

MAY 15, 2008

TEST REPORT #208131 REVISION. 1.1

QUALIFICATION TESTING

MTCA-085-02-S-DV

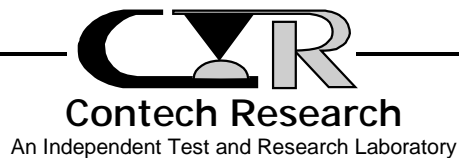
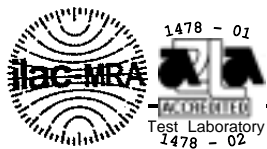
CONNECTOR SERIES

MTCA

SAMTEC, INC.



APPROVED BY: DOMINIC ARPINO
PROGRAM MANAGER
CONTECH RESEARCH, INC.



REVISION HISTORY

DATE	REV. NO.	DESCRIPTION	ENG.
5/15/2008	1.0	Initial Issue	DA
8/18/2008	1.1	-Editorial Changes. -Replaced Sequence B data with retest data.	DA/ TP



CERTIFICATION

This is to certify that the MPTC connector series 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, 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.



Dominic Arpino
Program Manager
Contech Research, Inc.

DA:cf



SCOPE

To perform qualification testing on the MPTC connector series 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 Specifications: MTCA Test Plan
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.

Description

Part Number

- | | |
|-------------------|------------------|
| a) MTCA Connector | MTCA-085-02-S-DV |
|-------------------|------------------|

2. Test samples were supplied assembled and terminated to test boards by the test sponsor. Specific test boards were designed for the following tests:

- IR/DWV
- LLCR
- Nanosecond Event Detection

3. The test samples for vibration and mechanical shock were prepared by terminating positions in series for monitoring contact events during vibration and/or shock.
4. Unless otherwise specified in the test procedures used, no further preparation was used.



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:

Seq a: Group A - A-A-1, A-A-2
Group B1 - A-B1-1, A-B1-2
Group B2 - A-B2-1, A-B2-2
Group B3 - A-B3-1, A-B3-2

Seq b: Group A - B-A-1, B-A-2, B-A-3, B-A-4, B-A-5, B-A-6,
B-A-7, B-A-8

Seq c: Group A - C-A-1, C-A-2, C-A-3, C-A-4, C-A-5, C-A-6,
C-A-7, C-A-8

Seq d: Group A - D-A-1, D-A-2, D-A-3

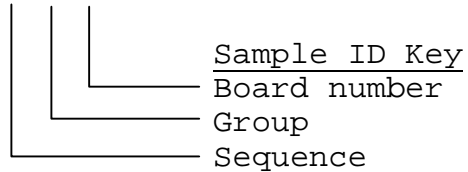
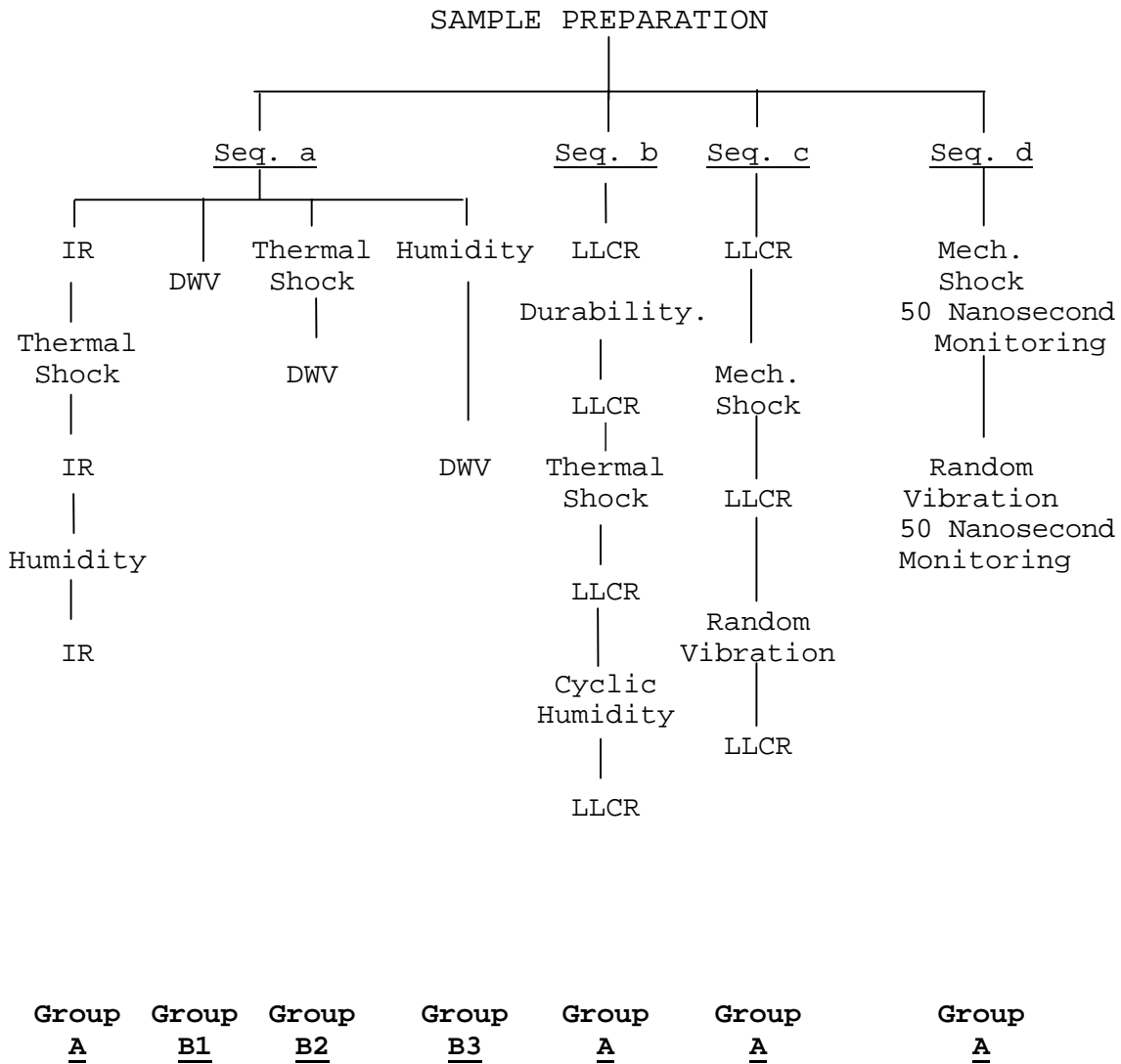
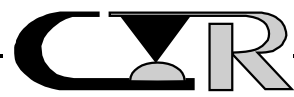
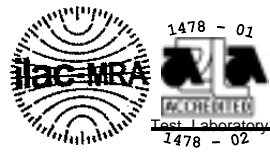


FIGURE #1

TEST PLAN FLOW DIAGRAM



IR : Insulation Resistance
 DWV : Dielectric Withstanding Voltage
 LLCR : Low Level Circuit Resistance



DATA SUMMARY - continued

<u>TEST</u>	<u>REQUIREMENT</u>	<u>RESULTS</u>
<u>SEQUENCE c</u>		
<u>GROUP A</u>		
LLCR	Record	21.4 mΩ Max
Mechanical Shock	No Damage	Passed
LLCR	+10.0 mΩ Max.Chg.	+3.0 mΩ Max.Chg.
Random Vibration	No Damage	Passed
LLCR	+10.0 mΩ Max.Chg.	+1.6 mΩ Max.Chg.

SEQUENCE d

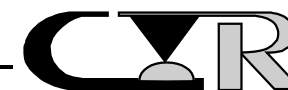
GROUP A

Mechanical Shock	No Damage	Passed
	50 Nanosecond	Passed
Random Vibration	No Damage	Passed
	50 Nanosecond	Passed



EQUIPMENT LIST

ID#	Next Cal	Last Cal	Equipment Name	Manufacturer	Model #	Serial #	Accuracy	Freq. Cal
18			Bench Oven	Blue M Co.	POM7-256C	P38-1452	N/A	Ea Test
95	11/8/2008	11/8/2007	AC Hypot	Peschell Instr.	P10*	5570	±3% Full Scale	12mon
244	10/5/2008	10/5/2007	Micro-Ohm Meter	Keithley Instr.	580-1	467496	See Cal Cert	12mon
282			Vibration Shaker Table	Ling Dynamics	V-730	163	N/A	N/A
295	10/16/2008	10/16/2007	Micro-Ohm Meter	Keithley Instr.	580	480781	See Cal Cert	12 mon.
321	3/12/2009	3/12/2008	AC-DC Hipot/Megometer	Hipotronics Co.	H300B	DS16-201	See Cal Cert	12 mon.
340			X-Y Table	NE Affiliated Tech.	XY-6060	N/A	N/A	N/A
466	8/1/2008	8/1/2007	Precision Resistor	Victoreen Co.	50,000 mego	N/A	± 1 %	12 mon.
518			Computer	ARC Elect.	486-40	N/A	N/A	N/A
553	2/11/2009	2/11/2008	12 channel Power Unit	PCB Co.	483A	1303	See Cal Cert	12mon
874			Computer	M&P	Vectra	us75203327	N/A	N/A
1032			Computer	Magitronic	486DX4	100VL	N/A	N/A
1047	12/3/2008	12/3/2007	Microohm Meter	Keithley	580	0705731	See Cal Cert	12mon
1231			Temp-humid-Chamber	Blue M.	FR-381B-MP	FL-520	See Manual	Ea Test
1248			Power Conditioner	APC Co.	BP650S	NB0040150658	N/A	N/A
1345			Drill Press Stand	Milescraft	5000	N/A	N/A	N/A
1351			Polisher	General Elect	224		N/A	N/A
1363			Temp Humid Chamber	Blue M	BTH-4 100-C	BTH-140	See Cert	Ea Test
1366			Main Frame	Aiglent H.P.	8408A		N/A	N/A
1367			Interface	Aiglent H.P.	E8491A		N/A	N/A
1368	3/25/2009	3/25/2008	Sine/Rnd Control digitizer	Aiglent H.P.	E1432A	US35470169	See Manual	12mon
1457	12/26/2008	12/26/2007	Precision Resistor	Victorine	5KMOHM	465	See Cal Cert	12mon
1474			Vib Pwr Amp	tira	A58312	003/06	N/A	N/A
1549	12/15/2008	12/15/2007	Multiplexer Card	Keithley	7708	171629	See Cert	See Cert
1550	12/14/2008	12/14/2007	Multiplexer Card	Keithley	7708	171626	See Cert	See Cert
1564			computer	ARC CO	71902	021260817	N/A	N/A



Contech Research

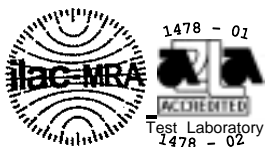
An Independent Test and Research Laboratory

TEST RESULTS

SEQUENCE A

Group A

MTCA SERIES

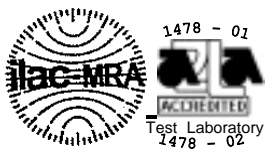


REQUIREMENTS:

1. There shall be no evidence of physical damage or deterioration of the test samples so exposed.
2. The insulation resistance shall exceed 1,000 megohms.

