

APRIL 26, 2007

TEST REPORT #207134 Rev. 1.1

VITA 47 TESTING

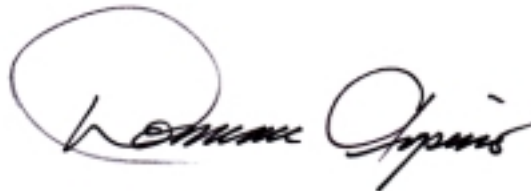
SEAM/SEAF SERIES CONNECTOR TESTING

PART NUMBER

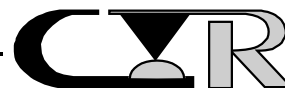
SEAM-040-02.0-S-10-1-A

SEAF-040-05.0-S-10-1-A

SAMTEC, INC.



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

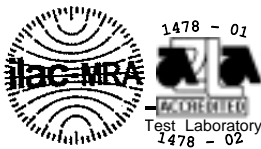


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REVISION HISTORY

DATE	REV. NO.	DESCRIPTION	ENG.
4/26/2007	1.0	Initial Issue	DA
4/30/2007	1.1	Added explanation for the asterisks on page 28, 41 and 51.	DA



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.

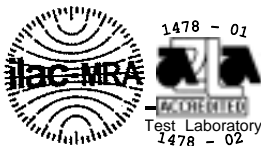
All equipment and measuring instruments used during testing were calibrated and traceable to NIST according to ISO 10012-1 and ANSI/NCSL Z540-1, as applicable.

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:cm



SCOPE

To perform testing on the SEAM/SEAF Connector Series as manufactured and submitted by the test sponsor Samtec, Inc.

APPLICABLE DOCUMENTS

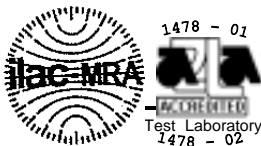
1. Unless otherwise specified, the following documents of issue in effect at the time of testing performed form a part of this report to the extent as specified herein. The requirements of sub-tier specifications and/or standards apply only when specifically referenced in this report.
2. Samtec Specifications: TC079-1282 Vita 47 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.

<u>Description</u>	<u>Part Number</u>
a) Receptacle Connector	SEAF-040-05.0-S-10-1-A
b) Plug Connector	SEAM-040-02.0-S-10-1-A

2. Test samples were supplied assembled and terminated to test boards by the test sponsor. Specific test boards were designed for the following tests:
 - CCC
 - Vib/M. Shock
 - LLCR
 - IR/DWV/Altitude
 - ESD
3. The test samples were tested in their 'as received' condition.
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:

Sequence A : Group A -A-A-1
 : Group B - A-B-1

Sequence B : Group A - B-A-1, B-A-2, B-A-3, through B-A-11

Sequence C : Group A - C-A-1, C-A-2, C-A-3, through C-A-11

Sequence D : Deleted by the test sponsor.

Sequence E : Group A - E-A-1, E-A-2, E-A-3, through E-A-8

Sequence F : Group A - F-A-1

NOTE: Three separate mated samples were used in Vibration and Mechanical Shock testing for monitoring purposes only.

Sample ID Key

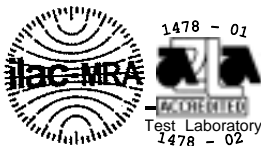
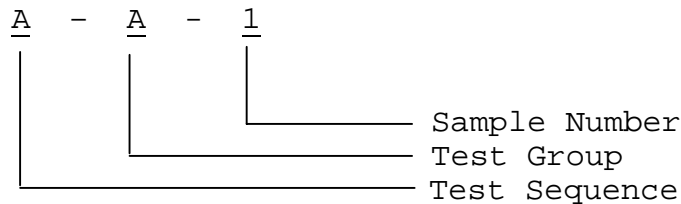
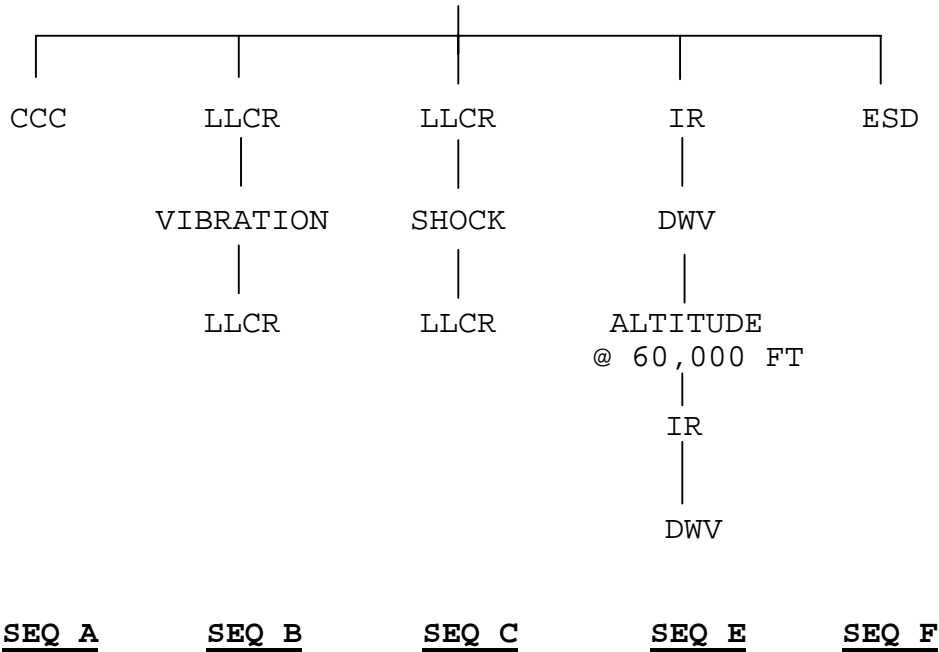


FIGURE #1

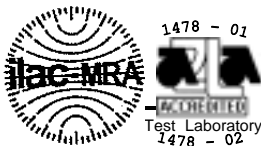
TEST PLAN FLOW DIAGRAM

SAMPLE PREPARATION



(Prior to testing Seq. D was deleted from the test program by the test sponsor.)

- IR** : Insulation Resistance
- DWV** : Dielectric Withstanding Voltage
- LLCR** : Low Level Circuit Resistance
- CCC** : Current Carrying Capacity
- ESD** : Electrostatic Discharge

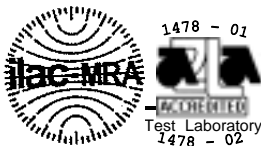


DATA SUMMARY

<u>TEST</u>	<u>REQUIREMENT</u>	<u>RESULTS</u>
<u>SEQUENCE A</u>		
CCC	RECORD	NO DAMAGE
<u>SEQUENCE B</u>		
LLCR RANDOM VIBRATION	RECORD NO DAMAGE 50 NANOSECONDS	* 7.7 mΩ MAX. PASSED PASSED
LLCR	+10.0 mΩ MAX.CHG.	+1.9 mΩ MAX.CHG.
<u>SEQUENCE C</u>		
LLCR MECHANICAL SHOCK	RECORD NO DAMAGE 50 NANOSECONDS	7.3 mΩ MAX. PASSED PASSED
LLCR	+10.0 mΩ MAX.CHG.	+0.7 mΩ MAX.CHG.
<u>SEQUENCE E</u>		
IR DWV ALTITUDE	1000 MEGOHMS MIN. 900 VAC NO DAMAGE	>50,000 MEGOHMS PASSED PASSED
IR DWV	1000 MEGOHMS MIN. 900 VAC	>50,000 MEGOHMS PASSED
<u>SEQUENCE F</u>		
ESD	NO DAMAGE	PASSED

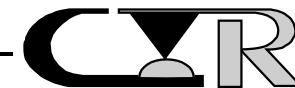
* An LLCR Open was recorded at position #6 within sample ID# B-A-3 during initial measurements. Analysis by the test sponsor revealed an unsoldered solder joint as the cause of the Open.

An LLCR Open was recorded at position #20 within sample ID# B-A-8 during initial measurements. Test sponsor was unable to visually see under the connector in order to determine the cause of the Open.



EQUIPMENT LIST

ID#	Next Cal	Last Cal	Equipment Name	Manufacturer	Model #	Serial #	Accuracy	Freq.Cal
33			Vib. Power Amp	Ling Dynamics	MPA4	149	N/A	N/A
86			Shaker Table	MB Elect.	C10E	141	N/A	N/A
321	3/7/2008	3/7/2007	AC-DC Hipot/Megometer	Hipotronics Co.	H300B	DS16-201	See Cal Cert	12 mon.
466	7/20/2007	7/20/2006	Precision Resistor	Victoreen Co.	50,000 mego	N/A	± 1 %	12 mon.
539			Computer	ARC Elect.	486-66 Meg	8661526	N/A	N/A
545	12/20/2007	12/20/2006	Event Detector	Anatech	32/64 EHD	941206	See Cal Cert	12mon
553	1/8/2008	1/8/2007	12 channel Power Unit	PCB Co.	483A	1303	See Cal Cert	12mon
594			Computer	Sensible P/C	586-133	DX-133	N/A	N/A
654			Thermocouple Scanner Card	Keithley Co.	7014	0658086	See Manual	Ea Test
660			Scanner Main Frame	Keithley Co.	7002	0661520	See Manual	Ea Test
677	9/21/2007	9/21/2006	Microohm Meter	Keithley Co.	580	0685122	See Cal Cert	12 mon
683			Plotter	Hewlett Packard	7470A	2308A85161	N/A	N/A
684	7/10/2007	7/10/2006	Accelerometer	PCB. Co.	353B04	47648	See Cal Cert.	12mon
689	5/31/2007	5/31/2006	DC Power Supply 30Amps	Hewlett Packard	6033A	2548A01848	See Cal.Cert.	12 mon.
948	2/27/2008	2/27/2007	Microohm meter	Keithley	580	0945732	See Cal Cert	OOS
1028	1/10/2008	1/10/2007	Event Detector	Analysis Tech	32 EHD	981019	See Cal.Cert.	12mon
1121	5/5/2007	5/5/2006	Accelerometer	PCB	353B04	57715	See Cal. Cert.	12mon
1166	8/10/2007	8/10/2006	Sine/Rndm Vib Control Digitizer	Hewlett Packard	E1432A	US39342279	See Cal Cert	12mon
1167			Interface	Hewlett Packard	E8491B	US390100753	N/A	N/A
1168			Mainframe	Hewlett Packard	E8408A	US39000357	N/A	N/A
1169			Computer	ARC	PC133	none	N/A	N/A
1243			Computer	ARC Co.	P450	BU-001	N/A	N/A
1271			Amplifier	Unholtz Dickie	SA15	3483	See Manual	N/A

