+0.0	+0.5
C-A1-12	-0.2	+0.6

39. See data files 20908512 through 20908524 for individual signal data points.



RESULTS: -continued

40. The following is a summary of the data observed:

CHANGE IN LOW LEVEL CIRCUIT RESISTANCE (Milliohms)		
GROUND DATA		
<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
C-A2-1	+0.1	+0.8
C-A2-2	+0.1	+0.8
C-A2-3	-0.1	+0.7
C-A2-4	+0.1	+1.1
C-A2-5	+0.1	+0.6
C-A2-6	+0.4	+1.8
C-A2-7	+0.0	+0.4
C-A2-8	+0.1	+1.0
C-A2-9	+0.0	+0.9
C-A2-10	+0.0	+1.1
C-A2-11	+0.4	+1.0
C-A2-12	+0.1	+0.8

5. See data files 20908512 through 20908524 for individual ground data points.

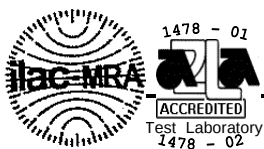
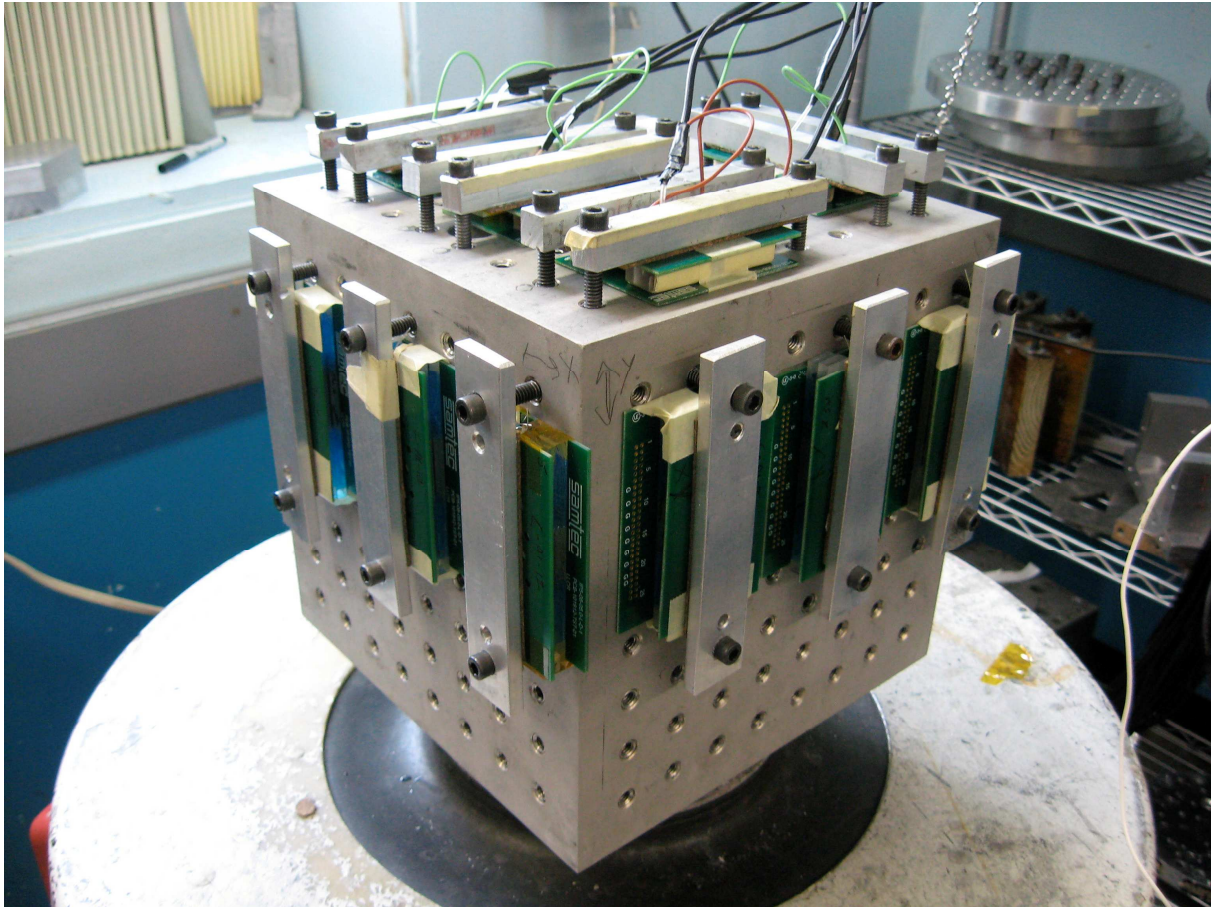