RESULTS:

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



PROCEDURE: -continued

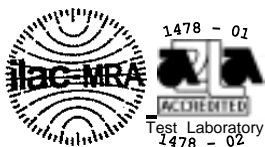
3. All subsequent variable testing was performed in accordance with the procedures previously indicated.
4. Prior to performing variable measurements, the test samples were allowed to recover to room ambient conditions.

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 1,000 megohms.

RESULTS:

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

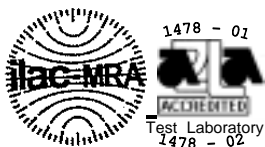


TEST RESULTS

SEQUENCE A

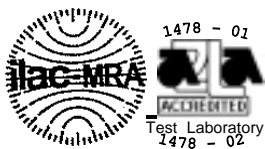
Group B1

MTCA SERIES



RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. There was no evidence of arcing, breakdown, etc., when a 900 Vac voltage was applied.
3. All test samples as tested met the requirements as specified.

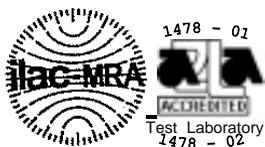


TEST RESULTS

SEQUENCE A

Group B2

MTCA SERIES



REQUIREMENTS:

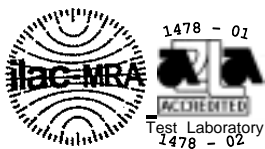
1. There shall be no evidence of physical damage to the test samples as tested.
2. When a 900 VAC test voltage is applied, there shall be no evidence of arcing, breakdown, etc.

RESULTS:

- 1 There was no evidence of physical damage to the test samples as tested.
2. There was evidence of breakdown when a 900 VAC voltage was applied.

Comments:

- a) Following discussions with the test sponsor, the sample was retested in the unmated condition.
- b) There was no evidence of arcing, breakdown, etc., when a 900 VAC voltage was applied.

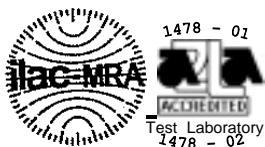


TEST RESULTS

SEQUENCE A

Group B3

MTCA SERIES



PROJECT NO.: 208131

SPECIFICATION: MTCA Test Plan

PART NO.: See page 4

PART DESCRIPTION: See page 4

SAMPLE SIZE: 2 mated pairs TECHNICIAN: S.Rath

START DATE: 4/25/08

COMPLETE DATE: 5/7/08

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 30%

EQUIPMENT ID#: 321, 466, 1231, 1457

HUMIDITY (THERMAL CYCLING)

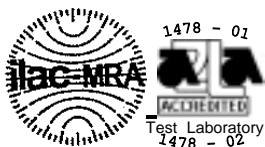
PURPOSE:

1. 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.
2. This test obtains added effectiveness in employment of temperature cycling that provides a breathing action, inducing corrosion processes, and the introduction of moisture into partially sealed test samples. This condition imposes a vapor pressure on the samples which constitutes the major force behind the moisture migration and penetration.

PROCEDURE:

1. The test environment was performed in accordance with EIA 364, Test Procedure 31 Method III (omit Step 7a,7b), with the following conditions.

-continued on next page.



PROCEDURE: -continued

2. Test Conditions:

- a) Relative Humidity : 90% to 95%
- b) Temperature Conditions : 25°C to 65°C
- c) Cold Cycle : No
- d) Polarizing Voltage : No
- e) Mating Conditions : Mated
- f) Mounting Conditions : Mounted
- g) Duration : 240 hours

3. The final dielectric withstanding voltage test was performed in accordance with EIA 364, Test Procedure 20 and the procedures as previously indicated.

4. The voltage was applied to specific test points on the board.

REQUIREMENTS:

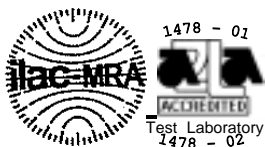
- 1. There shall be no evidence of physical deterioration of the test samples as tested.
- 2. There shall be no evidence of arcing or breakdown when a 900 VAC test voltage is applied.

RESULTS:

- 1. There was no evidence of physical damage to the test samples as tested.
- 2. There was evidence of breakdown when a 900 VAC voltage was applied.

Comments:

- a) Following discussions with the test sponsor, the sample was retested in the unmated condition.
- b) There was no evidence of arcing, breakdown, etc., when a 900 VAC voltage was applied.

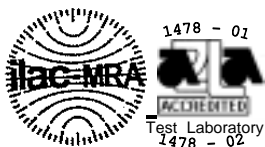


TEST RESULTS

SEQUENCE B

Group A1

MTCA SERIES



PROJECT NO.: 208350

SPECIFICATION: MTCA Test Plan

PART NO.: See page 4

PART DESCRIPTION: See page 4

SAMPLE SIZE: 8 Samples

TECHNICIAN: DH

START DATE: 6/24/08

COMPLETE DATE: 6/24/08

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 44%

EQUIPMENT ID#: 673, 681

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

REQUIREMENTS: See Next Page



REQUIREMENTS:

Low level circuit resistance shall be measured and recorded.

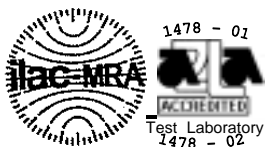
RESULTS:

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

LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

<u>Sample ID</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
B-A-1	11.5	14.1	6.4
B-A-2	11.5	14.3	6.2
B-A-3	11.7	14.7	6.4
B-A-4	11.7	15.5	6.2
B-A-5	12.1	15.7	6.4
B-A-6	12.0	15.3	6.5
B-A-7	12.0	15.6	6.5
B-A-8	12.4	15.5	6.6

2. See data files 20835001 through 208835008 for individual data points.



PROJECT NO.: 208350

SPECIFICATION: MTCA Test Plan

PART NO.: See page 4

PART DESCRIPTION: See page 4

SAMPLE SIZE: 8 Samples

TECHNICIAN: DH

START DATE: 6/24/08

COMPLETE DATE: 6/25/08

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 44%

EQUIPMENT ID#: 315, 673, 681, 1371

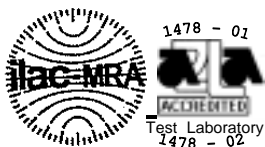
DURABILITY

PURPOSE:

1. This is a preconditioning 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 preconditioning 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 : 500 cycles per hour
3. The test samples were assembled to special holding devices and attached to the manual cycling equipment.



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 damage to the test samples so tested.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.

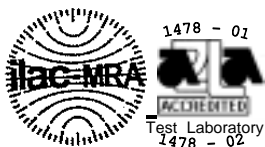
RESULTS:

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)

<u>Sample ID</u>	<u>Avg. Change</u>	<u>Min. Change</u>
B-A-1	+0.1	+0.5
B-A-2	+0.1	+0.4
B-A-3	-0.5	+0.0
B-A-4	-0.2	+0.1
B-A-5	-0.4	+0.0
B-A-6	-0.2	+0.1
B-A-7	-0.4	-0.1
B-A-8	-0.5	+0.2

3. See data files 20835001 through 20835008 for individual data points.



PROJECT NO.: 208350

SPECIFICATION: MTCA Test Plan

PART NO.: See page 4

PART DESCRIPTION: See page 4

SAMPLE SIZE: 8 samples

TECHNICIAN: DH

START DATE: 7/10/08

COMPLETE DATE: 7/18/08

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 42%

EQUIPMENT ID#: 192, 673, 681, 1315, 1549, 1550

THERMAL SHOCK

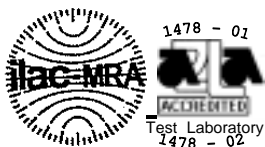
PURPOSE:

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
 - g) Transfer Time : <5 minutes
3. All subsequent variable testing was performed in accordance with the procedures as previously indicated.
4. 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 change in low level circuit resistance shall not exceed +10.0 milliohms.

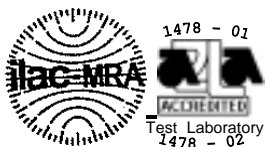
RESULTS:

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)

<u>Sample ID</u>	<u>Avg. Change</u>	<u>Min. Change</u>
B-A-1	+0.4	+0.8
B-A-2	+0.1	+0.5
B-A-3	+0.0	+1.3
B-A-4	+0.0	+0.7
B-A-5	-0.3	+0.2
B-A-6	+0.3	+0.7
B-A-7	+0.2	+1.3
B-A-8	-0.6	+0.2

3. See data files 20835001 through 20835008 for individual data points.



PROJECT NO.: 208350

SPECIFICATION: MTCA Test Plan

PART NO.: See page 4

PART DESCRIPTION: See page 4

SAMPLE SIZE: 8 samples

TECHNICIAN: DH

START DATE: 7/18/08

COMPLETE DATE: 7/28/08

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 50%

EQUIPMENT ID#: 236, 547, 681, 1315, 1549, 1550

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:

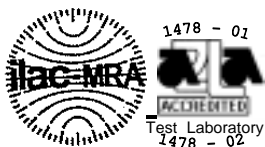
- a) Fretting corrosion due to wear resulting from micromotion, induced by thermal cycling. Humidity accelerates the oxidation process.
- b) Oxidation of wear debris or from particulates from the surrounding atmosphere which may have become entrapped between the contacting surfaces.
- c) Failure mechanisms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



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.