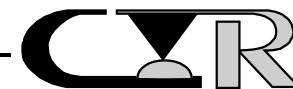


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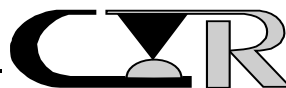
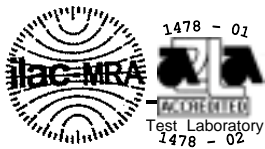
EQUIPMENT LIST -continued

ID#	Next Cal	Last Cal	Equipment Name	Manufacturer	Model #	Serial #	Accuracy	Freq.Cal
1272			Shaker Table	Unholtz Dickie	S202PB	263	N/A	N/A
1400			Computer	ARC	150	097022	N/A	N/A
1438			Main Frame	Hewlett Packard	35650	2911A00927	N/A	Ea Test
1439	1/12/2008	1/12/2007	Programable DAC Unit	Hewlett Packard	35656A	3007A00107	See Cal Cert	12 mo
1440	1/12/2008	1/12/2007	8 Chan Input Module	Hewlett Packard	35655A	2911A00337	N/A	12mon
1457	12/14/2007	12/14/2006	Precision Resistor	Victorine	5KMOHM	465	See Cal Cert	12mon
1488	10/10/2007	10/10/2006	Digital Multimeter	Agilent	34401A	3146A49056	See Cal Cert	See Cal Cert



TEST RESULTS

SEQUENCE A



PROJECT NO.: 207134 SPECIFICATION: TC079-1282
VITA 47 Test Plan

PART NO.: See page 4 PART DESCRIPTION: SEAM/SEAF

SAMPLE SIZE: 2 TECHNICIAN: S-R

START DATE: 4/19/07 COMPLETE DATE: 4/20/07

ROOM AMBIENT: 23°C RELATIVE HUMIDITY: 32%

EQUIPMENT ID#: 539, 654, 660, 683, 689, 1400, 1488

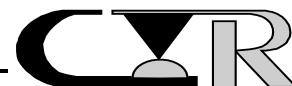
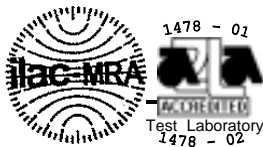
CURRENT CARRYING CAPACITY

PURPOSE:

To establish the current carrying capacity of the test sample under evaluation. This is achieved by determining the temperature rise resulting at the contact interface at specified current levels. The temperature rise at a given current level plus the ambient operating temperature should not exceed the temperature rating of the test sample. Thus, the current rating of the system decreases as the operating ambient increases. This data can also be used to determine potential local "hot spot" internal to the test sample, possible degradation factors, thermal effects on adjacent areas and/or the acceptability for use of pulsing techniques.

PROCEDURE:

1. The test was performed in accordance with IEC-06512-5-2.
2. The test samples were prepared to accept thermocouples at the appropriate locations.
3. An additional thermocouple was placed 2" outside of the test samples adjacent to the locations to be monitored. This is accomplished to evaluate the impact of ambient conditions.
4. The thermocouples were attached to a data acquisition/scanner system.
5. The test specimen was placed in a chamber or room which prevents air currents and the like from influencing the observations.



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PROCEDURE: -continued

6. Test Conditions:

- a) Current Levels : 0.5, 1, 1.5, 2 Amps
- b) Derating Curve : Yes

7. The current level indicated was applied until temperature stabilization was reached.

8. Temperature stabilization is defined as no change in Temperature Rise greater than $\pm 1^{\circ}\text{C}$ over a 15 minute interval.

REQUIREMENTS:

The temperature rise shall be measured and recorded and a current derating curve established.

RESULTS:

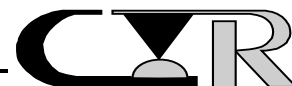
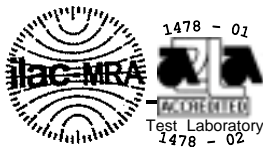
1. The following is a summary of the data observed:

	<u>MAXIMUM TEMPERATURE RISE ($^{\circ}\text{C}$)</u>
<u>Sample ID A-A-1</u>	
0.5 Amps	22.9
1.0 Amps	29.0
1.5 Amps	38.8
2.0 Amps	55.7
<u>Sample ID A-A-2</u>	
0.5 Amps	24.0
1.0 Amps	30.4
1.5 Amps	43.8
2.0 Amps	61.7

2. See the following Temperature Rise Data Files for individual data points:

- ID# A-A-1 20713401 through 20713404
- ID# A-A-2 20713405 through 20713407 and 20713409

3. Figures 1 and 2 are the current derating curves for connectors evaluated with maximum operating temperature of 130°C . The base curve is created by the data from the above data files. The derated curve is 20% from the base curve.

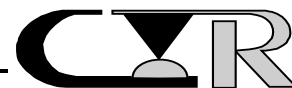
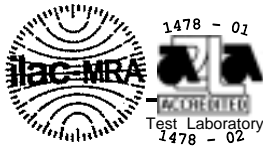


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TEMPERATURE RISE

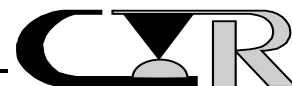
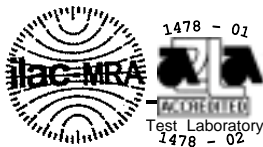
Project :	207134					Spec: EIA 364 TP 70
Customer :	Samtec					Subgroup:Seq.A
Product :	SEAM/SEAF					File #: 20713401
Description:	A-A-1					Date: 19Apr07
						Tech: S-R
<u>Test Conditions</u>						<u>Measure Time (Minutes)</u>
Circuit Voltage:		Volt(s)				Power On S
Test Current :	0.50	Amp(s)				No Power 0
						Measure 1
						Cycles 100
Actual Values						
Units : Degree C						
Cycle/ Time	AMB	1				
11:07:28	21.0	22.9				
11:08:28	21.0	22.8				
11:09:28	21.1	22.8				
11:10:28	20.9	22.7				
11:11:28	20.9	22.7				
11:12:28	20.9	22.7				
11:13:28	20.9	22.7				
11:14:28	20.9	22.7				
11:15:28	20.8	22.7				
11:16:28	20.9	22.8				
11:17:28	20.8	22.8				
11:18:28	20.8	22.8				
11:19:28	20.9	22.8				
11:20:28	20.8	22.8				
11:21:28	20.8	22.8				
11:22:28	21.1	22.8				
11:23:28	21.1	22.8				
11:24:28	21.0	22.8				
11:25:28	20.9	22.8				
11:26:28	20.8	22.9				
11:27:28	20.8	22.9				
11:28:28	20.8	22.9				
11:29:28	20.8	22.9				
11:30:28	20.8	22.9				
11:31:28	20.8	22.9				
11:32:28	20.7	22.9				
11:33:28	20.7	22.9				
11:34:28	20.8	22.9				
11:35:28	20.9	22.9				
11:36:28	20.9	22.9				
11:37:28	20.9	22.9				
11:38:28	20.9	22.9				
11:39:33	21.0	22.9				



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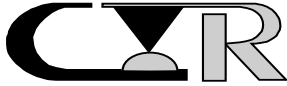
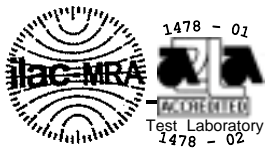
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Customer :	Samtec			Subgroup:	Seq.A
Product :	SEAM/SEAF			File #:	20713402
Description:	A-A-1			Date:	19Apr07
				Tech:	S-R
Test Conditions				Measure Time (Minutes)	
Circuit Voltage:		Volt(s)		Power On	S
Test Current :	1.00	Amp(s)		No Power	0
				Measure	1
				Cycles	100
Actual Values					
Units : Degree C					
Cycle/ Time	AMB	1			
11:42:19	20.9	22.9			
11:43:19	21.0	23.9			
11:44:19	21.0	24.7			
11:45:19	20.8	25.3			
11:46:19	20.9	25.8			
11:47:19	20.8	26.3			
11:48:19	20.8	26.6			
11:49:19	20.6	26.9			
11:50:19	20.6	27.1			
11:51:19	20.6	27.3			
11:52:19	20.6	27.5			
11:53:19	20.6	27.6			
11:54:19	20.7	27.8			
11:55:19	20.8	27.9			
11:56:19	20.6	28.0			
11:57:19	20.6	28.1			
11:58:19	20.7	28.2			
11:59:19	20.7	28.2			
12:00:19	20.7	28.3			
12:01:19	20.7	28.3			
12:02:19	20.8	28.4			
12:03:19	20.9	28.5			
12:04:19	20.9	28.5			
12:05:19	20.9	28.5			
12:06:19	21.0	28.6			
12:07:19	20.9	28.6			
12:08:19	21.0	28.7			
12:09:19	20.9	28.7			
12:10:19	20.9	28.7			
12:11:19	20.8	28.8			



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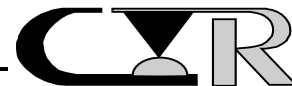
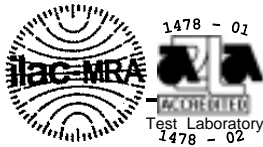
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Cycle/ Time	AMB	1					
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12:13:19	20.9	28.9					
12:14:19	21.0	28.9					
12:15:19	20.9	28.9					
12:16:19	20.9	28.9					
12:17:19	20.9	28.9					
12:18:19	21.0	29.0					
12:19:19	21.0	29.0					
12:20:19	20.9	29.0					
12:21:19	21.0	29.0					
12:22:19	21.0	29.0					
12:23:19	21.0	29.0					
12:24:19	21.0	29.0					
12:25:19	21.0	29.0					
12:26:19	21.0	29.1					
12:27:19	21.1	29.1					



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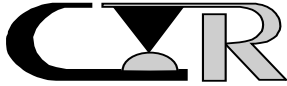
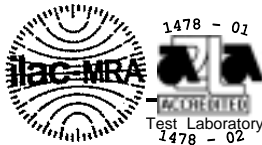
TEMPERATURE RISE						
Project :	207134					Spec: EIA 364 TP 70
Customer :	Samtec					Subgroup: Seq.A
Product :	SEAM/SEAF					File #: 20713403
Description:	A-A-1					Date: 19Apr07
						Tech: S-R
Test Conditions						Measure Time (Minutes)
Circuit Voltage:	Volt(s)				Power On	S
Test Current :	1.50	Amp(s)			No Power	0
					Measure	1
					Cycles	100
			Actual Values			
			Units : Degree C			
Cycle/ Time	AMB	1				
12:49:38	21.0	23.2				
12:50:38	21.2	25.9				
12:51:38	21.0	28.0				
12:52:38	21.0	29.7				
12:53:38	21.0	31.1				
12:54:38	21.1	32.2				
12:55:38	21.0	33.2				
12:56:38	21.0	34.0				
12:57:38	21.0	34.6				
12:58:38	21.0	35.2				
12:59:38	21.0	35.7				
13:00:38	21.0	36.2				
13:01:38	21.0	36.6				
13:02:38	21.0	36.9				
13:03:38	21.1	37.2				
13:04:38	21.2	37.5				
13:05:38	21.2	37.7				
13:06:38	21.1	37.9				
13:07:38	21.2	38.1				
13:08:38	21.1	38.2				
13:09:38	21.2	38.4				
13:10:38	21.2	38.5				
13:11:38	21.1	38.7				
13:12:38	21.1	38.8				