FIGURE #5

TYPICAL FIXTURING RANDOM VIBRATION



LLCR DATA FILES

FILE NUMBERS

20908513

20908514

20908515

20908516

20908517

20908518

20908519

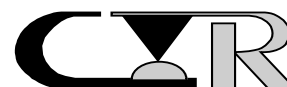
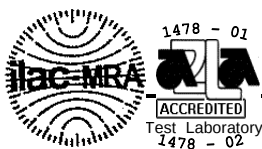
20908520

20908521

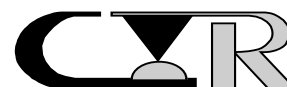
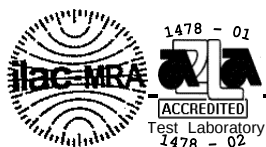
20908522

20908523

20908524



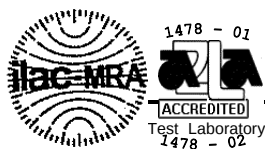
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq c Gp A1	
Product:	Series IX5 connector				File No:	20908513
Description:	C-A1-1 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	48	47	51			
Date:	07Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	15.4	-0.4	-0.2			
2	14.1	0.1	-0.4			
3	14.8	-0.6	-1.0			
4	13.8	0.6	-0.3			
5	15.2	-0.8	-1.0			
6	14.8	-0.5	-0.4			
8	14.2	-0.2	-0.3			
10	15.5	-1.1	-0.7			
12	14.4	-0.1	-0.1			
14	15.1	-0.3	0.7			
16	14.2	0.2	0.0			
18	14.9	0.4	-0.2			
20	13.9	0.9	0.5			
23	13.9	0.2	0.0			
24	14.4	-0.4	-0.5			
25	14.6	-0.2	-0.1			
MAX	15.5	0.9	0.7			
MIN	13.8	-1.1	-1.0			
AVG	14.6	-0.1	-0.2			
STD	0.5	0.5	0.5			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



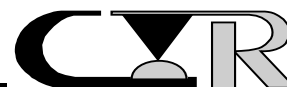
Contech Research

An Independent Test and Research Laboratory

Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908514
Description:	C-A1-2 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	48	47	51			
Date:	07Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	13.8	0.1	0.4			
2	14.1	0.6	0.0			
3	13.9	0.2	-0.4			
4	13.9	0.3	0.0			
5	13.9	0.7	0.7			
6	14.2	0.3	0.7			
8	14.2	-0.2	-0.1			
10	13.8	0.3	0.6			
12	14.3	0.3	0.0			
14	14.1	0.0	-0.2			
16	14.1	-0.5	-0.2			
18	14.3	0.2	-0.4			
20	13.5	0.3	0.9			
23	14.2	0.5	0.1			
24	13.7	0.0	0.4			
25	13.8	0.0	0.2			
MAX	14.3	0.7	0.9			
MIN	13.5	-0.5	-0.4			
AVG	14.0	0.2	0.2			
STD	0.2	0.3	0.4			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq B Gp A1	
Product:	Series IX5 connector				File No:	20908515
Description:	C-A1-3 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	48	47	51			
Date:	07Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	13.5	0.2	0.0			
2	13.8	0.0	-0.3			
3	14.0	0.0	0.0			
4	14.1	-0.2	-0.2			
5	13.9	-0.1	0.1			
6	14.1	-0.5	-0.3			
8	13.4	0.4	0.8			
10	13.5	0.2	0.3			
12	13.6	0.3	0.4			
14	14.3	-0.7	-0.8			
16	13.7	0.5	0.5			
18	14.0	0.8	0.9			
20	13.9	-0.2	0.1			
23	13.7	0.5	0.5			
24	13.9	0.5	1.3			
25	14.0	-0.5	-0.5			
MAX	14.3	0.8	1.3			
MIN	13.4	-0.7	-0.8			
AVG	13.8	0.1	0.2			
STD	0.2	0.4	0.5			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



		Low Level Circuit Resistance - Delta Values				
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908516
Description:	C-A1-4 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	48	47	51			
Date:	07Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	13.6	0.1	0.4			
2	15.1	0.8	-0.3			
3	14.4	-0.1	-0.4			
4	14.0	0.1	0.2			
5	14.2	0.2	0.2			
6	14.8	-1.0	-1.4			
8	13.4	-0.3	-1.1			
10	14.9	-0.2	-0.8			
12	13.7	-1.2	-0.5			
14	14.8	-0.5	-0.6			
16	14.4	-0.5	-0.1			
18	14.6	-0.2	0.1			
20	14.8	-2.2	-1.0			
23	14.0	0.2	-0.4			
24	14.1	0.0	-0.3			
25	14.7	-0.5	0.2			
MAX	15.1	0.8	0.4			
MIN	13.4	-2.2	-1.4			
AVG	14.3	-0.3	-0.4			
STD	0.5	0.7	0.5			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