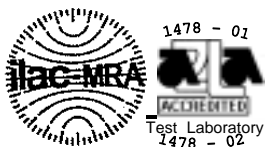
RESULTS:

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)

<u>Sample ID</u>	<u>Avg. Change</u>	<u>Min. Change</u>
B-A-1	+0.4	+1.0
B-A-2	+0.2	+0.9
B-A-3	-0.2	+0.3
B-A-4	+0.1	+0.9
B-A-5	-0.2	+0.5
B-A-6	+0.0	+0.7
B-A-7	+0.1	+0.5
B-A-8	-0.1	+1.6

3. See data files 20835001 through 20835008 for individual data points.



LLCR DATA FILES

DATA FILE NUMBERS

20835001

20835002

20835003

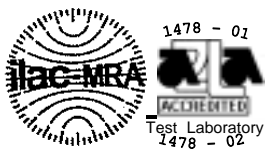
20835004

20835005

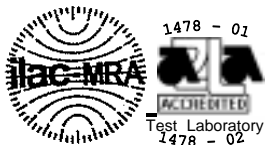
20835006

20835007

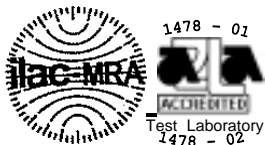
20835008



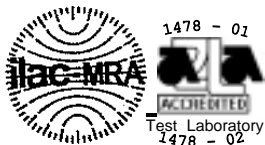
Low Level Contact Resistance				
Project: 208350				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq. B
Product: Series MTCA connector				File No: 20835001
Description: Sample ID: B-A-1				
Open circuit voltage:	20mV		Current:	100mA
Delta Values				
Units: Milliohms				
Temp °C	23	23	23	23
R.H. %	44	44	43	50
Date:	24Jun08	24Jun08	18Jul08	28Jul08
Pos. ID	Initial	Durability	Thermal	Cyclic
		100X	Shock	Humidity
1	6.5	0.2	0.3	0.2
2	12.1	0.5	0.8	0.8
3	12.0	0.5	0.8	1.0
4	6.4	0.1	0.3	0.3
5	13.2	-0.1	0.2	0.2
6	13.0	0.1	0.4	0.4
7	11.8	0.5	0.6	0.5
8	6.4	0.2	0.3	0.2
9	13.0	0.3	0.5	0.6
10	13.6	-0.2	0.4	0.5
11	13.7	-0.2	0.4	0.5
12	13.8	0.0	0.4	0.5
13	13.7	0.4	0.6	0.6
14	14.1	0.3	0.5	0.6
15	6.6	0.0	0.3	0.5
16	12.5	-0.3	0.4	0.2
17	12.7	-0.2	0.0	0.0
18	13.0	0.0	0.0	0.2
19	12.9	-0.1	0.4	0.7
20	14.0	-0.2	0.4	0.3
21	13.4	-0.2	0.4	0.4
22	13.0	0.0	0.6	0.5
23	12.5	0.1	0.6	0.6
24	6.6	-0.2	0.3	0.3
25	6.5	0.0	0.2	0.2
MAX	14.1	0.5	0.8	1.0
MIN	6.4	-0.3	0.0	0.0
AVG	11.5	0.1	0.4	0.4
STD	2.9	0.2	0.2	0.2
Open	0	0	0	0
Tech	DH	DH	DH	DH
Equip ID	673	673	673	236
	681	681	681	681



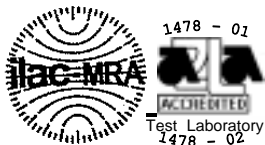
Low Level Contact Resistance				
Project: 208350				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq. B
Product: Series MTCA connector				File No: 20835002
Description: Sample ID: B-A-2				
Open circuit voltage:	20mV		Current:	100mA
Delta Values				
Units: Milliohms				
Temp °C	23	23	23	23
R.H. %	44	44	43	50
Date:	24Jun08	24Jun08	18Jul08	28Jul08
Pos. ID	Initial	Durability	Thermal	Cyclic
		100X	Shock	Humidity
1	6.3	0.1	0.2	0.0
2	12.2	-0.1	0.2	0.4
3	12.1	0.2	0.4	0.4
4	6.3	0.1	0.1	0.2
5	13.4	0.3	0.2	0.2
6	13.2	0.2	0.3	0.1
7	11.8	0.2	0.4	0.2
8	6.2	0.1	0.1	0.2
9	13.1	-0.4	-0.2	0.3
10	13.3	0.1	0.5	0.2
11	13.9	0.3	0.2	0.4
12	13.9	0.3	0.3	0.4
13	14.1	0.2	0.4	0.5
14	14.3	0.4	0.2	0.4
15	6.3	0.1	0.2	0.1
16	12.8	-0.2	-0.2	-0.3
17	12.4	0.0	-0.1	0.0
18	13.3	-0.8	-0.6	0.0
19	12.8	0.0	0.0	0.0
20	14.2	0.4	0.4	0.9
21	13.5	0.0	0.2	0.2
22	12.7	0.2	0.2	0.1
23	12.5	0.2	0.2	0.3
24	6.2	0.0	0.1	0.2
25	6.3	0.1	0.1	0.2
MAX	14.3	0.4	0.5	0.9
MIN	6.2	-0.8	-0.6	-0.3
AVG	11.5	0.1	0.1	0.2
STD	3.1	0.3	0.2	0.2
Open	0	0	0	0
Tech	DH	DH	DH	DH
Equip ID	673	673	673	236
	681	681	681	681



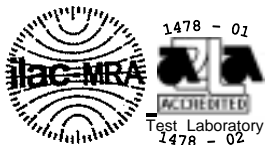
Low Level Contact Resistance				
Project: 208350				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq. B
Product: Series MTCA connector				File No: 20835003
Description: Sample ID: B-A-3				
Open circuit voltage:	20mV		Current:	100mA
Delta Values				
Units: Milliohms				
Temp °C	23	23	23	23
R.H. %	44	44	43	50
Date:	24Jun08	24Jun08	18Jul08	28Jul08
Pos. ID	Initial	Durability	Thermal	Cyclic
		100X	Shock	Humidity
1	6.7	-0.2	0.3	0.2
2	12.2	-0.3	1.3	-0.1
3	12.8	-0.8	0.5	-0.4
4	6.6	-0.1	0.2	0.3
5	13.6	-0.8	0.4	-0.4
6	13.4	-0.6	0.2	-0.5
7	12.3	-0.7	0.1	-0.4
8	6.5	-0.1	0.3	0.1
9	13.3	-1.1	-0.8	-0.4
10	14.0	-1.3	-0.9	-0.7
11	14.1	-0.6	-0.1	-0.3
12	14.2	-0.6	0.1	-0.1
13	14.7	-0.6	-0.3	-0.2
14	14.0	-0.3	0.1	0.0
15	6.5	0.0	0.1	0.0
16	13.0	-0.5	-0.1	-0.3
17	12.7	-0.6	-0.2	0.0
18	12.6	-0.4	-0.1	-0.4
19	12.4	-0.4	0.0	-0.3
20	13.8	-0.4	0.1	-0.3
21	13.9	-0.4	0.2	-0.3
22	13.3	-0.7	-0.1	-0.3
23	13.5	-1.2	-0.4	-0.9
24	6.5	-0.1	0.1	0.1
25	6.4	0.0	0.1	0.1
MAX	14.7	0.0	1.3	0.3
MIN	6.4	-1.3	-0.9	-0.9
AVG	11.7	-0.5	0.0	-0.2
STD	3.0	0.3	0.4	0.3
Open	0	0	0	0
Tech	DH	DH	DH	DH
Equip ID	673	673	673	236
	681	681	681	681



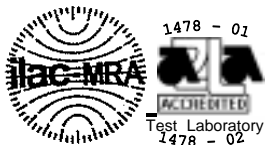
Low Level Contact Resistance				
Project: 208350				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq. B
Product: Series MTCA connector				File No: 20835004
Description: Sample ID: B-A-4				
Open circuit voltage:	20mV			Current: 100mA
				Delta Values
				Units: Milliohms
Temp °C	23	23	23	23
R.H. %	44	44	43	50
Date:	24Jun08	24Jun08	18Jul08	28Jul08
Pos. ID	Initial	Durability	Thermal	Cyclic
		100X	Shock	Humidity
1	6.4	0.0	0.1	0.2
2	12.1	0.0	0.2	0.1
3	12.9	-0.4	0.3	0.2
4	6.4	0.0	0.1	0.1
5	13.2	-0.4	0.2	0.0
6	13.6	-0.6	-0.4	-0.4
7	11.9	0.0	0.3	0.0
8	6.3	0.0	0.0	0.0
9	12.7	-0.5	0.0	0.3
10	13.7	-0.5	-0.1	-0.2
11	13.9	-0.3	-0.1	0.1
12	14.8	-0.4	-0.2	0.6
13	15.5	-0.6	-0.5	-0.6
14	14.4	0.1	0.2	0.9
15	6.2	0.1	0.0	0.2
16	13.3	-0.3	-0.4	-0.3
17	13.0	-0.4	-0.6	-0.4
18	13.0	-0.7	-0.6	-0.4
19	12.3	-0.2	0.0	0.2
20	14.3	0.0	0.4	0.2
21	13.8	0.0	0.0	0.0
22	13.3	0.1	0.7	0.3
23	12.9	0.1	0.2	0.0
24	6.4	0.0	0.1	0.1
25	6.3	0.1	0.1	0.2
MAX	15.5	0.1	0.7	0.9
MIN	6.2	-0.7	-0.6	-0.6
AVG	11.7	-0.2	0.0	0.1
STD	3.2	0.3	0.3	0.3
Open	0	0	0	0
Tech	DH	DH	DH	DH
Equip ID	673	673	673	236
	681	681	681	681