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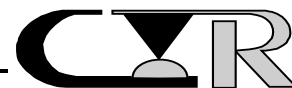
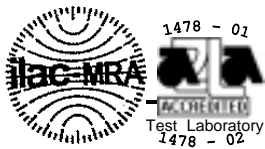
TEMPERATURE RISE						
Project :	207134					Spec: EIA 364 TP 70
Customer :	Samtec					Subgroup: Seq.A
Product :	SEAM/SEAF					File #: 20713404
Description:	A-A-1					Date: 19Apr07
						Tech: S-R
<u>Test Conditions</u>						<u>Measure Time (Minutes)</u>
Circuit Voltage:		Volt(s)				Power On S
Test Current : 2.00		Amp(s)				No Power 0
						Measure 1
						Cycles 100
Actual Values						
Units : Degree C						
Cycle/ Time	AMB	1				
13:19:24	21.2	33.3				
13:20:24	21.3	35.6				
13:21:24	21.3	38.9				
13:22:24	21.2	41.4				
13:23:24	21.2	43.4				
13:24:24	21.3	45.1				
13:25:24	21.2	46.5				
13:26:24	21.3	47.7				
13:27:24	21.2	48.6				
13:28:24	21.3	49.4				
13:29:24	21.3	50.2				
13:30:24	21.2	50.8				
13:31:24	21.2	51.2				
13:32:24	21.2	51.6				
13:33:24	21.2	52.0				
13:34:24	21.2	52.5				
13:35:24	21.2	52.8				
13:36:24	21.2	53.0				
13:37:24	21.2	53.3				
13:38:24	21.2	53.6				
13:39:24	21.3	53.7				
13:40:24	21.2	53.9				
13:41:24	21.2	54.1				
13:42:24	21.3	54.3				
13:43:24	21.2	54.5				
13:44:24	21.3	54.6				
13:45:24	21.2	54.7				
13:46:24	21.3	54.8				
13:47:24	21.4	55.1				
13:48:24	21.3	55.1				



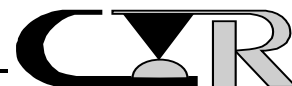
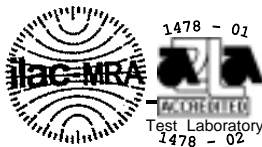
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					File #:	20713404
Cycle/ Time	AMB	1				
13:49:24	21.4	55.2				
13:50:24	21.2	55.4				
13:51:24	21.3	55.4				
13:52:24	21.2	55.4				
13:53:24	21.2	55.5				
13:54:24	21.1	55.7				



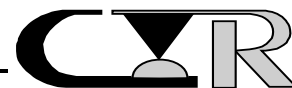
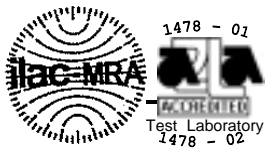
TEMPERATURE RISE						
Project :	207134					Spec: EIA 364 TP 70
Customer :	Samtec					Subgroup: Seq.A
Product :	SEAM/SEAF					File #: 20713405
Description:	A-A-2					Date: 19Apr07
						Tech: S-R
Test Conditions						Measure Time (Minutes)
Circuit Voltage:		Volt(s)				Power On S
Test Current :	0.50	Amp(s)				No Power 0
						Measure 1
						Cycles 100
Actual Values						
Units : Degree C						
Cycle/ Time	AMB	1				
14:33:02	21.6	23.0				
14:34:02	21.6	23.1				
14:35:02	21.6	23.2				
14:36:02	21.5	23.3				
14:37:02	21.5	23.4				
14:38:02	21.5	23.7				
14:39:02	21.4	23.9				
14:40:02	21.4	24.1				
14:41:02	21.4	24.0				
14:42:02	21.4	23.8				
14:43:02	21.4	23.8				
14:44:02	21.4	23.8				
14:45:02	21.4	23.9				
14:46:02	21.4	23.9				
14:47:02	21.5	23.9				
14:48:02	21.5	23.9				
14:49:02	21.5	23.9				
14:50:02	21.4	23.9				
14:51:02	21.4	23.9				
14:52:02	21.4	23.9				
14:53:02	21.4	24.0				
14:54:02	21.4	24.0				
14:55:02	21.4	24.0				
14:56:02	21.4	24.0				
14:57:02	21.4	24.0				
14:58:02	21.4	24.0				
14:59:02	21.3	24.0				
15:00:02	21.3	24.0				
15:01:02	21.2	24.0				
15:02:02	21.3	24.0				



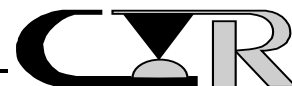
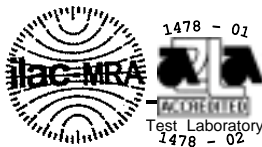
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Product :	SEAM/SEAF					File #:	20713405
Cycle/ Time	AMB	1					
15:03:02	21.2	24.0					
15:04:02	21.3	24.0					
15:05:02	21.4	24.0					
15:06:02	21.4	24.0					
15:07:02	21.4	24.0					



TEMPERATURE RISE						
Project :	207134					Spec: EIA 364 TP 70
Customer :	Samtec					Subgroup: Seq.A
Product :	SEAM/SEAF					File #: 20713406
Description:	A-A-2					Date: 19Apr07
						Tech: S-R
<u>Test Conditions</u>						<u>Measure Time (Minutes)</u>
Circuit Voltage:	Volt(s)					Power On S
Test Current :	1.00 Amp(s)					No Power 0
						Measure 1
						Cycles 100
			Actual Values			
			Units : Degree C			
Cycle/ Time	AMB	1				
15:26:41	21.4	23.2				
15:27:41	21.7	24.9				
15:28:41	21.6	24.6				
15:29:41	21.5	25.8				
15:30:41	21.5	26.7				
15:31:41	21.4	27.6				
15:32:41	21.5	29.5				
15:33:41	21.5	32.4				
15:34:41	21.5	32.6				
15:35:41	21.5	29.6				
15:36:41	21.5	30.2				
15:37:41	21.5	29.2				
15:38:41	21.4	29.4				
15:39:41	21.4	29.6				
15:40:41	21.5	29.7				
15:41:41	21.5	29.8				
15:42:41	21.4	29.9				
15:43:41	21.3	30.0				
15:44:41	21.4	30.0				
15:45:41	21.4	30.1				
15:46:41	21.4	30.1				
15:47:41	21.4	30.2				
15:48:41	21.4	30.2				
15:49:41	21.3	30.2				
15:50:41	21.4	30.3				
15:51:41	21.3	30.3				
15:52:41	21.3	30.3				
15:53:41	21.3	30.3				
15:54:41	21.2	30.4				

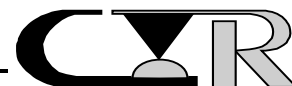
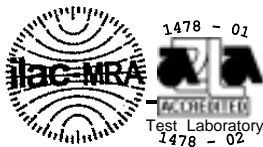


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TEMPERATURE RISE

Project :	207134					Spec: EIA 364 TP 70
Customer :	Samtec					Subgroup: Seq.A
Product :	SEAM/SEAF					File #: 20713407
Description:	A-A-2					Date: 19Apr07
						Tech: S-R
<u>Test Conditions</u>						<u>Measure Time (Minutes)</u>
Circuit Voltage:	Volt(s)					Power On S
Test Current :	1.50 Amp(s)					No Power 0
						Measure 1
						Cycles 100
Actual Values						
Units : Degree C						
Cycle/ Time	AMB	1				
16:12:22	21.3	27.4				
16:13:22	21.5	26.1				
16:14:22	21.3	29.1				
16:15:22	21.5	31.9				
16:16:22	21.4	34.7				
16:17:22	21.5	36.1				
16:18:22	21.5	37.3				
16:19:22	21.4	37.2				
16:20:22	21.5	38.2				
16:21:22	21.5	38.7				
16:22:22	21.5	39.3				
16:23:22	21.5	39.7				
16:24:22	21.5	40.0				
16:25:22	21.5	40.3				
16:26:22	21.4	40.6				
16:27:22	21.4	40.8				
16:28:22	21.4	40.9				
16:29:22	21.4	41.2				
16:30:22	21.4	41.3				
16:31:22	21.4	41.6				
16:32:22	21.5	41.7				
16:33:22	21.5	42.0				
16:34:22	21.4	42.2				
16:35:22	21.5	42.7				
16:36:22	21.5	43.0				
16:37:22	21.4	43.4				
16:38:22	21.4	43.8				
16:39:22	21.5	41.9				
16:40:22	21.5	41.9				

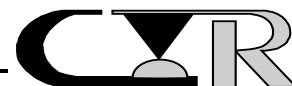
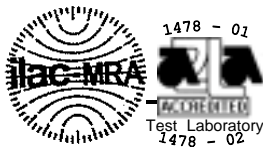


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TEMPERATURE RISE

Project :	207134					Spec:	EIA 364 TP 70
Customer :	Samtec					Subgroup:	Seq.A
Product :	SEAM/SEAF					File #:	20713409
Description:	A-A-2					Date:	24Apr07
						Tech:	S-R
<u>Test Conditions</u>						<u>Measure Time (Minutes)</u>	
Circuit Voltage:	Volt(s)					Power On	S
Test Current :	2.00 Amp(s)					No Power	0
						Measure	1
						Cycles	100
				Actual Values			
				Units : Degree C			
Cycle/ Time	AMB	1					
13:34:45	23.8	48.0					
13:35:45	23.8	49.3					
13:36:45	23.9	51.6					
13:37:45	23.8	53.5					
13:38:45	23.8	54.7					
13:39:45	23.9	55.5					
13:40:45	23.8	56.1					
13:41:45	23.7	56.6					
13:42:45	23.7	57.1					
13:43:45	23.7	57.4					
13:44:45	23.6	57.7					
13:45:45	23.6	57.9					
13:46:45	23.8	58.3					
13:47:45	23.7	58.5					
13:48:45	23.6	58.6					
13:49:45	23.6	58.7					
13:50:45	23.6	58.9					
13:51:45	23.6	59.2					
13:52:45	23.6	59.2					
13:53:45	23.5	59.1					
13:54:45	23.6	59.2					
13:55:45	23.6	59.4					
13:56:45	23.5	59.5					
13:57:45	23.6	59.6					
13:58:45	23.6	60.5					
13:59:45	23.8	61.5					
14:00:45	23.8	61.7					
14:01:45	23.8	61.5					
14:02:45	23.8	61.6					
14:03:45	23.7	61.6					



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FIGURE #1

CURRENT CARRYING CAPACITY

Samtec
A-A-1

— Base curve. - - - - - Derated curve. // // // Operating range.