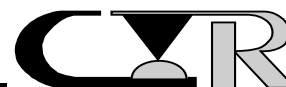
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908517
Description:	C-A1-5 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	13.8	0.2	0.4			
2	14.3	-0.2	-0.3			
3	13.6	0.4	0.9			
4	13.9	0.8	0.5			
5	13.5	-0.1	0.2			
6	14.9	0.3	0.1			
8	13.7	0.2	0.6			
10	14.4	0.0	0.3			
12	13.4	0.7	2.2			
14	14.3	-0.1	0.0			
16	14.0	0.3	0.1			
18	14.2	0.1	0.2			
20	14.2	0.0	0.1			
23	14.2	0.3	0.6			
24	14.1	0.1	-0.1			
25	13.6	0.6	0.8			
MAX	14.9	0.8	2.2			
MIN	13.4	-0.2	-0.3			
AVG	14.0	0.2	0.4			
STD	0.4	0.3	0.6			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



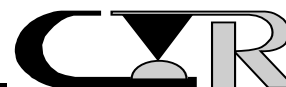
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908518
Description:	C-A1-6 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	14.6	1.2	0.0			
2	15.3	1.2	-0.8			
3	14.0	-0.2	-0.6			
4	13.9	0.0	0.0			
5	14.1	-0.6	-0.5			
6	13.5	0.5	0.0			
8	13.8	0.9	0.3			
10	14.0	0.1	-0.3			
12	14.5	2.7	4.0			
14	13.5	0.6	-0.3			
16	15.5	-0.8	-0.6			
18	14.0	0.2	0.4			
20	14.2	1.4	0.1			
23	13.6	0.1	0.1			
24	14.7	-0.7	0.2			
25	14.0	-0.3	-0.2			
MAX	15.5	2.7	4.0			
MIN	13.5	-0.8	-0.8			
AVG	14.2	0.4	0.1			
STD	0.6	0.9	1.1			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908519
Description:	C-A1-7 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	13.5	0.3	0.6			
2	14.4	-0.6	-0.4			
3	13.9	0.0	0.2			
4	14.7	0.5	0.6			
5	13.8	0.3	0.2			
6	14.3	0.6	0.9			
8	14.0	0.6	0.3			
10	13.4	0.1	0.3			
12	14.3	0.3	-0.1			
14	14.7	-0.8	-0.9			
16	13.6	0.9	0.3			
18	14.3	-0.9	0.1			
20	14.3	0.1	-1.0			
23	13.7	0.8	0.8			
24	14.6	-0.2	-0.8			
25	14.1	-0.2	-0.4			
MAX	14.7	0.9	0.9			
MIN	13.4	-0.9	-1.0			
AVG	14.1	0.1	0.0			
STD	0.4	0.5	0.6			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908520
Description:	C-A1-8 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	14.1	0.0	0.7			
2	13.9	-0.1	0.6			
3	14.6	-0.9	-0.3			
4	13.9	-0.3	0.6			
5	14.1	-0.6	0.2			
6	15.2	-0.7	-0.5			
8	14.3	-0.2	-0.4			
10	15.3	-1.6	-1.3			
12	14.2	0.0	0.0			
14	14.7	-0.1	-0.7			
16	14.8	-0.1	0.8			
18	14.9	-0.9	-1.1			
20	14.3	-0.4	-0.9			
23	15.1	-1.3	-0.3			
24	15.5	-1.8	-1.1			
25	13.8	0.0	0.3			
MAX	15.5	0.0	0.8			
MIN	13.8	-1.8	-1.3			
AVG	14.5	-0.6	-0.2			
STD	0.5	0.6	0.7			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