Low Level Contact Resistance					
Project: 208350			Spec: EIA 364, TP 23		
Customer: Samtec			Subgroup: Seq. B		
Product: Series MTCA connector			File No: 20835005		
Description: Sample ID: B-A-5					
Open circuit voltage:		20mV	Current:		100mA
Delta Values					
Units: Milliohms					
Temp °C	23	23	23	23	
R.H. %	44	41	43	50	
Date:	24Jun08	25Jun08	18Jul08	28Jul08	
Pos. ID	Initial	Durability	Thermal	Cyclic	
		100X	Shock	Humidity	
1	6.7	-0.1	0.1	0.0	
2	13.0	-0.5	0.1	0.0	
3	13.4	-0.5	0.1	0.2	
4	6.5	-0.2	0.1	0.5	
5	14.0	-0.6	-0.2	-0.1	
6	13.9	-0.4	-0.4	-0.3	
7	12.7	-0.4	-0.6	0.1	
8	6.6	-0.1	0.0	0.2	
9	13.4	-0.7	-0.8	-0.1	
10	14.2	-0.7	-0.7	-0.5	
11	14.6	-0.5	-0.5	-0.4	
12	14.7	-0.2	-0.2	-0.1	
13	15.7	-0.8	-0.8	-0.6	
14	15.2	-0.6	-0.7	-0.5	
15	6.4	-0.1	0.0	0.1	
16	14.0	-0.8	-0.9	-0.7	
17	13.1	-0.2	-0.4	-0.4	
18	13.4	-0.5	-0.5	-0.6	
19	13.8	-0.6	-1.0	-1.1	
20	14.6	-0.1	0.0	-0.1	
21	14.2	-0.3	0.0	-0.1	
22	13.6	-0.3	0.2	0.2	
23	13.1	-0.1	-0.1	0.0	
24	6.5	0.0	0.0	0.1	
25	6.5	0.0	0.0	0.0	
MAX	15.7	0.0	0.2	0.5	
MIN	6.4	-0.8	-1.0	-1.1	
AVG	12.1	-0.4	-0.3	-0.2	
STD	3.3	0.3	0.4	0.4	
Open	0	0	0	0	
Tech	DH	DH	DH	DH	
Equip ID	673	673	673	236	
	681	681	681	681	



Low Level Contact Resistance					
Project: 208350			Spec: EIA 364, TP 23		
Customer: Samtec			Subgroup: Seq. B		
Product: Series MTCA connector			File No: 20835006		
Description: Sample ID: B-A-6					
Open circuit voltage:		20mV	Current:		100mA
Delta Values					
Units: Milliohms					
Temp °C	23	23	23	23	
R.H. %	44	41	43	50	
Date:	24Jun08	25Jun08	18Jul08	28Jul08	
Pos. ID	Initial	Durability	Thermal	Cyclic	
		100X	Shock	Humidity	
1	6.6	0.1	0.1	0.1	
2	13.3	-0.2	-0.2	-0.2	
3	12.7	-0.1	0.7	0.0	
4	6.6	-0.2	0.1	-0.1	
5	13.6	-0.3	0.6	-0.1	
6	14.5	-0.6	0.0	-0.5	
7	12.9	-0.3	0.6	0.7	
8	6.6	-0.2	0.1	0.0	
9	12.9	-0.3	0.6	0.0	
10	13.5	-0.3	0.5	0.0	
11	15.0	-0.2	0.1	0.0	
12	15.3	-0.3	-0.2	-0.2	
13	14.7	-0.1	0.5	0.2	
14	15.2	-0.2	0.2	-0.2	
15	6.6	-0.1	0.1	0.0	
16	13.0	-0.1	0.0	-0.2	
17	12.8	-0.2	0.5	-0.3	
18	12.7	0.0	0.3	0.2	
19	12.7	0.0	0.2	0.1	
20	14.5	-0.3	0.3	-0.3	
21	14.8	-0.4	0.6	-0.4	
22	13.3	-0.2	0.5	0.0	
23	13.0	-0.2	0.7	0.0	
24	6.5	0.0	0.2	0.0	
25	6.5	0.0	0.2	0.0	
MAX	15.3	0.1	0.7	0.7	
MIN	6.5	-0.6	-0.2	-0.5	
AVG	12.0	-0.2	0.3	0.0	
STD	3.2	0.1	0.3	0.2	
Open	0	0	0	0	
Tech	DH	DH	DH	DH	
Equip ID	673	673	673	236	
	681	681	681	681	



Low Level Contact Resistance				
Project: 208350				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq. B
Product: Series MTCA connector				File No: 20835007
Description: Sample ID: B-A-7				
Open circuit voltage:	20mV		Current:	100mA
Delta Values				
Units: Milliohms				
Temp °C	23	23	23	23
R.H. %	44	41	43	50
Date:	24Jun08	25Jun08	18Jul08	28Jul08
Pos. ID	Initial	Durability	Thermal	Cyclic
		100X	Shock	Humidity
1	6.5	-0.1	-0.1	0.1
2	12.6	-0.1	0.1	0.2
3	12.5	-0.2	0.2	0.3
4	6.5	-0.2	0.0	0.2
5	13.3	-0.2	1.3	0.5
6	13.6	-0.1	1.0	0.1
7	13.0	-0.6	0.3	-0.3
8	6.5	-0.1	0.4	0.2
9	13.6	-0.7	0.8	-0.3
10	14.2	-1.0	-0.2	-0.2
11	14.7	-0.7	0.2	0.1
12	14.6	-0.4	0.6	0.5
13	15.6	-1.2	-0.2	-0.5
14	15.0	-0.7	0.2	0.1
15	6.6	-0.2	0.0	0.1
16	13.4	-0.3	0.1	-0.2
17	13.2	-0.6	0.3	0.3
18	13.5	-0.5	-0.3	0.0
19	13.3	-0.7	-0.2	-0.1
20	14.3	-0.2	0.4	0.3
21	14.5	-0.6	0.0	0.0
22	13.4	-0.5	0.3	0.3
23	13.1	-0.5	0.1	0.1
24	6.6	-0.2	0.1	0.1
25	6.6	-0.1	0.2	0.1
MAX	15.6	-0.1	1.3	0.5
MIN	6.5	-1.2	-0.3	-0.5
AVG	12.0	-0.4	0.2	0.1
STD	3.2	0.3	0.4	0.2
Open	0	0	0	0
Tech	DH	DH	DH	DH
Equip ID	673	673	673	236
	681	681	681	681



Low Level Contact Resistance				
Project: 208350				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq. B
Product: Series MTCA connector				File No: 20835008
Description: Sample ID: B-A-8				
Open circuit voltage:	20mV			Current: 100mA
Delta Values				
Units: Milliohms				
Temp °C	23	23	23	23
R.H. %	44	41	43	50
Date:	24Jun08	25Jun08	18Jul08	28Jul08
Pos. ID	Initial	Durability	Thermal	Cyclic
		100X	Shock	Humidity
1	6.9	0.1	0.0	0.4
2	12.5	-0.1	0.0	0.3
3	13.8	-0.8	-0.9	-0.8
4	6.6	-0.1	-0.1	0.0
5	14.9	-1.0	-1.1	-0.7
6	14.0	-0.3	-0.3	-0.1
7	13.0	-0.6	-0.8	-0.2
8	6.6	0.2	0.2	0.2
9	13.8	-1.0	-0.7	0.3
10	14.6	-1.2	-1.0	-0.4
11	14.9	-0.5	-0.7	-0.2
12	15.3	-0.4	-0.7	0.0
13	15.5	-0.6	-0.7	0.0
14	15.2	-0.2	-0.2	0.4
15	6.6	0.0	-0.1	0.2
16	13.8	-0.8	-0.8	-0.1
17	13.9	-0.8	-1.1	-0.5
18	14.1	-1.2	-1.2	-0.6
19	14.0	-1.0	-1.1	-0.4
20	15.3	-0.2	-0.9	-0.7
21	14.0	-0.2	-0.1	-0.1
22	14.0	-0.5	-0.6	-0.1
23	13.9	-0.8	-0.8	-0.4
24	6.7	0.0	0.0	1.6
25	6.8	-0.1	-0.1	0.1
MAX	15.5	0.2	0.2	1.6
MIN	6.6	-1.2	-1.2	-0.8
AVG	12.4	-0.5	-0.6	-0.1
STD	3.4	0.4	0.4	0.5
Open	0	0	0	0
Tech	DH	DH	DH	DH
Equip ID	673	673	673	236
	681	681	681	681

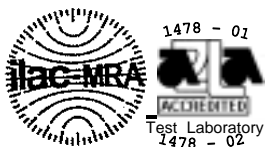


TEST RESULTS

SEQUENCE C

Group A

MTCA SERIES



REQUIREMENTS:

Low level circuit resistance shall be measured and recorded.

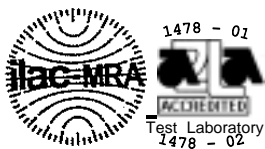
RESULTS:

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

LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

<u>Sample ID</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
C-A-1	14.6	20.4	7.2
C-A-2	14.8	21.1	7.2
C-A-3	14.2	20.3	7.0
C-A-4	14.8	21.4	7.3
C-A-5	14.1	19.0	7.1
C-A-6	14.6	20.2	7.4
C-A-7	15.1	21.3	7.3
C-A-8	14.0	19.2	7.0

2. See data files 20813109 through 20813116 for individual data points.



REQUIREMENTS:

1. There shall be no evidence of physical damage to the test samples as 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)

<u>Sample ID</u>	<u>Avg. Change</u>	<u>Min. Change</u>
C-A-1	+0.2	+0.7
C-A-2	-0.1	+0.2
C-A-3	+0.2	+0.7
C-A-4	+0.0	+2.4
C-A-5	+0.3	+1.0
C-A-6	-0.1	+0.9
C-A-7	+1.0	+3.0
C-A-8	+0.2	+0.6

3. See data files 20813109 through 20813116 for individual data points.
4. 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.