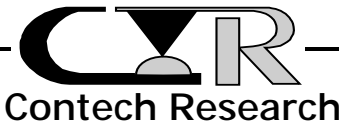
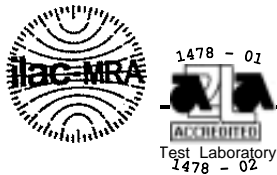
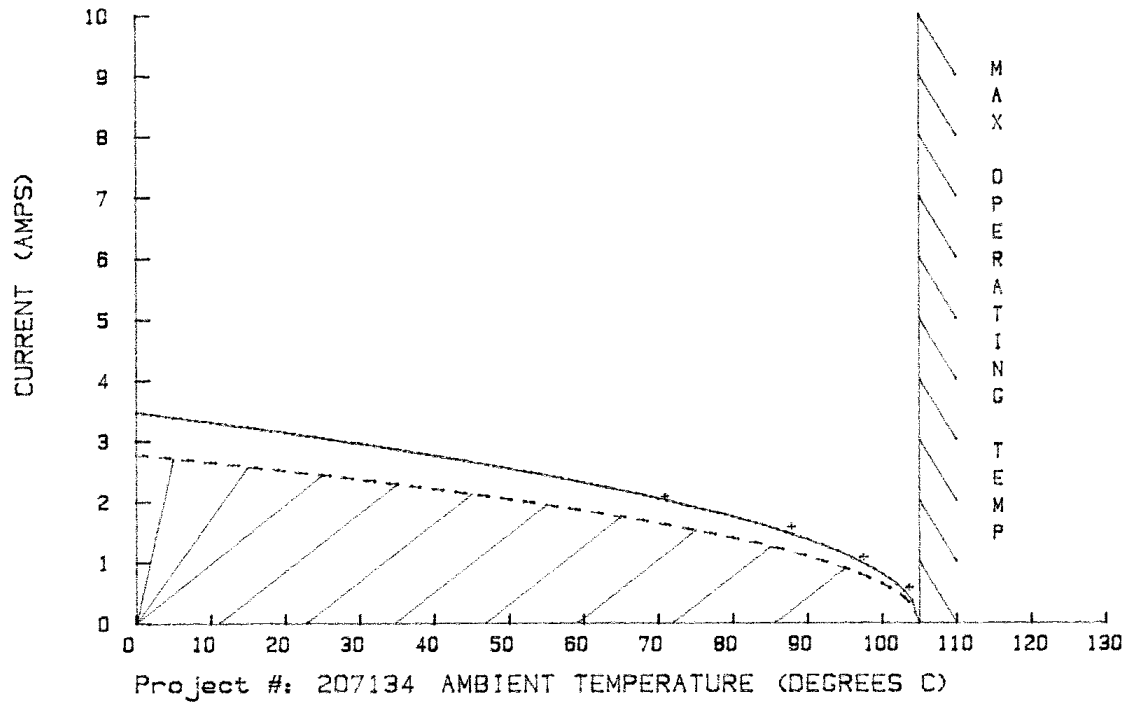
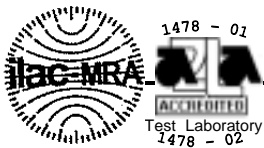
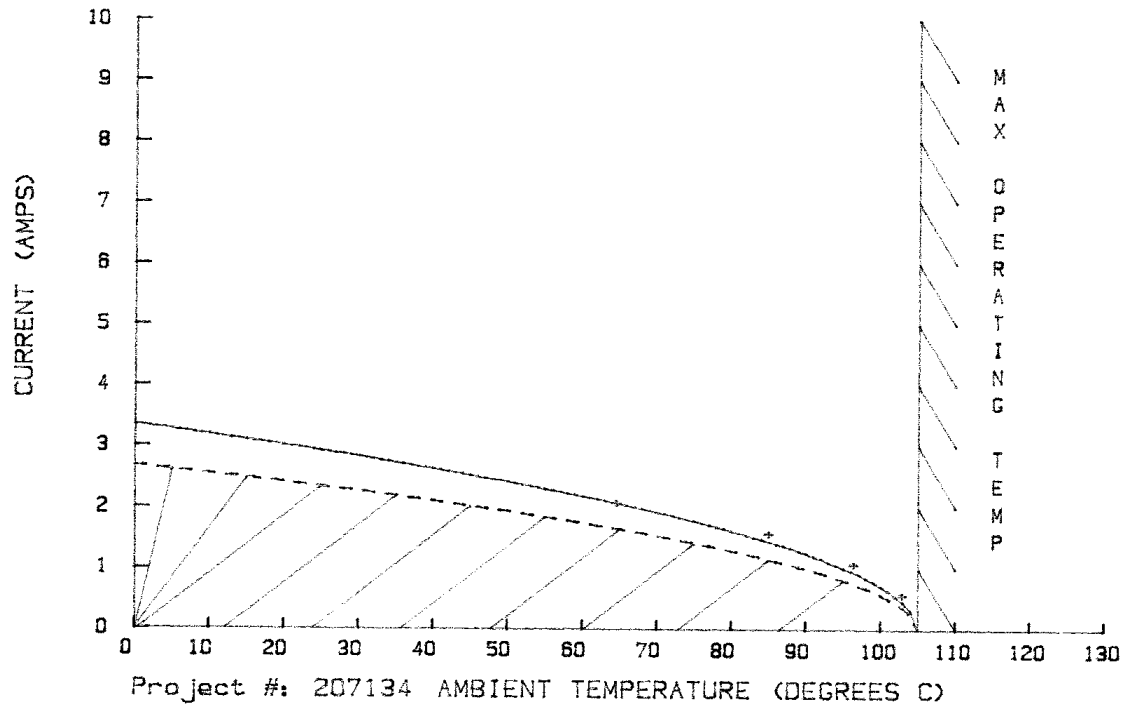


FIGURE #2

CURRENT CARRYING CAPACITY

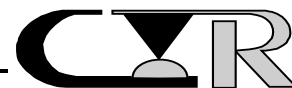
Samtec
A-A-2

— Base curve. - - - Derated curve. // // // Operating range.



TEST RESULTS

SEQUENCE B



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PROJECT NO.: 207134 SPECIFICATION: EIA-364 TP 23

PART NO.: See page 4 PART DESCRIPTION: SEAM/SEAF

SAMPLE SIZE: 8 Samples TECHNICIAN: S-R, MAG

START DATE: 3/30/07 COMPLETE DATE: 4/11/07

ROOM AMBIENT: 23°C RELATIVE HUMIDITY: 26%

EQUIPMENT ID#: 539, 594, 677, 948R

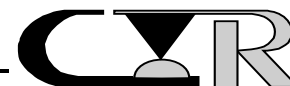
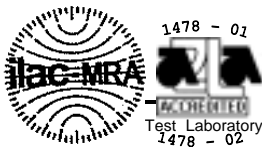
LOW LEVEL CIRCUIT RESISTANCE (LLCR)

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:



PROCEDURE: -continued

2. Test Conditions:

- a) Test Current : 10 milliamps
- b) Open Circuit Voltage : 20 millivolts

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

REQUIREMENTS:

Low level circuit resistance shall be measured and recorded.

RESULTS:

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

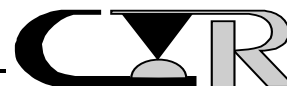
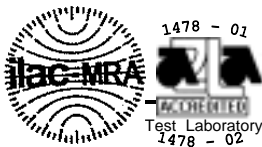
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

<u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
B-A-1	5.5	6.6	5.1
B-A-2	5.3	6.4	4.9
B-A-3*	5.4	6.0	4.7
B-A-4	5.5	6.6	4.7
B-A-5*	5.1	5.4	4.6
B-A-6	5.8	7.7	5.0
B-A-7	5.8	7.7	5.0
B-A-8	5.4	7.1	4.7

2. See data files 20713401 through 20713408 for individual data points.

* An LLCR Open was recorded at position #6 within sample ID# B-A-3 during initial measurements. Analysis by the test sponsor revealed an unsoldered solder joint as the cause of the Open.

An LLCR Open was recorded at position #20 within sample ID# B-A-8 during initial measurements. Test sponsor was unable to visually see under the connector in order to determine the cause of the Open.



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PROJECT NO.: 207134 SPECIFICATION: TC079-1282
VITA 47 Test Plan

PART NO.: See page 4 PART DESCRIPTION: SEAM/SEAF

SAMPLE SIZE: 11 Samples TECHNICIAN: MAG

START DATE: 4/10/07 COMPLETE DATE: 4/10/07

ROOM AMBIENT: 23°C RELATIVE HUMIDITY: 25%

EQUIPMENT ID#: 33, 86, 545, 553, 684, 1028, 1243, 1438, 1439,
1440

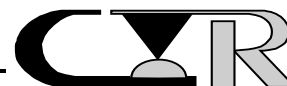
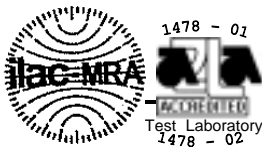
VIBRATION, RANDOM

PURPOSE:

1. To establish the mechanical integrity of the test samples exposed to external mechanical stresses.
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 with the following conditions:
 - a) 5hz to 100hz PSD increasing 3 dB/octave
 - b) 100hz to 1000hz PSD=0.1g²/hz
 - c) 1000hz to 2000hz PSD decreasing at 6 dB/octave
2. Test Conditions:
 - a) G 'RMS' : 12
 - b) Frequency : 5 to 2000 Hz
 - c) Duration : 1.0 hours per axis, 3 axis total
 - d) Monitor : 50 nanoseconds
 - e) Sample size : 8 for LLCR
 - f) Sample Size : 3 separate samples for continuity
3. A stabilizing medium was used such that the mated test samples did not separate during the test.
4. Figure #4 illustrates the test sample fixturing utilized during the test.



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Procedure: -continued

5. All subsequent variable testing was performed in accordance with procedures previously indicated.
6. Prior to the vibration test a pair of contacts were characterized for a 50 nanosecond continuity circuit.
7. Twenty-one pairs of contacts were monitored for 50 nanoseconds per connector, 3 connectors total.

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.
3. Monitor for 50 nanoseconds.