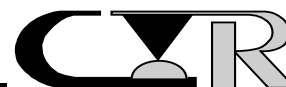
Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908521
Description:	C-A1-9 Signal				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	15.8	-0.5	0.1			
2	13.8	0.0	0.2			
3	14.5	0.1	1.9			
4	14.2	0.5	2.4			
5	13.4	0.7	0.6			
6	12.5	1.4	1.1			
8	13.9	0.5	0.4			
10	13.6	0.4	0.8			
12	14.6	0.4	2.0			
14	13.9	0.7	1.0			
16	14.1	-0.2	0.0			
18	13.8	1.0	0.8			
20	15.3	-0.2	0.4			
23	14.8	-0.5	-0.1			
24	14.3	-0.4	1.0			
25	14.7	-0.8	-0.5			
MAX	15.8	1.4	2.4			
MIN	12.5	-0.8	-0.5			
AVG	14.2	0.2	0.8			
STD	0.8	0.6	0.8			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908522
Description:	C-A1-10 Signal				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	14.1	-0.1	0.1			
2	13.5	0.1	0.2			
3	14.1	-0.1	0.0			
4	13.5	0.3	0.3			
5	14.0	0.2	0.4			
6	13.4	-0.1	0.2			
8	14.0	0.2	0.0			
10	14.4	-0.3	-0.4			
12	14.0	-0.2	-0.2			
14	14.0	0.5	-0.1			
16	14.6	-0.2	-0.2			
18	14.7	-1.1	-0.7			
20	13.9	0.0	1.3			
23	14.0	-0.3	0.4			
24	14.5	-0.7	0.5			
25	13.6	0.3	0.0			
MAX	14.7	0.5	1.3			
MIN	13.4	-1.1	-0.7			
AVG	14.0	-0.1	0.1			
STD	0.4	0.4	0.4			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908523
Description:	C-A1-11 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	14.4	-0.2	-0.4			
2	14.2	-0.5	-0.5			
3	14.2	-0.4	-0.1			
4	14.2	0.1	0.0			
5	13.8	-0.2	-0.2			
6	14.1	0.8	0.4			
8	14.3	-0.2	0.5			
10	13.8	-0.2	-0.3			
12	14.1	0.3	0.0			
14	14.3	0.6	0.1			
16	15.1	-0.4	-0.7			
18	14.2	0.0	-0.4			
20	14.4	-0.1	-0.1			
23	13.9	0.1	0.1			
24	14.1	0.2	0.5			
25	14.0	0.3	0.2			
MAX	15.1	0.8	0.5			
MIN	13.8	-0.5	-0.7			
AVG	14.2	0.0	0.0			
STD	0.3	0.4	0.4			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



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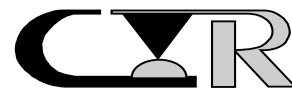
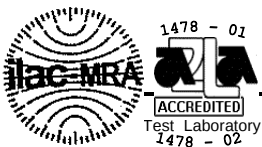
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Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq C Gp A1
Product:	Series IX5 connector				File No:	20908524
Description:	C-A1-12 Signal				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
1	15.0	0.3	-0.5			
2	14.0	0.5	-0.2			
3	14.0	0.4	-0.3			
4	13.5	0.2	-0.1			
5	14.0	0.0	-0.1			
6	14.2	-0.1	-0.4			
8	14.9	-0.6	-0.4			
10	14.0	0.0	-0.4			
12	14.5	-0.2	-0.2			
14	15.0	-1.1	-0.9			
16	15.2	-0.6	-0.7			
18	14.6	-0.7	-0.5			
20	14.4	-0.5	0.6			
23	15.2	0.1	-0.4			
24	13.9	1.3	0.5			
25	14.2	0.3	0.1			
MAX	15.2	1.3	0.6			
MIN	13.5	-1.1	-0.9			
AVG	14.4	0.0	-0.2			
STD	0.5	0.6	0.4			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