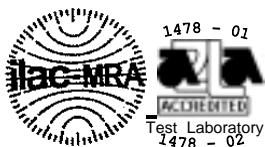


FIGURE #3

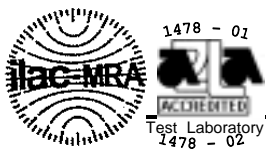
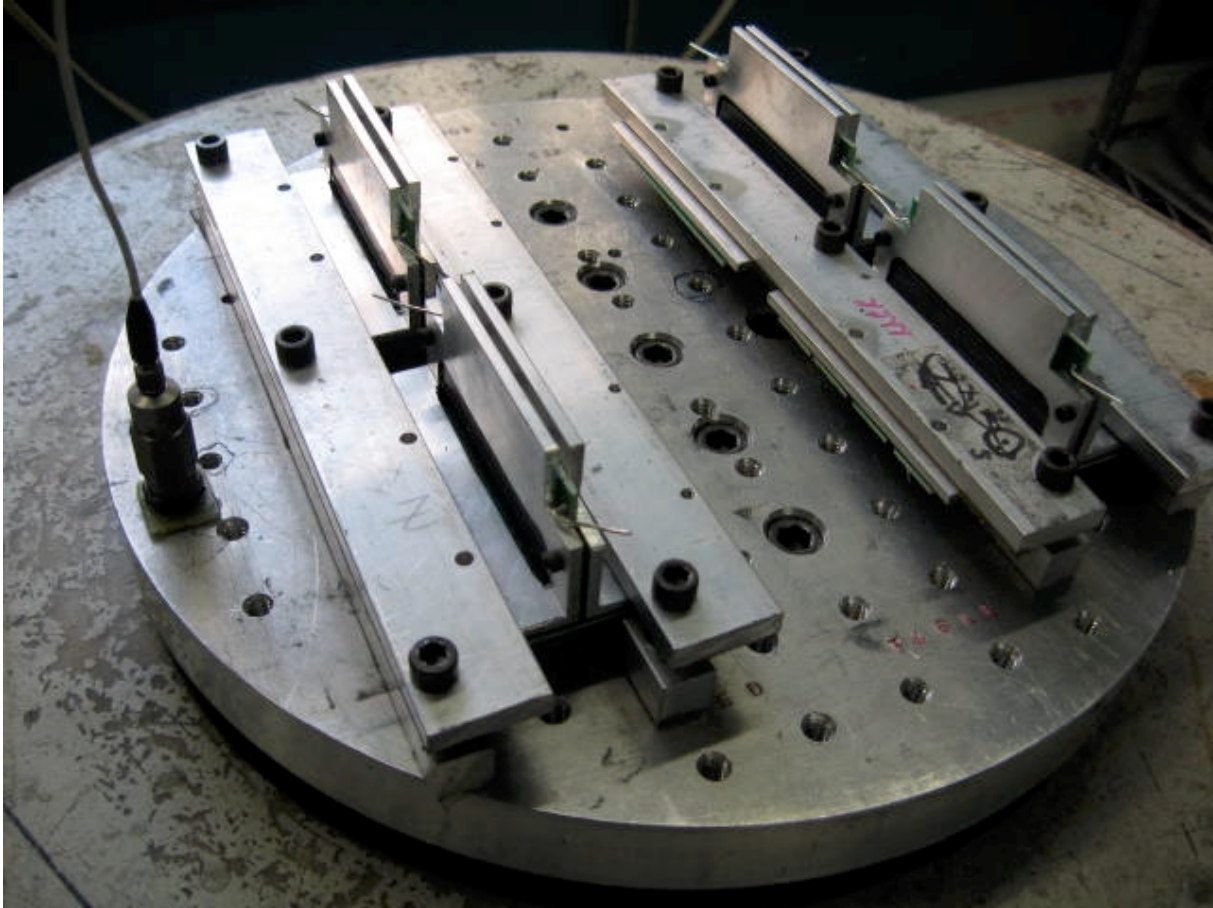


FIGURE #4

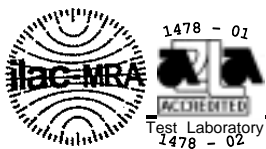
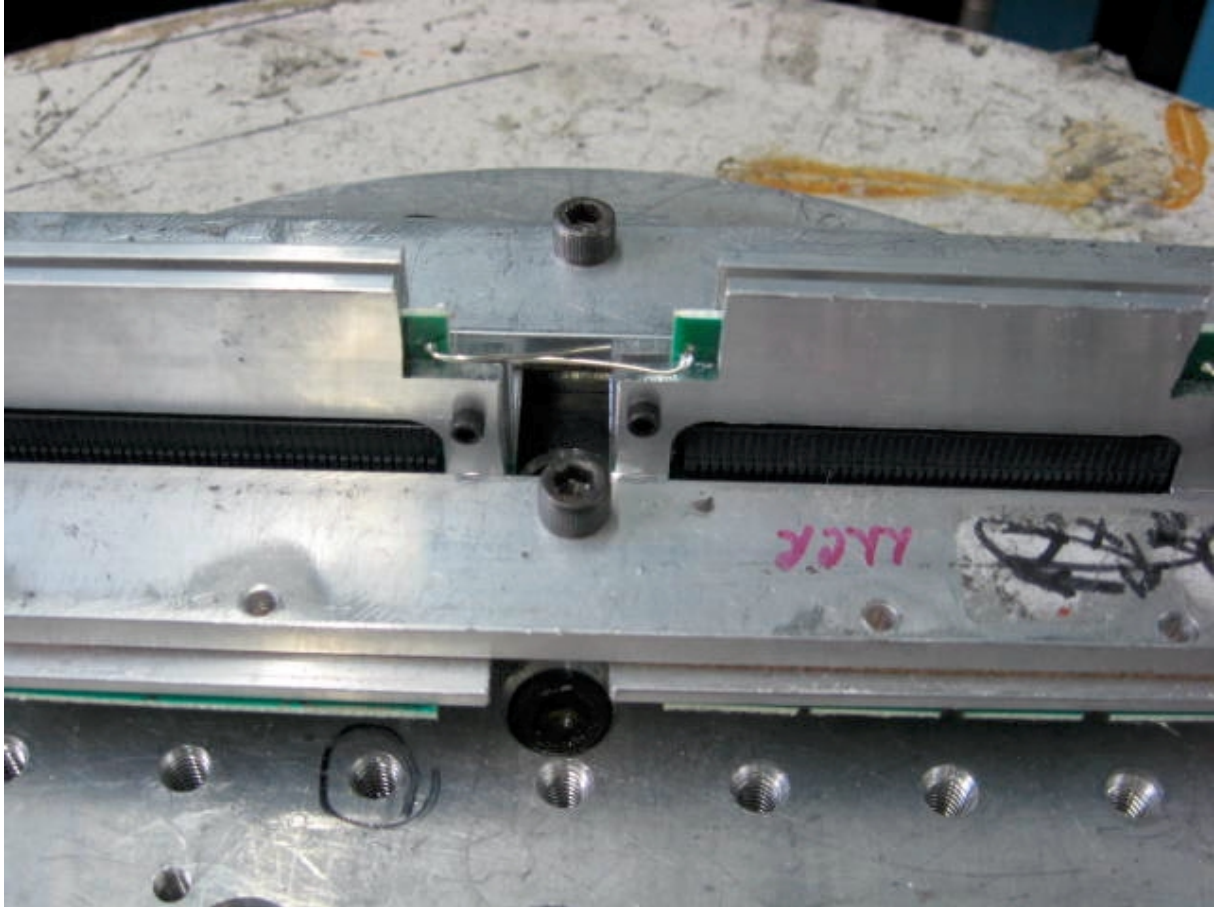