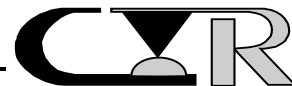
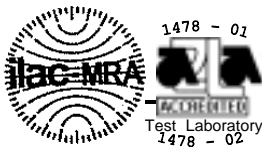
RESULTS:

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

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
B-A-1	-0.5	0.0
B-A-2	0.3	1.4
B-A-3	-0.4	0.3
B-A-4	-0.4	1.9
B-A-5	-0.1	0.5
B-A-6	-0.5	0.5
B-A-7	-0.2	1.0
B-A-8	-0.4	1.4

4. See data files 20713401 through 20713408 for individual data points.

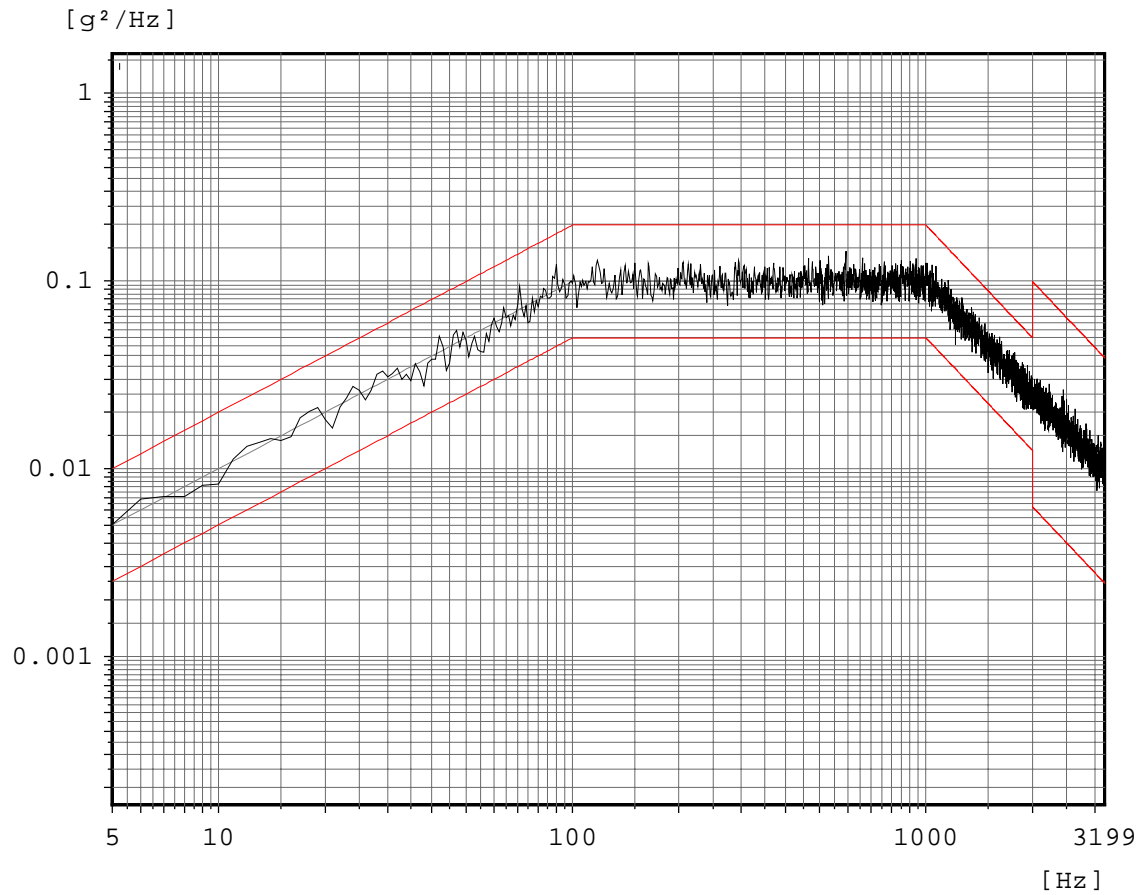


Contech Research

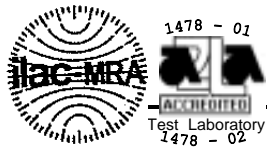
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Random

Channel 5

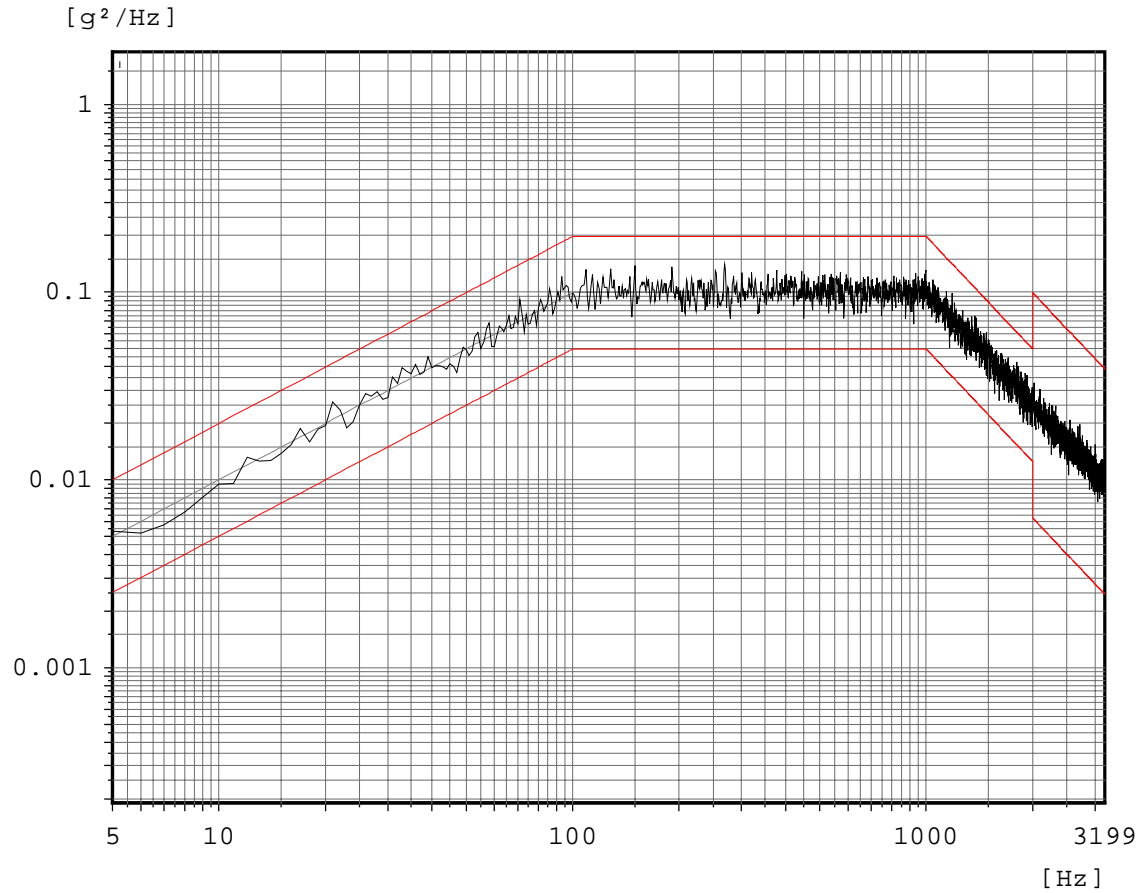


Project# 207134
Samtec
Run 1
Date: 04-12-07
Test Conditions:
5-2000Hz @12.8 Grms
1 Hour/Axis
Tech: MAG

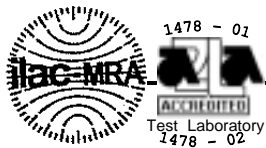


Random

Channel 5

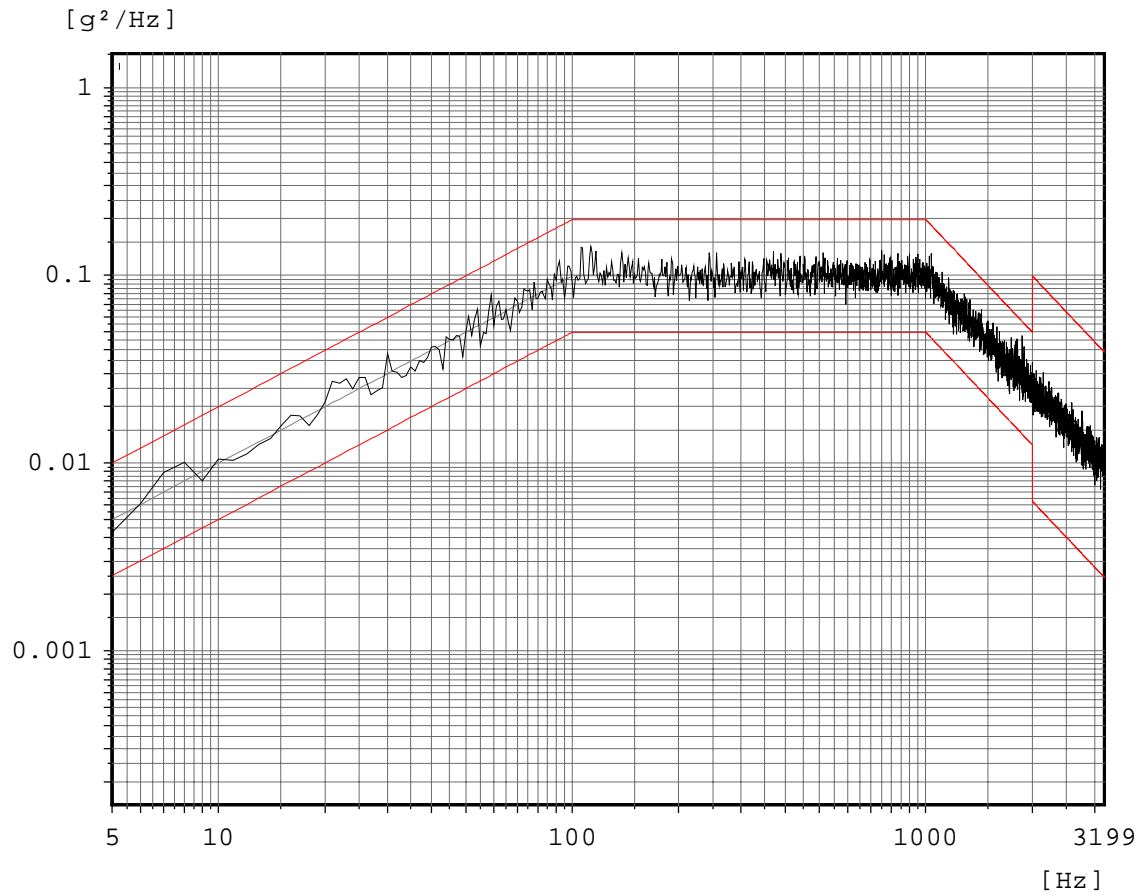


Project# 207134
Samtec
Run 2
Date: 04-12-07
Test Conditions:
5-2000Hz @12.8 Grms
1 Hour/Axis
Tech: MAG

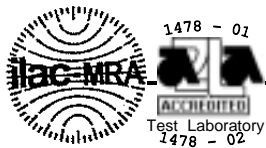


Random

Channel 5



Project# 207134
Samtec
Run 3
Date: 04-13-07
Test Conditions:
5-2000Hz @12.8 Grms
1 Hour/Axis
Tech: MAG