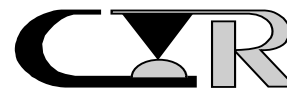
LLCR DATA FILES

FILE NUMBERS

20908513G
20908514G
20908515G
20908516G
20908517G
20908518G
20908519G
20908520G
20908521G
20908522G
20908523G
20908524G



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq c Gp A1	
Product:	Series IX5 connector				File No:	20908513G
Description:	C-A2-1 Ground				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	48	47	51			
Date:	07Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	2.7	0.6	0.5			
9	3.1	-0.1	-0.1			
11	2.9	0.0	-0.4			
13	3.0	0.0	0.0			
15	2.7	0.3	0.1			
17	3.2	-0.2	-0.5			
19	2.9	0.0	0.8			
21	2.7	0.0	0.3			
22	3.6	-0.1	-0.2			
MAX	3.6	0.6	0.8			
MIN	2.7	-0.2	-0.5			
AVG	3.0	0.0	0.1			
STD	0.3	0.2	0.4			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq C Gp A1
Product:	Series IX5 connector				File No:	20908514G
Description:	C-A2-2 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	48	47	51			
Date:	07Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	4.2	0.0	0.0			
9	3.3	-0.2	0.5			
11	3.0	-0.1	-0.1			
13	2.8	0.3	0.0			
15	2.9	0.0	0.0			
17	2.9	-0.1	0.1			
19	2.8	0.0	-0.8			
21	2.8	0.3	0.8			
22	2.8	0.4	0.3			
MAX	4.2	0.4	0.8			
MIN	2.8	-0.2	-0.8			
AVG	3.0	0.1	0.1			
STD	0.5	0.2	0.4			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq B Gp A1
Product:	Series IX5 connector				File No:	20908515G
Description:	C-A2-3 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	48	47	51			
Date:	07Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	3.2	-0.4	-0.3			
9	3.0	0.0	-0.1			
11	3.3	-0.1	0.7			
13	3.2	-0.3	-0.5			
15	3.4	0.0	-0.4			
17	3.6	-0.3	-0.2			
19	3.0	-0.2	0.0			
21	2.7	-0.3	-0.2			
22	3.2	0.0	0.1			
MAX	3.6	0.0	0.7			
MIN	2.7	-0.4	-0.5			
AVG	3.2	-0.2	-0.1			
STD	0.2	0.1	0.4			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq C Gp A1
Product:	Series IX5 connector				File No:	20908516G
Description:	C-A2-4 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	48	47	51			
Date:	07Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	3.1	-0.2	-0.1			
9	2.4	0.6	0.5			
11	2.3	0.6	1.1			
13	3.0	-0.1	-0.1			
15	2.7	0.1	0.2			
17	3.0	-0.1	-0.2			
19	3.1	-0.2	-0.3			
21	3.4	-0.4	-0.7			
22	3.2	0.0	0.4			
MAX	3.4	0.6	1.1			
MIN	2.3	-0.4	-0.7			
AVG	2.9	0.1	0.1			
STD	0.4	0.3	0.5			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq C Gp A1
Product:	Series IX5 connector				File No:	20908517G
Description:	C-A2-5 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	3.5	0.2	0.2			
9	3.5	-0.1	0.2			
11	3.3	0.0	0.6			
13	3.0	-0.1	-0.1			
15	3.4	0.1	0.0			
17	3.7	-0.3	-0.2			
19	3.8	0.2	0.1			
21	3.4	0.0	0.2			
22	3.3	0.1	-0.1			
MAX	3.8	0.2	0.6			
MIN	3.0	-0.3	-0.2			
AVG	3.4	0.0	0.1			
STD	0.2	0.2	0.2			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq C Gp A1
Product:	Series IX5 connector				File No:	20908518G
Description:	C-A2-6 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	2.9	0.1	0.2			
9	3.1	0.1	0.1			
11	3.1	0.0	0.3			
13	2.9	0.1	0.7			
15	2.1	0.8	0.7			
17	2.9	0.0	0.0			
19	3.0	-0.1	0.2			
21	2.5	0.2	1.8			
22	3.2	0.0	-0.3			
MAX	3.2	0.8	1.8			
MIN	2.1	-0.1	-0.3			
AVG	2.9	0.1	0.4			
STD	0.3	0.3	0.6			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq C Gp A1
Product:	Series IX5 connector				File No:	20908519G
Description:	C-A2-7 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	3.2	0.0	0.2			
9	3.0	0.0	0.2			
11	3.1	-0.1	0.0			
13	3.2	-0.1	-0.3			
15	3.2	0.1	0.1			
17	2.9	0.2	0.4			
19	3.6	0.1	0.1			
21	3.1	0.7	0.1			
22	4.7	0.0	-0.5			
MAX	4.7	0.7	0.4			
MIN	2.9	-0.1	-0.5			
AVG	3.3	0.1	0.0			
STD	0.5	0.2	0.3			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq C Gp A1
Product:	Series IX5 connector				File No:	20908520G
Description:	C-A2-8 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	3.0	0.0	0.0			
9	2.9	0.0	0.8			
11	3.0	0.0	0.4			
13	3.0	0.0	-0.1			
15	3.0	0.0	-0.1			
17	3.8	-0.8	-0.8			
19	3.0	0.0	0.2			
21	2.8	0.0	-0.1			
22	3.3	-0.1	1.0			
MAX	3.8	0.0	1.0			
MIN	2.8	-0.8	-0.8			
AVG	3.1	-0.1	0.1			
STD	0.3	0.3	0.5			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908521G
Description:	C-A2-9 Ground				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	3.1	0.1	0.0			
9	3.0	0.1	0.1			
11	3.1	-0.1	-0.2			
13	2.9	0.1	0.9			
15	2.9	0.0	0.1			
17	3.1	0.0	-0.4			
19	3.0	0.0	0.1			
21	2.7	0.0	-0.3			
22	3.2	0.0	0.0			
MAX	3.2	0.1	0.9			
MIN	2.7	-0.1	-0.4			
AVG	3.0	0.0	0.0			
STD	0.1	0.0	0.4			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908522G
Description:	C-A2-10 Ground				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	2.7	0.1	0.2			
9	3.5	-0.8	-0.7			
11	3.3	-0.5	-0.5			
13	2.6	0.1	-0.1			
15	2.9	-0.1	-0.1			
17	3.4	-0.5	-0.5			
19	3.0	0.0	1.1			
21	2.8	0.0	0.6			
22	3.3	0.0	0.1			
MAX	3.5	0.1	1.1			
MIN	2.6	-0.8	-0.7			
AVG	3.0	-0.2	0.0			
STD	0.3	0.3	0.6			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec: EIA 364 TP23	
Customer:	Samtec				Subgroup: Seq C Gp A1	
Product:	Series IX5 connector				File No:	20908523G
Description:	C-A2-11 Ground				Tech:	MOB
Open circuit voltage:		20mV			Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	3.3	0.2	0.2			
9	2.9	0.1	0.6			
11	2.9	0.0	0.8			
13	3.0	0.1	1.0			
15	3.4	0.0	0.9			
17	3.0	0.0	0.0			
19	3.4	0.1	0.0			
21	3.2	-0.1	-0.2			
22	3.3	-0.1	0.0			
MAX	3.4	0.2	1.0			
MIN	2.9	-0.1	-0.2			
AVG	3.1	0.0	0.4			
STD	0.2	0.1	0.5			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			