FIGURE #5

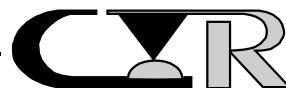
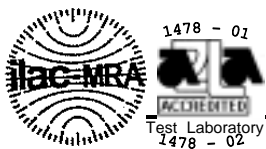
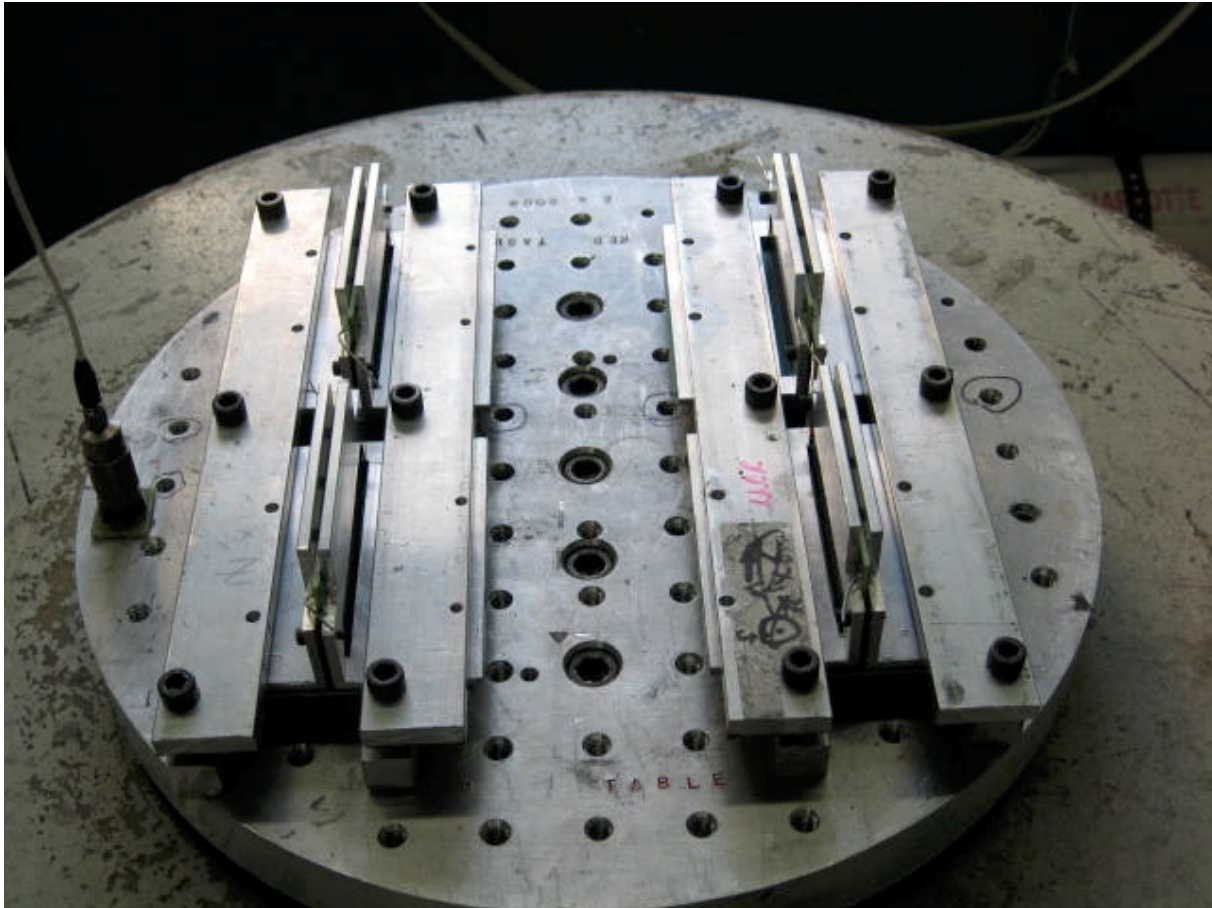
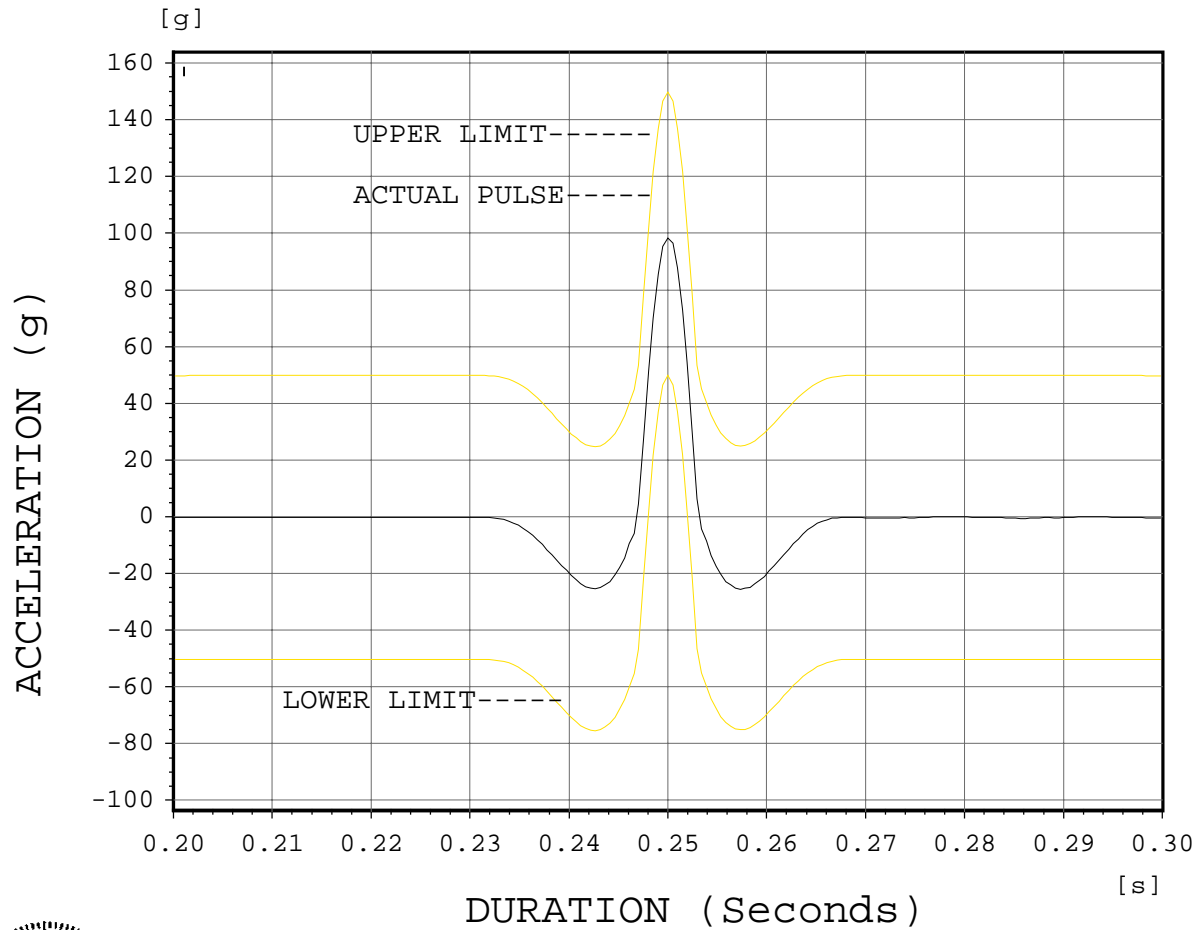


FIGURE #6

Classical Shock

Channel 5



Project:208131
Samtec
Cal Wave 1
Tech: S.Rath
Date:04-15-08
100 G 6mS
half-sine

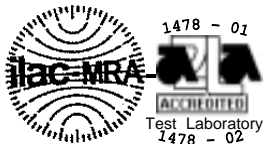
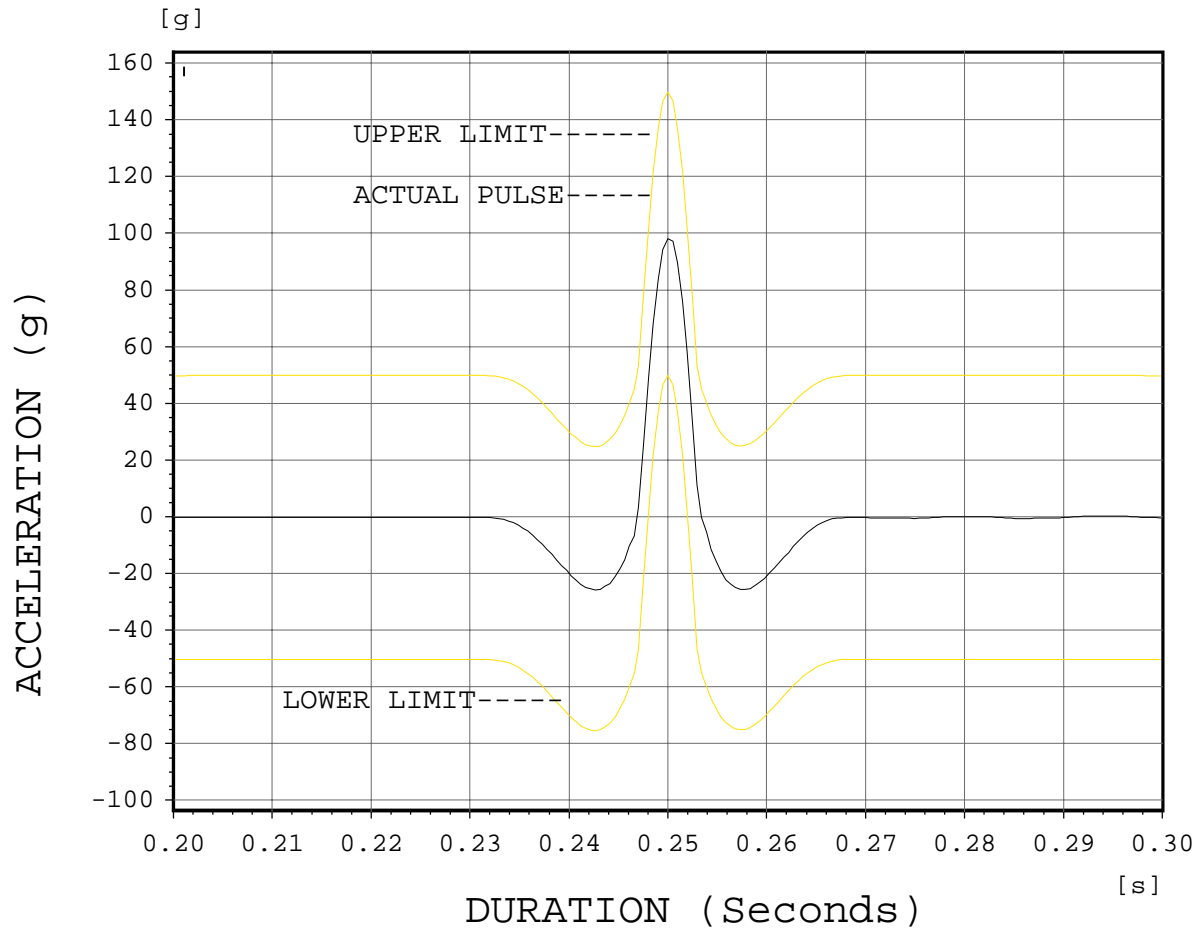


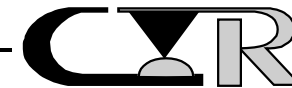
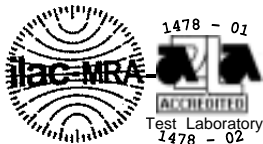
FIGURE #7

Classical Shock

Channel 5



Project:208131
Samtec
Actual Wave
Tech: S.Rath
Date:04-15-08
100 G 6mS
half-sine



REQUIREMENTS:

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

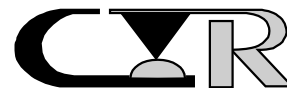
RESULTS:

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)

<u>Sample ID</u>	<u>Avg. Change</u>	<u>Min. Change</u>
C-A-1	+0.3	+1.0
C-A-2	+0.4	+1.1
C-A-3	+0.5	+1.2
C-A-4	+0.1	+0.6
C-A-5	+0.1	+0.9
C-A-6	+0.0	+0.4
C-A-7	+0.8	+1.6
C-A-8	+0.3	+1.1