LLCR DATA FILES

DATA FILE NUMBERS

20713401

20713402

20713403

20713404

20713405

20713406

20713407

20713408

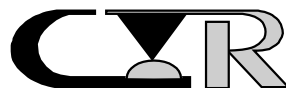
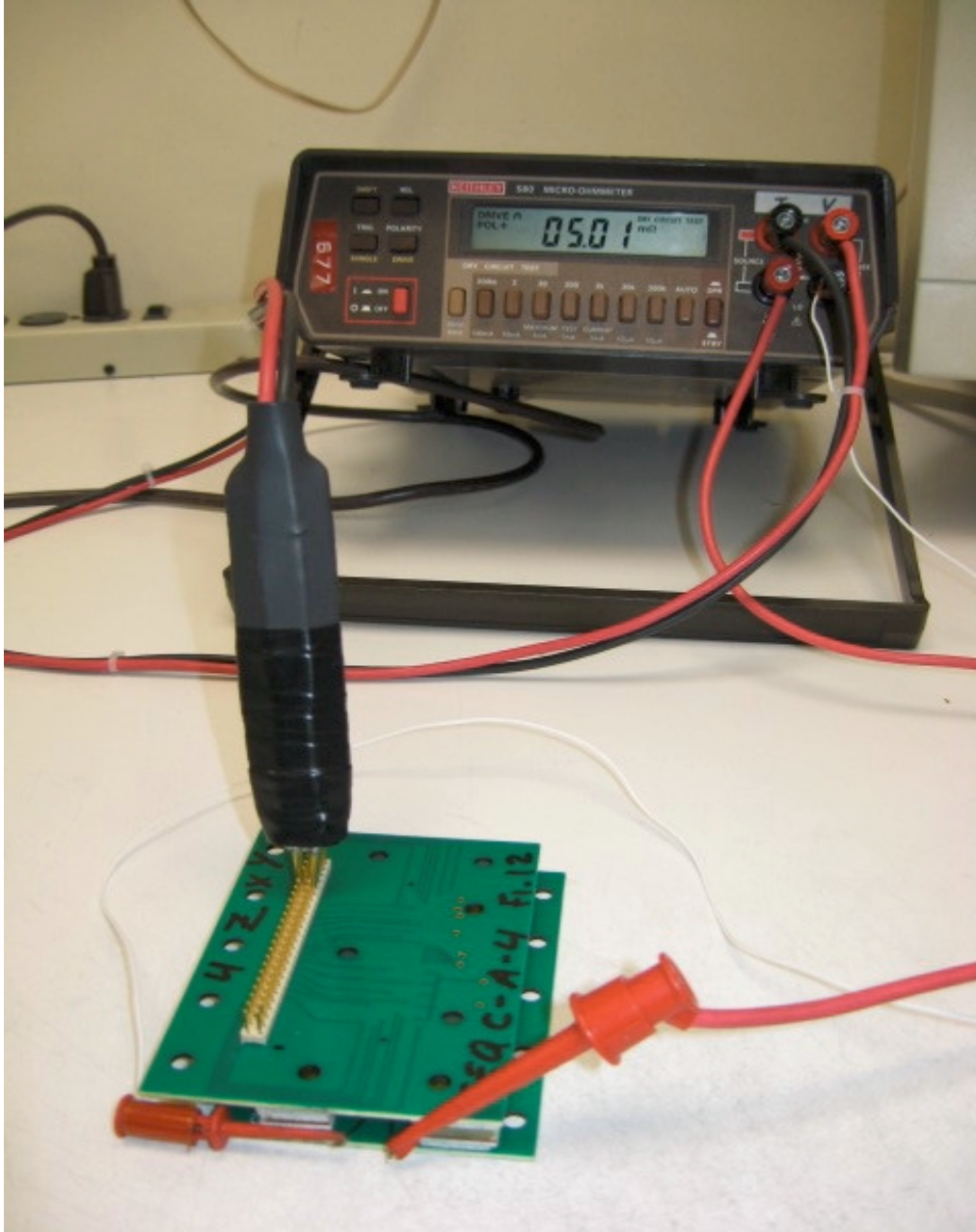
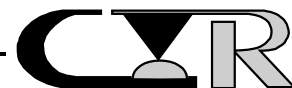


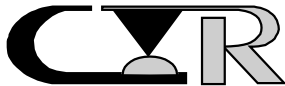
FIGURE #3
TYPICAL LLCR SET UP



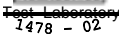
1478 - 01
IB
1478 - 02



Low Level Contact Resistance				
Project: 207134				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq B (ID# B-A-1)
Product: SEAM,SEAF series				File #: 20713401
Description: connector				
Open circuit voltage:	20mv		Current:	10 ma
				Delta values
				units: milliohms
Temp °C	21	23		
R.H. %	26	24		
Date:	30Mar07	11Apr07		
Pos. ID	Initial	Vibe		
1	5.1	0.0		
2	5.5	-0.4		
3	5.5	-0.4		
4	5.2	-0.4		
5	5.7	-0.6		
6	5.2	-0.5		
7	5.1	-0.2		
8	5.5	-0.7		
9	5.5	-0.6		
10	5.6	-0.8		
11	5.5	-0.5		
12	5.2	-0.4		
13	5.4	-0.6		
14	6.6	-1.0		
15	5.5	-0.5		
16	5.3	-0.2		
17	5.4	-0.6		
18	5.2	-0.5		
19	5.4	-0.5		
20	5.5	-0.2		
21	5.4	-0.5		
22	5.9	-0.4		
23	5.5	-0.5		
24	5.3	-0.3		
25	5.4	-0.1		



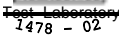
			File #: 20713401
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	24	
Date:	30Mar07	11Apr07	
Pos. ID	Initial	Vibe	
MAX	6.6	0.0	
MIN	5.1	-1.0	
AVG	5.5	-0.5	
STD	0.3	0.2	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



Low Level Contact Resistance				
Project: 207134				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq B (ID# B-A-2)
Product: SEAM,SEAF series				File #: 20713402
Description: connector				
Open circuit voltage:	20mv		Current:	10 ma
			Delta values	
			units: milliohms	
Temp °C	21	23		
R.H. %	26	24		
Date:	30Mar07	11Apr07		
Pos. ID	Initial	Vibe		
1	5.1	0.6		
2	4.9	0.8		
3	5.8	0.1		
4	5.3	-0.1		
5	5.2	-0.1		
6	6.4	-0.6		
7	4.9	1.0		
8	5.3	-0.2		
9	5.1	0.0		
10	5.1	0.2		
11	5.3	-0.3		
12	5.0	0.0		
13	5.0	0.2		
14	5.1	0.5		
15	5.3	0.2		
16	5.2	0.5		
17	4.9	0.2		
18	4.9	0.6		
19	5.3	0.4		
20	5.6	0.5		
21	5.4	0.1		
22	5.8	0.2		
23	5.6	0.1		
24	5.5	0.3		
25	5.2	1.4		



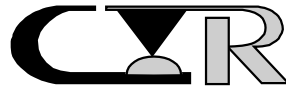
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			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	24	
Date:	30Mar07	11Apr07	
Pos. ID	Initial	Vibe	
MAX	6.4	1.4	
MIN	4.9	-0.6	
AVG	5.3	0.3	
STD	0.4	0.4	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



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Low Level Contact Resistance				
Project: 207134				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq B (ID# B-A-3)
Product: SEAM,SEAF series				File #: 20713403
Description: connector				
Open circuit voltage:	20mv		Current:	10 ma
			Delta values	
			units: milliohms	
Temp °C	21	23		
R.H. %	26	24		
Date:	30Mar07	11Apr07		
Pos. ID	Initial	Vibe		
1	5.1	-0.1		
2	5.0	0.3		
3	5.2	-0.1		
4	5.6	-0.4		
5	5.3	-0.2		
6	Open	Open		
7	4.8	-0.1		
8	5.5	-0.3		
9	5.2	-0.2		
10	5.6	-0.3		
11	5.0	-0.5		
12	4.7	0.0		
13	5.7	-1.0		
14	5.9	-0.9		
15	5.5	-0.6		
16	5.5	-0.9		
17	5.1	-0.6		
18	5.1	-0.3		
19	5.6	-0.7		
20	5.6	0.1		
21	5.8	-0.7		
22	6.0	-0.8		
23	5.7	-0.7		
24	5.7	-0.4		
25	5.6	0.0		



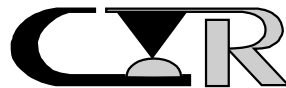
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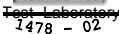
			File #: 20713403
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	24	
Date:	30Mar07	11Apr07	
Pos. ID	Initial	Vibe	
MAX	6.0	0.3	
MIN	4.7	-1.0	
AVG	5.4	-0.4	
STD	0.4	0.3	
Open	1	1	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	

Note:

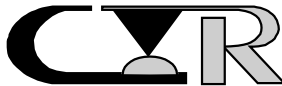
An LLCR Open was recorded at position #6 within sample ID# B-A-3 during initial measurements. Analysis by the test sponsor revealed an unsoldered solder joint as the cause of the Open.



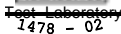
			File #: 20713404
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	24	
Date:	30Mar07	11Apr07	
Pos. ID	Initial	Vibe	
MAX	6.6	1.9	
MIN	4.7	-1.1	
AVG	5.5	-0.4	
STD	0.5	0.6	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



Low Level Contact Resistance				
Project: 207134				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq B (ID# B-A-5)
Product: SEAM,SEAF series				File #: 20713405
Description: connector				
Open circuit voltage:	20mv		Current:	10 ma
			Delta values	
			units: milliohms	
Temp °C	21	23		
R.H. %	26	24		
Date:	30Mar07	11Apr07		
Pos. ID	Initial	Vibe		
1	4.8	0.0		
2	5.1	0.5		
3	5.0	0.1		
4	5.1	-0.2		
5	5.4	-0.2		
6	5.2	-0.3		
7	5.1	0.0		
8	5.0	0.1		
9	5.0	-0.3		
10	5.1	-0.2		
11	5.1	-0.2		
12	4.9	-0.5		
13	4.6	0.2		
14	5.1	-0.1		
15	5.3	-0.6		
16	5.2	-0.5		
17	5.0	-0.3		
18	5.0	0.3		
19	5.1	-0.2		
20	4.8	0.3		
21	5.3	-0.1		
22	5.2	-0.1		
23	5.2	-0.2		
24	5.4	-0.4		
25	5.0	0.2		



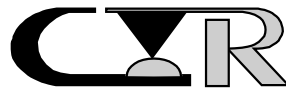
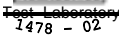
			File #: 20713405
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	24	
Date:	30Mar07	11Apr07	
Pos. ID	Initial	Vibe	
MAX	5.4	0.5	
MIN	4.6	-0.6	
AVG	5.1	-0.1	
STD	0.2	0.3	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