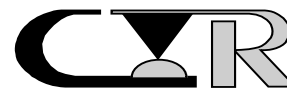
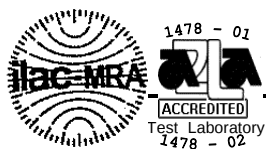


Low Level Circuit Resistance - Delta Values						
Project:	209085-1				Spec:	EIA 364 TP23
Customer:	Samtec				Subgroup:	Seq C Gp A1
Product:	Series IX5 connector				File No:	20908524G
Description:	C-A2-12 Ground				Tech:	MOB
Open circuit voltage:	20mV				Current:	10mA
Units: milliohms						
Temp °C	22	22	21			
R.H. %	50	47	51			
Date:	08Jul09	28Jul09	30Jul09			
Pos. ID	Initial	M.Shock	Vibration			
7	3.4	0.1	0.2			
9	2.9	0.0	0.2			
11	3.0	0.0	0.0			
13	3.0	0.0	-0.1			
15	3.0	0.0	-0.1			
17	3.0	0.0	-0.2			
19	3.3	0.0	0.7			
21	3.4	-0.5	-0.4			
22	3.3	0.0	0.8			
MAX	3.4	0.1	0.8			
MIN	2.9	-0.5	-0.4			
AVG	3.1	0.0	0.1			
STD	0.2	0.2	0.4			
Open	0	0	0			
Tech	MOB	MHB	MOB			
Equip ID	1125	1276	1125			
	1219	207	1219			



TEST RESULTS

SEQUENCE D GROUP A1 & A2



PROJECT NO.: 209085-1 SPECIFICATION: TC0904-2186 REV.1

PART NO.: See page 4 PART DESCRIPTION: See page 4

SAMPLE SIZE: 3 Samples TECHNICIAN: MHB

START DATE: 7/27/09 COMPLETE DATE: 7/27/09

ROOM AMBIENT: 21°C RELATIVE HUMIDITY: 41%

EQUIPMENT ID#: 200, 282, 874, 1028, 1366, 1367, 1368, 1474,
1521

MECHANICAL SHOCK (SPECIFIED PULSE)

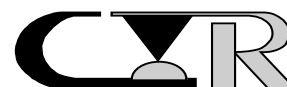
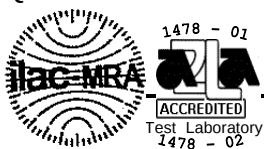
PURPOSE:

To determine the mechanical and electrical integrity of connectors for use with electronic equipment subjected to shocks such as those expected from handling, transportation, etc.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 27, Test Condition C.
2. Test Conditions:
 - a) Peak Value : 100 G
 - b) Duration : 6 Milliseconds
 - c) Wave Form : Sawtooth
 - d) Velocity : 9.7 feet Per Second
 - e) No. of Shocks : 3 Shocks/Direction, 3 Axis (18 Total)
3. Figure #2 illustrates the test sample fixturing utilized during the test.
4. The samples were characterized to assure that the low nanosecond event being monitored will trigger the detector.
5. After characterization, it was determined the samples could be monitored for a 50 nanosecond event.
6. The low nanosecond monitoring was performed in accordance with EIA 364, Test Procedure 87.

REQUIREMENTS: See Next Page.

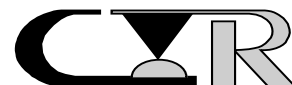
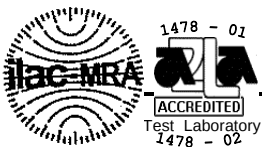


REQUIREMENTS:

1. There shall be no evidence of axial movement of the test samples relative to each other.
2. There shall be no low nanosecond event detected greater than 50 nanoseconds.