3. See data files 20813109 through 20813116 for individual data points.



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LLCR DATA FILES

DATA FILE NUMBERS

20813109

20813110

20813111

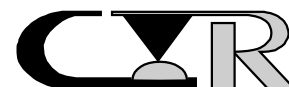
20813112

20813113

20813114

20813115

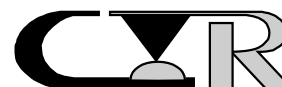
20813116



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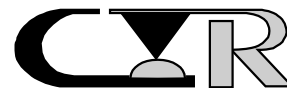
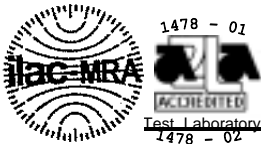
Low Level Contact Resistance			
Project:208131			Spec: EIA 364, TP 23
Customer:	Samtec		Subgroup: Grp A Seq. C
Product:	Series MTCA connector		File #: 20813109
Description:	C-A-1		
Open circuit voltage:	20mv		Current: 100ma
		Delta values	
		units: milliohms	
Temp °C	23	22	23
R.H. %	22	24	25
Date:	26Mar08	16Apr08	17Apr08
Pos. ID	Initial	M.Shock	Vibration
1	7.9	0.3	0.5
2	15.2	0.7	1.0
3	15.6	0.6	0.7
4	7.2	0.2	0.2
5	16.2	0.7	0.7
6	16.9	0.5	0.6
7	15.9	0.3	0.9
8	7.4	0.4	0.5
9	15.4	0.7	0.9
10	17.5	0.5	0.5
11	19.2	0.3	0.5
12	19.8	0.0	0.2
13	20.4	-0.1	0.2
14	20.1	0.2	0.4
15	7.2	0.0	0.0
16	15.5	0.0	0.1
17	15.2	-0.2	-0.2
18	15.6	-0.3	-0.3
19	15.5	-0.1	-0.1
20	18.4	0.0	0.0
21	16.9	0.0	0.1
22	15.5	0.1	0.3
23	14.9	0.1	0.1
24	7.4	-0.2	-0.1
25	7.3	-0.1	-0.1



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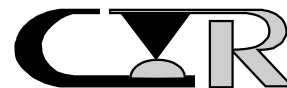
				File #: 20813109		
Temp °C	23	22	23			
R.H. %	22	24	25			
Date:	26Mar08	16Apr08	17Apr08			
Pos. ID	Initial	M.Shock	Vibration			
MAX	20.4	0.7	1.0			
MIN	7.2	-0.3	-0.3			
AVG	14.6	0.2	0.3			
STD	4.4	0.3	0.4			
Open	0	0	0			
Tech	S.Rath	MHB	S.Rath			
Equip ID	244	295	1047			
	1032	1564	1032			



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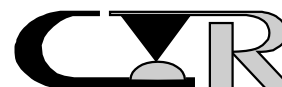
Low Level Contact Resistance			
Project:208131			Spec: EIA 364, TP 23
Customer:	Samtec		Subgroup: Grp A Seq. C
Product:	Series MTCA connector		File #: 20813110
Description:	C-A-2		
Open circuit voltage:	20mv		Current: 100ma
Delta values units: milliohms			
Temp °C	23	22	23
R.H. %	22	24	25
Date:	26Mar08	16Apr08	17Apr08
Pos. ID	Initial	M.Shock	Vibration
1	7.8	0.0	0.1
2	14.6	0.1	0.4
3	15.2	0.0	0.3
4	7.3	0.0	0.2
5	16.7	-0.3	0.1
6	16.3	-0.1	0.5
7	16.2	-1.1	-0.6
8	7.3	-0.1	0.1
9	16.5	-0.4	0.4
10	17.6	-0.2	0.3
11	19.8	-0.1	0.3
12	20.6	-0.1	0.3
13	21.1	-0.2	0.6
14	21.1	-0.4	0.2
15	7.3	0.0	0.3
16	16.4	0.0	0.5
17	15.9	0.0	0.7
18	15.9	0.2	0.8
19	16.1	-0.2	0.2
20	18.1	-0.1	0.5
21	17.2	0.0	0.5
22	15.7	-0.2	1.1
23	15.1	0.0	0.7
24	7.3	0.1	0.3
25	7.2	0.1	0.3



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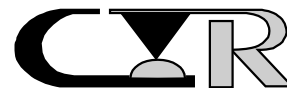
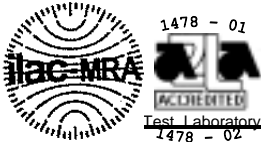
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Temp °C	23	22	23		
R.H. %	22	24	25		
Date:	26Mar08	16Apr08	17Apr08		
Pos. ID	Initial	M.Shock	Vibration		
MAX	21.1	0.2	1.1		
MIN	7.2	-1.1	-0.6		
AVG	14.8	-0.1	0.4		
STD	4.6	0.2	0.3		
Open	0	0	0		
Tech	S.Rath	S.Rath	S.Rath		
Equip ID	244	295	1032		
	1032	1564	1047		



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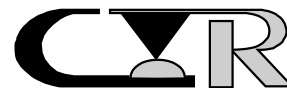
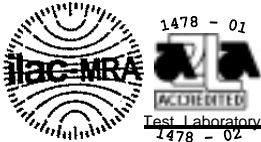
				File #: 20813111		
Temp °C	23	22	23			
R.H. %	22	24	25			
Date:	26Mar08	16Apr08	17Apr08			
Pos. ID	Initial	M.Shock	Vibration			
MAX	20.3	0.7	1.2			
MIN	7.0	-0.2	0.0			
AVG	14.2	0.2	0.5			
STD	4.4	0.2	0.3			
Open	0	0	0			
Tech	S.Rath	MHB	S.Rath			
Equip ID	244	1047	1047			
	1032	1032	1032			



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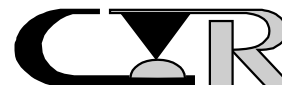
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Temp °C	23	22	23			
R.H. %	22	24	25			
Date:	26Mar08	16Apr08	17Apr08			
Pos. ID	Initial	M.Shock	Vibration			
MAX	21.4	2.4	0.6			
MIN	7.3	-0.4	-0.6			
AVG	14.8	0.0	0.1			
STD	4.7	0.5	0.3			
Open	0	0	0			
Tech	S.Rath	MHB	S.Rath			
Equip ID	244	1047	1047			
	1032	1032	1032			



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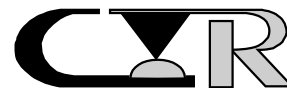
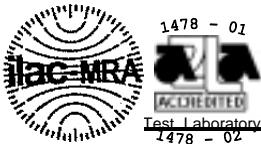
Low Level Contact Resistance			
Project:208131			Spec: EIA 364, TP 23
Customer:	Samtec		Subgroup: Grp A Seq. C
Product:	Series MTCA connector		File #: 20813113
Description:	C-A-5		
Open circuit voltage:	20mv		Current: 100ma
Delta values units: milliohms			
Temp °C	23	22	23
R.H. %	22	24	25
Date:	26Mar08	16Apr08	17Apr08
Pos. ID	Initial	M.Shock	Vibration
1	7.6	0.3	0.2
2	14.9	0.6	0.3
3	14.7	0.7	0.3
4	7.1	0.1	0.0
5	16.1	0.4	0.0
6	16.8	0.5	0.0
7	14.5	0.4	0.1
8	7.2	0.2	0.0
9	14.8	1.0	0.9
10	16.4	0.0	0.0
11	17.9	0.2	0.0
12	18.9	0.6	0.0
13	18.7	0.3	0.3
14	19.0	0.2	0.2
15	7.2	0.2	0.0
16	14.9	0.2	0.1
17	14.5	0.3	0.2
18	14.8	0.1	0.1
19	14.7	0.4	0.4
20	18.2	0.3	0.1
21	17.6	0.4	-0.1
22	15.7	0.5	0.0
23	14.9	0.3	0.0
24	7.3	0.2	0.1
25	7.3	0.1	0.1



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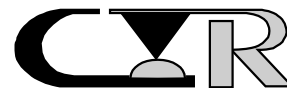
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Temp °C	23	22	23		
R.H. %	22	24	25		
Date:	26Mar08	16Apr08	17Apr08		
Pos. ID	Initial	M.Shock	Vibration		
MAX	19.0	1.0	0.9		
MIN	7.1	0.0	-0.1		
AVG	14.1	0.3	0.1		
STD	4.1	0.2	0.2		
Open	0	0	0		
Tech	S.Rath	MHB	S.Rath		
Equip ID	244	295	1047		
	1032	1564	1032		



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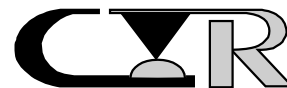
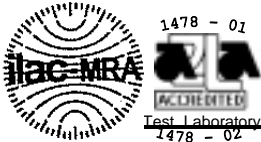
				File #: 20813114		
Temp °C	23	22	23			
R.H. %	22	24	25			
Date:	26Mar08	16Apr08	17Apr08			
Pos. ID	Initial	M.Shock	Vibration			
MAX	20.2	0.9	0.4			
MIN	7.4	-0.5	-0.3			
AVG	14.6	-0.1	0.0			
STD	4.4	0.3	0.2			
Open	0	0	0			
Tech	S.Rath	MHB	S.Rath			
Equip ID	244	295	1032			
	1032	1564	1047			



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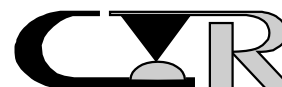
				File #: 20813115		
Temp °C	23	22	23			
R.H. %	22	24	25			
Date:	26Mar08	16Apr08	17Apr08			
Pos. ID	Initial	M.Shock	Vibration			
MAX	21.3	3.0	1.6			
MIN	7.3	0.1	0.1			
AVG	15.1	1.0	0.8			
STD	4.7	0.7	0.4			
Open	0	0	0			
Tech	S.Rath	MHB	S.Rath			
Equip ID	244	295	1032			
	1032	1564	1047			