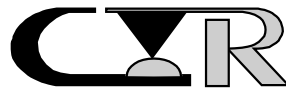
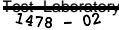
Low Level Contact Resistance				
Project: 207134				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq B (ID# B-A-6)
Product: SEAM,SEAF series				File #: 20713406
Description: connector				
Open circuit voltage:	20mv		Current:	10 ma
			Delta values	
			units: milliohms	
Temp °C	21	23		
R.H. %	26	24		
Date:	30Mar07	11Apr07		
Pos. ID	Initial	Vibe		
1	5.1	0.5		
2	5.5	0.1		
3	5.5	-0.1		
4	5.0	0.0		
5	5.9	-0.5		
6	5.4	-0.4		
7	5.2	0.2		
8	6.1	-0.7		
9	5.7	-0.2		
10	5.9	-0.8		
11	5.1	-0.2		
12	5.5	-0.5		
13	5.3	-0.5		
14	6.2	-0.6		
15	5.0	-0.1		
16	5.5	-0.3		
17	6.6	-1.3		
18	6.3	-1.1		
19	5.6	-0.5		
20	5.9	-0.4		
21	6.0	-0.2		
22	7.7	-2.3		
23	6.9	-1.6		
24	5.5	-0.2		
25	5.8	-0.8		



			File #: 20713406
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	24	
Date:	30Mar07	11Apr07	
Pos. ID	Initial	Vibe	
MAX	7.7	0.5	
MIN	5.0	-2.3	
AVG	5.8	-0.5	
STD	0.6	0.6	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



Low Level Contact Resistance						
Project: 207134					Spec: EIA 364, TP 23	
Customer: Samtec				Subgroup: Seq B (ID# B-A-7)		
Product: SEAM,SEAF series				File #: 20713407		
Description: connector						
Open circuit voltage:	20mv			Current:	10 ma	
				Delta values		
				units: milliohms		
Temp °C	21	23				
R.H. %	26	24				
Date:	30Mar07	11Apr07				
Pos. ID	Initial	Vibe				
1	5.1	1.0				
2	5.3	0.5				
3	5.0	0.1				
4	5.4	0.0				
5	5.4	-0.3				
6	4.9	0.2				
7	4.9	0.2				
8	5.0	0.0				
9	5.1	0.1				
10	5.4	-0.4				
11	5.1	-0.1				
12	4.7	-0.2				
13	7.1	-1.6				
14	5.3	-0.3				
15	5.8	-0.7				
16	6.0	-0.9				
17	5.3	0.0				
18	5.2	-0.5				
19	5.1	-0.3				
20	5.4	-0.2				
21	5.8	-0.3				
22	5.8	-0.4				
23	6.6	-0.7				
24	5.3	0.0				
25	5.2	-0.2				



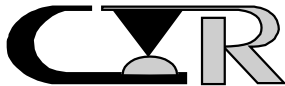
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				File #: 20713407
			Delta values	
			units: milliohms	
Temp °C	21	23		
R.H. %	26	24		
Date:	30Mar07	11Apr07		
Pos. ID	Initial	Vibe		
MAX	7.1	1.0		
MIN	4.7	-1.6		
AVG	5.4	-0.2		
STD	0.5	0.5		
Open	0	0		
Tech	S-R	MAG		
Equip ID	594	539		
	677	948R		



Low Level Contact Resistance				
Project: 207134				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq B (ID# B-A-8)
Product: SEAM,SEAF series				File #: 20713408
Description: connector				
Open circuit voltage:	20mv			Current: 10 ma
Delta values units: milliohms				
Temp °C	21	23		
R.H. %	26	24		
Date:	30Mar07	11Apr07		
Pos. ID	Initial	Vibe		
1	4.6	1.4		
2	5.0	0.3		
3	5.0	0.2		
4	5.3	0.2		
5	5.2	0.5		
6	5.1	0.1		
7	5.0	1.4		
8	4.9	0.1		
9	5.4	-0.2		
10	5.0	0.2		
11	5.2	0.0		
12	5.0	0.1		
13	5.4	-0.2		
14	5.8	-0.4		
15	5.5	-0.1		
16	5.1	0.1		
17	5.2	0.0		
18	4.7	0.1		
19	5.1	0.4		
20	Open	Open		
21	5.4	0.0		
22	5.3	-0.2		
23	5.6	-0.3		
24	5.1	0.1		
25	5.0	0.1		



			File #: 20713408
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	24	
Date:	30Mar07	11Apr07	
Pos. ID	Initial	Vibe	
MAX	5.8	1.4	
MIN	4.6	-0.4	
AVG	5.2	0.2	
STD	0.3	0.4	
Open	1	1	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	

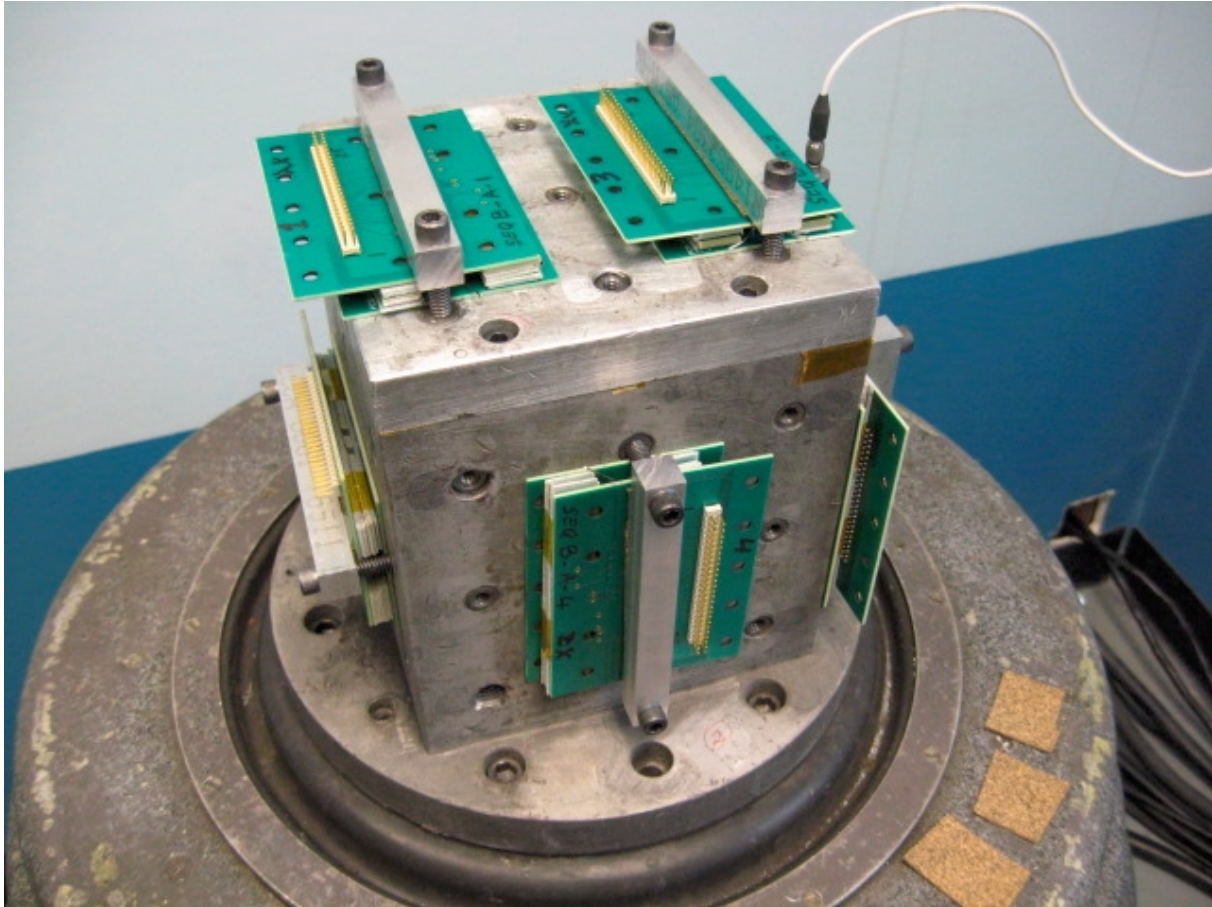
Note:

An LLCR Open was recorded at position #20 within sample ID# B-A-8 during initial measurements. Test sponsor was unable to visually see under the connector in order to determine the cause of the Open.

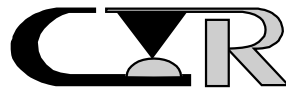


FIGURE #4

MECHANICAL SHOCK/VIBRATION FIXTURE



1478 - 01
1478 - 02



TEST RESULTS

SEQUENCE C



PROJECT NO.: 207134 SPECIFICATION: EIA-364 TP23

PART NO.: See page 4 PART DESCRIPTION: SEAM/SEAF

SAMPLE SIZE: 8 Samples TECHNICIAN: S-R

START DATE: 3/30/07 COMPLETE DATE: 4/10/07

ROOM AMBIENT: 23°C RELATIVE HUMIDITY: 26%

EQUIPMENT ID#: 539, 594, 677, 948R

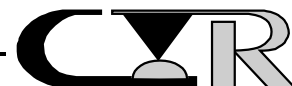
LOW LEVEL CIRCUIT RESISTANCE (LLCR)

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



PROCEDURE: -continued

3. The points of application are shown in Figure #2.

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	5.3	6.6	4.8
C-A-2	5.4	6.2	4.8
C-A-3	5.6	6.4	5.1
C-A-4	5.4	6.4	4.9
C-A-5	5.4	6.1	4.8
C-A-6	5.5	6.2	4.9
C-A-7	5.5	6.2	4.9
C-A-8	5.5	7.3	4.9

2. See data files 20713409 through 20713416 for individual data points.



PROJECT NO.: 207134

SPECIFICATION: TC079-1282
VITA 47 Test Plan

PART NO.: See page 4

PART DESCRIPTION: SEAM/SEAF

SAMPLE SIZE: 11 Samples

TECHNICIAN: MAG

START DATE: 4/9/07

COMPLETE DATE: 4/9/07

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 26%

EQUIPMENT ID#: 553, 545, 1028, 1121, 1166, 1167, 1168, 1169,
1271, 1272

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.
2. Test Conditions:
 - a) Peak Value : 40 G
 - b) Duration : 11 Milliseconds
 - c) Wave Form : Half Sine
 - d) Velocity : 12.3 feet per second
 - e) No. of Shocks : 3 Shocks/Direction, 3 Axis (18 Total)
 - f) Monitor : 50 nanoseconds
 - g) Sample size : 8 for LLCR
 - h) Sample Size : 3 separate samples for continuity
3. Figure #4 illustrates the test sample fixturing utilized during the test.
4. All subsequent variable testing was performed in accordance with the procedures previously indicated.
5. Prior to the vibration test a pair of contacts were characterized for a 50 nanosecond continuity circuit.
6. Twenty-one pairs of contacts were monitored for 50 nanoseconds per connector, 3 connectors total.



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.
3. Monitor for 50 nanoseconds.