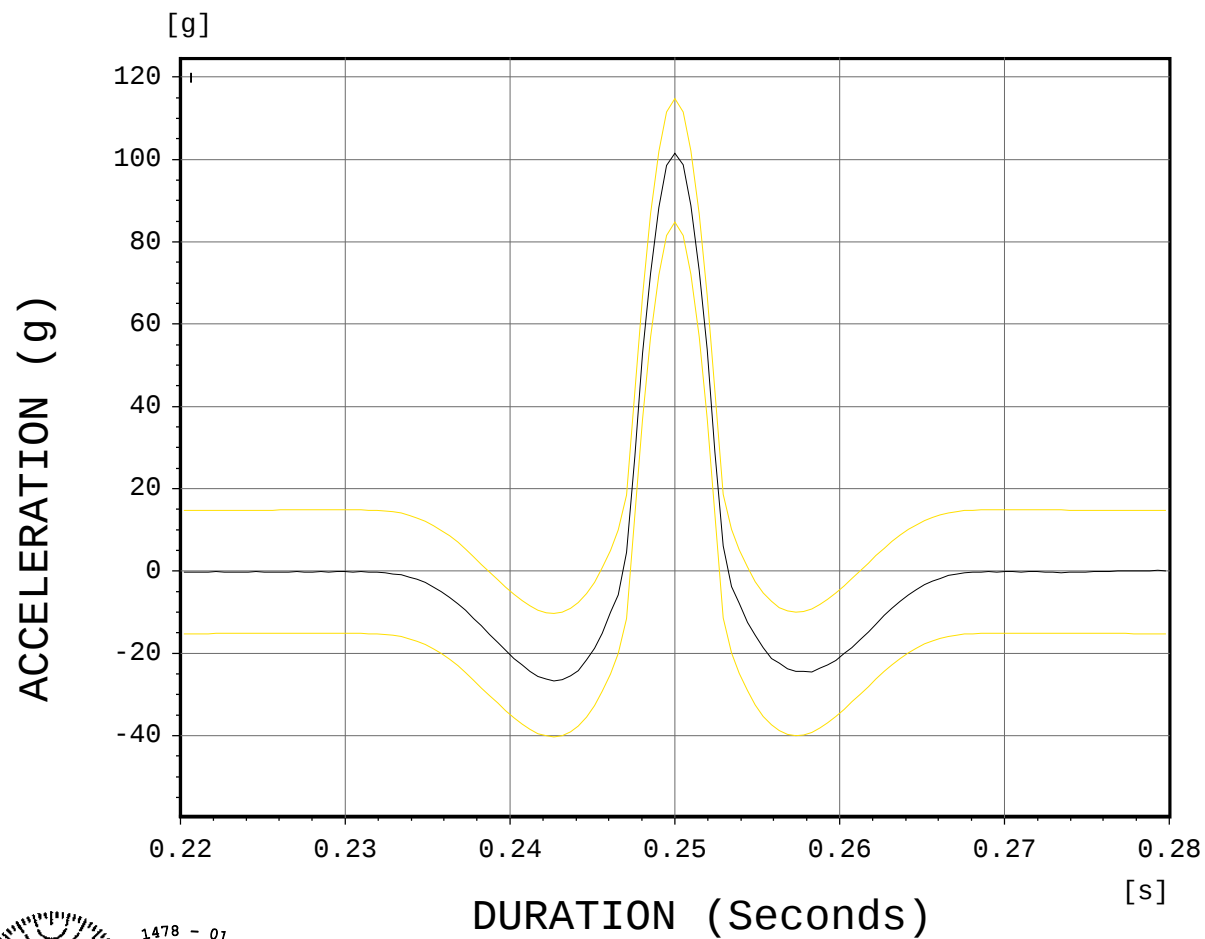
RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. There was no low nanosecond event detected greater than 50 nanoseconds.
3. The Mechanical Shock characteristics are shown in Figures #6 (Calibration Pulse) and #7 (Test Pulse). Each figure displays the shock pulse contained within the upper and lower limits as defined by the appropriate test specification.

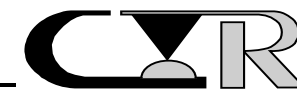
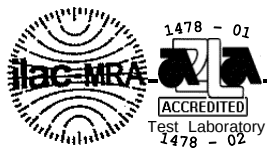