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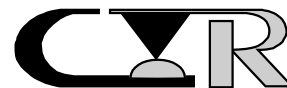
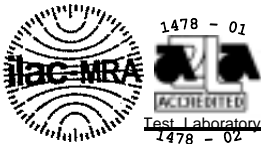
Low Level Contact Resistance			
Project:208131			Spec: EIA 364, TP 23
Customer:	Samtec		Subgroup: Grp A Seq. C
Product:	Series MTCA connector		File #: 20813116
Description:	C-A-8		
Open circuit voltage:	20mv		Current: 100ma
		Delta values	
		units: milliohms	
Temp °C	23	22	23
R.H. %	22	24	25
Date:	26Mar08	16Apr08	17Apr08
Pos. ID	Initial	M.Shock	Vibration
1	7.4	0.2	0.2
2	14.5	0.3	0.3
3	14.8	0.4	0.3
4	7.1	0.2	0.2
5	16.3	0.3	0.5
6	16.2	0.6	0.4
7	14.5	0.3	0.3
8	7.1	0.1	0.2
9	15.0	0.4	0.5
10	16.1	0.6	1.1
11	18.5	-0.3	-0.3
12	18.8	0.4	0.5
13	19.2	0.1	-0.1
14	18.9	0.2	0.2
15	7.1	0.1	0.0
16	15.2	0.2	0.5
17	15.1	0.0	0.1
18	14.9	0.2	0.5
19	14.8	-0.1	0.1
20	17.6	0.3	0.4
21	17.0	0.3	0.4
22	15.4	0.5	0.3
23	14.7	0.6	0.5
24	7.0	0.2	0.2
25	7.1	0.1	0.2



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				File #: 20813116	
Temp °C	23	22	23		
R.H. %	22	24	25		
Date:	26Mar08	16Apr08	17Apr08		
Pos. ID	Initial	M.Shock	Vibration		
MAX	19.2	0.6	1.1		
MIN	7.0	-0.3	-0.3		
AVG	14.0	0.2	0.3		
STD	4.2	0.2	0.3		
Open	0	0	0		
Tech	S.Rath	MHB	S.Rath		
Equip ID	244	295	1047		
	1032	1564	1032		



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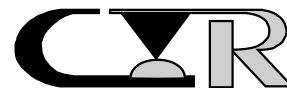
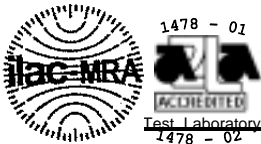
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TEST RESULTS

SEQUENCE D

Group A

MTCA SERIES



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PROCEDURE: -continued

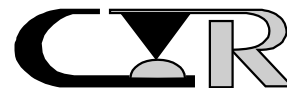
6. The low nanosecond monitoring was performed in accordance with EIA 364, Test Procedure 87.

REQUIREMENTS:

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

RESULTS:

1. There was no evidence of physical damage to test samples as tested.
2. There was no low nanosecond event detected greater than 50 nanoseconds.
3. The Mechanical Shock characteristics are shown in Figure #'s 8 (Calibration Pulse) and #9 (Test Pulse). Each figure displays the shock pulse contained within the upper and lower limits as defined by the appropriate test specification.



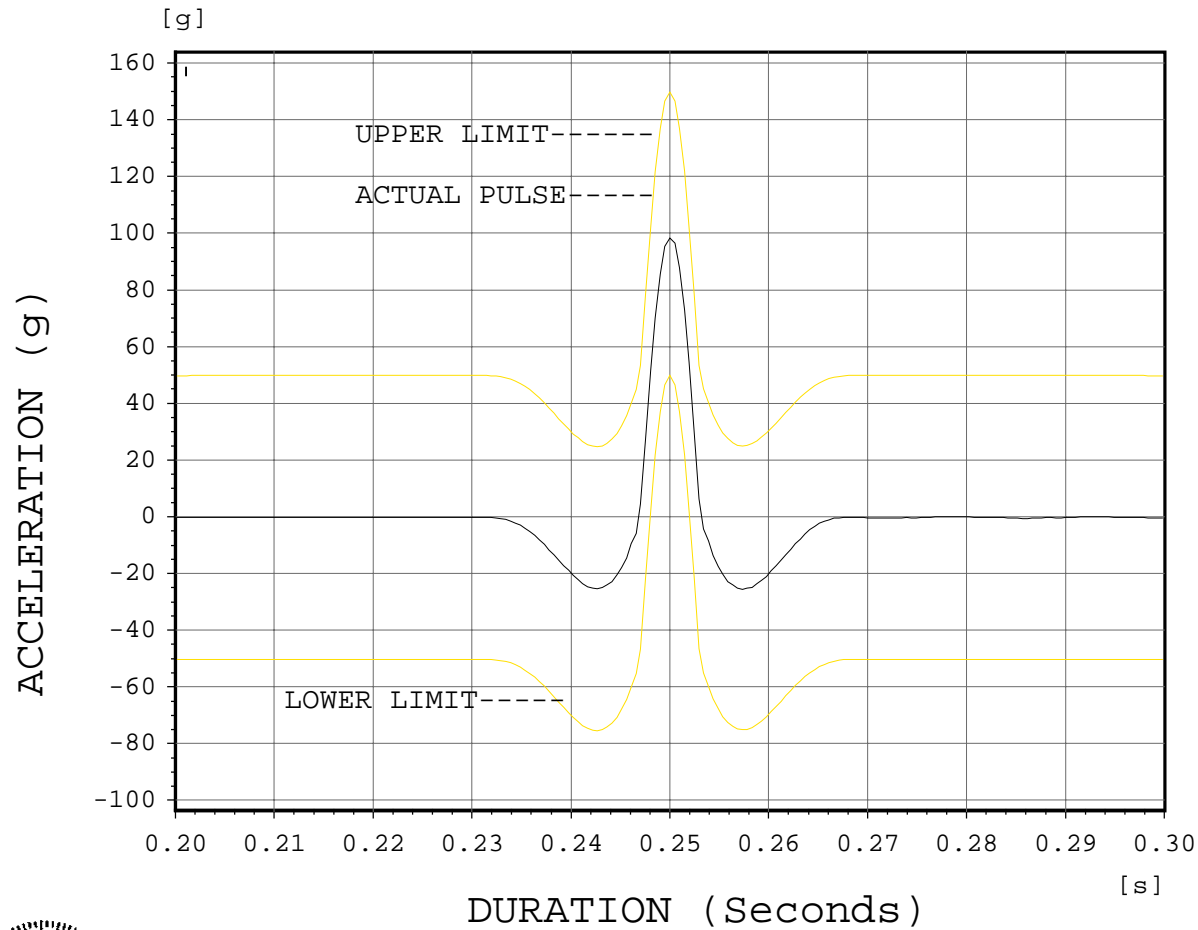
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FIGURE #8

Classical Shock

Channel 5



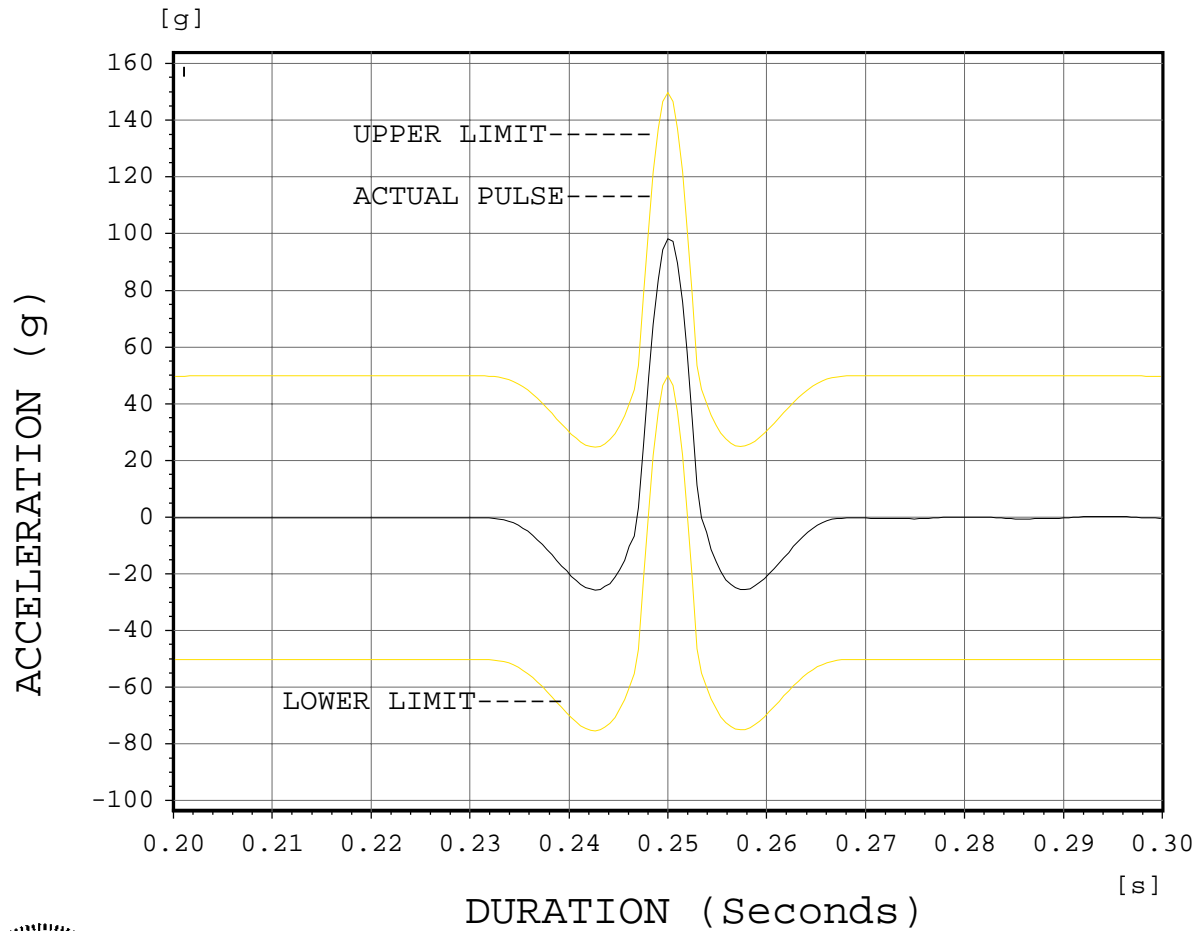
Project:208131
Samtec
Cal Wave 1
Tech: S.Rath
Date:04-15-08
100 G 6mS
half-sine



FIGURE #9

Classical Shock

Channel 5



Project:208131
Samtec
Actual Wave
Tech: S.Rath
Date:04-15-08
100 G 6mS
half-sine



PROCEDURE: -continued

6. The low nanosecond monitoring was performed in accordance with EIA 364, Test Procedure 87.

REQUIREMENTS:

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