Classical Shock

FIGURE #6
Channel 5



Project 209085-1
Samtec
Cal. Wave 2
Tech: MHB
Date: 27 Jul 09

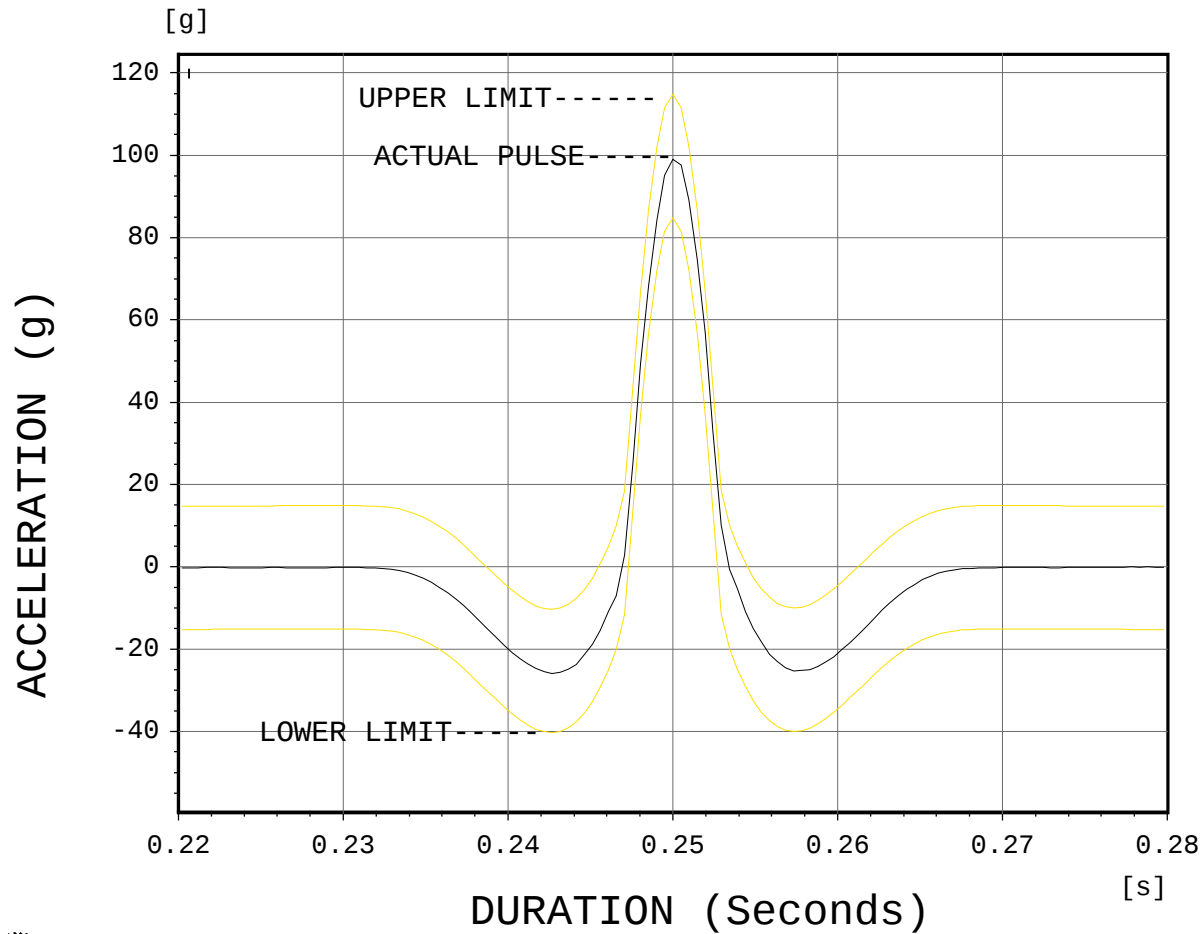


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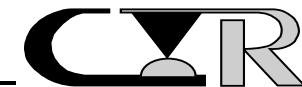
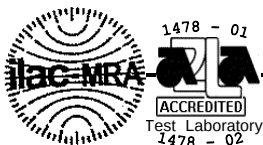
FIGURE #7

Classical Shock

Channel 5



Project 209085-1
Samtec
Actual Wave
Tech: MHB
Date: 27Jul09



PROJECT NO.: 209085-1 SPECIFICATION: TC0904-2186 REV.1

PART NO.: See page 4 PART DESCRIPTION: See page 4

SAMPLE SIZE: 3 Samples TECHNICIAN: MHB

START DATE: 7/28/09 COMPLETE DATE: 7/29/09

ROOM AMBIENT: 22°C RELATIVE HUMIDITY: 47%

EQUIPMENT ID#: 200, 282, 874, 1028, 1366, 1367, 1368, 1474

VIBRATION, RANDOM

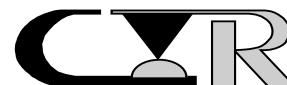
PURPOSE:

1. To determine if electrical discontinuities at the level specified exist.
2. To determine if the contact system is susceptible to fretting corrosion.
3. To determine if the electrical stability of the system has degraded when exposed to a vibratory environment.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 28, Test Condition V, Test Letter B.
2. Test Conditions:
 - a) Power Spectral Density : 0.01 G²/Hz
 - b) G 'RMS' : 7.56
 - c) Frequency : 50 to 2000 Hz
 - d) Duration : 2.0 hours per axis
(3 axis total)
3. Figure #5 illustrates the test sample fixturing utilized during the test.
4. Prior to testing, the connectors were characterized to assure that the desired event being monitored were capable of being detected.

-continued on next page.



PROCEDURE:-continued

5. After characterization, it was determined the samples could be monitored for a 50 nanosecond event.
6. The low nanosecond event detection was performed in accordance with EIA 364, Test Procedure 87.
7. Due to the design of the PCB only the signal contacts were monitored for the 50 nanosecond detection.

REQUIREMENTS:

1. There shall be no evidence of physical damage to the test samples as tested.
2. There shall be no events detected greater than 50 nanoseconds.

RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. There was no evidence of low nanosecond events in excess of 50 nanoseconds.