RESULTS:

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

CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
(Milliohms)

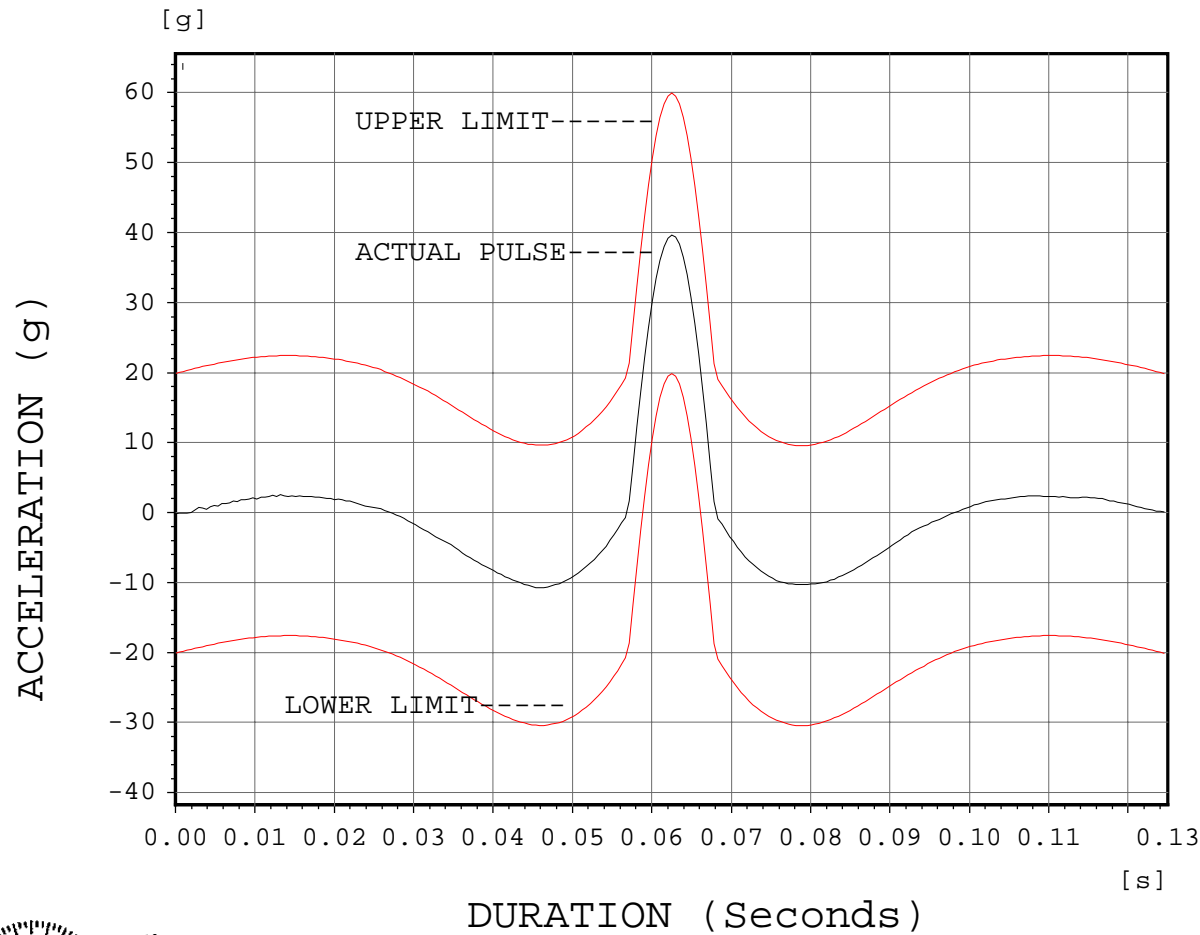
<u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
C-A-1	-0.4	0.1
C-A-2	-0.5	0.0
C-A-3	-0.5	-0.1
C-A-4	-0.5	0.0
C-A-5	-0.4	0.0
C-A-6	-0.5	0.4
C-A-7	-0.5	0.0
C-A-8	0.0	0.7

4. See data files 20713409 through 20713416 for individual data points.
5. The Mechanical Shock characteristics are shown in Figures #5 (Calibration Pulse) and #6 (Test Pulse). Each figure displays the shock pulse contained within the upper and lower limits as defined by the appropriate test specification.

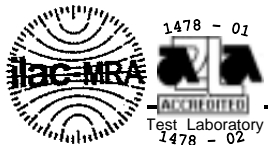


Classical Shock

Channel 5

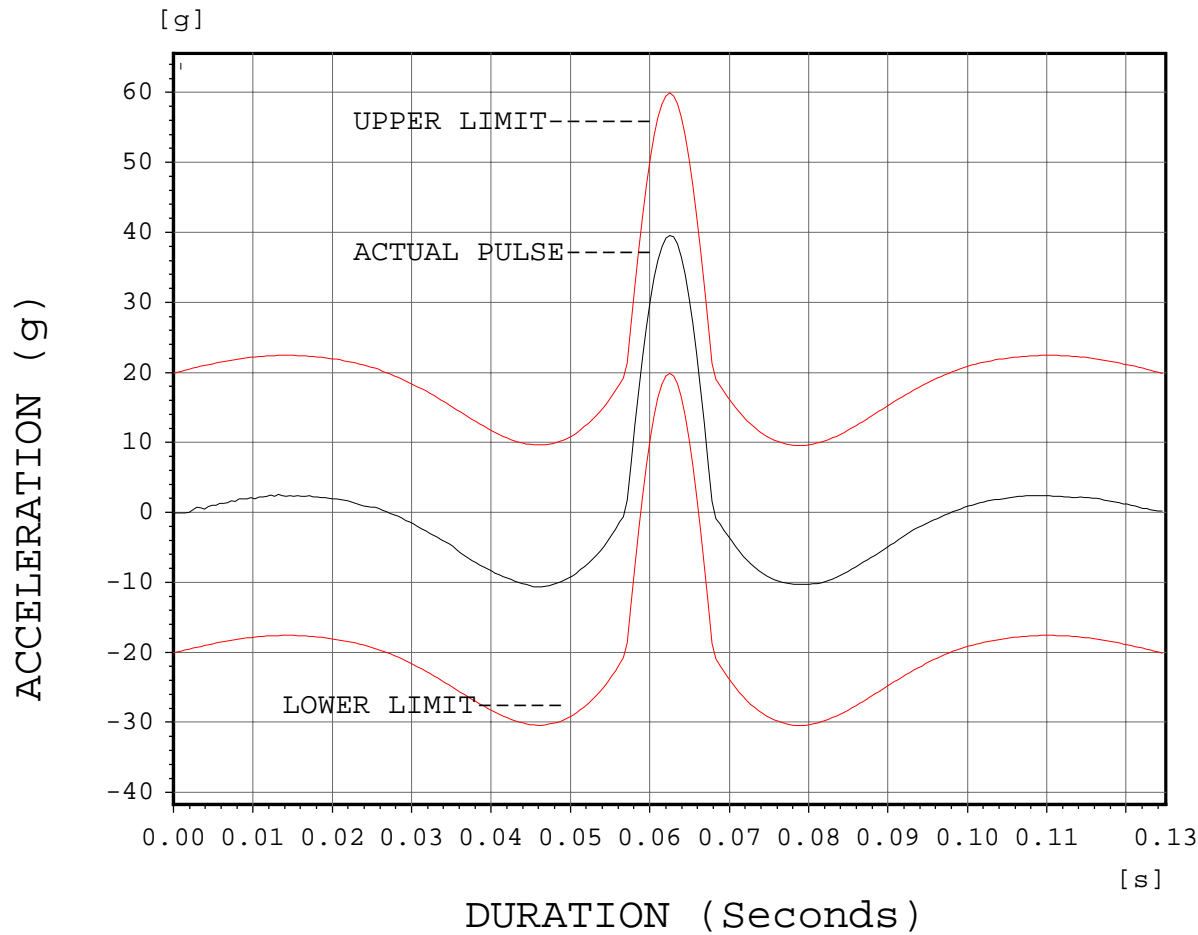


Project 207134
40G's 11ms
Halfsine
Cal Wave 1
04-13-07
Tech:RT

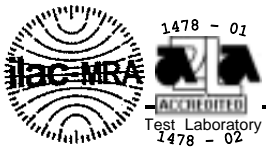


Classical Shock

Channel 5



Project 207134
40G's 11ms
Halfsine
Actual Wave 1
04-13-07
Tech:RT



LLCR DATA FILES

DATA FILE NUMBERS

20713409

20713410

20713411

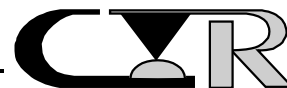
20713412

20713413

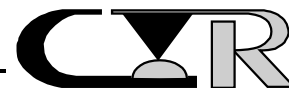
20713414

20713415

20713416



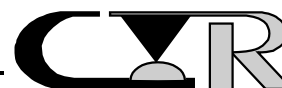
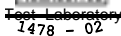
Low Level Contact Resistance				
Project: 207134				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq C (ID# C-A-1)
Product: SEAM,SEAF series				File #: 20713409
Description: connector				
Open circuit voltage:	20mv		Current:	10 ma
			Delta values	
			units: milliohms	
Temp °C	21	23		
R.H. %	26	25		
Date:	30Mar07	10Apr07		
Pos. ID	Initial	M Shk		
1	4.8	-0.2		
2	5.4	-0.5		
3	6.6	-1.4		
4	5.2	-0.4		
5	5.3	-0.4		
6	5.0	-0.1		
7	4.9	-0.3		
8	4.9	-0.3		
9	5.4	-0.7		
10	5.2	-0.6		
11	5.5	-0.8		
12	5.1	-0.6		
13	5.0	-0.3		
14	5.2	-0.4		
15	5.5	-0.8		
16	5.3	-0.5		
17	4.9	-0.4		
18	4.9	-0.3		
19	5.3	-0.6		
20	5.7	-0.3		
21	5.5	-0.3		
22	5.3	-0.2		
23	5.5	-0.4		
24	5.0	-0.2		
25	4.8	0.1		



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			File #: 20713409
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	25	
Date:	30Mar07	10Apr07	
Pos. ID	Initial	M Shk	
MAX	6.6	0.1	
MIN	4.8	-1.4	
AVG	5.3	-0.4	
STD	0.4	0.3	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



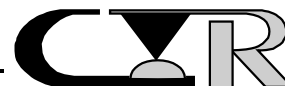
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Low Level Contact Resistance				
Project: 207134		Spec: EIA 364, TP 23		
Customer: Samtec		Subgroup: Seq C (ID# C-A-2)		
Product: SEAM,SEAF series		File #: 207134010		
Description: connector				
Open circuit voltage:		20mv	Current:	10 ma
Delta values				
units: milliohms				
Temp °C	21	23		
R.H. %	26	25		
Date:	30Mar07	10Apr07		
Pos. ID	Initial	M Shk		
1	4.9	0.0		
2	5.7	-0.4		
3	5.0	-0.3		
4	5.2	-0.6		
5	5.1	-0.3		
6	5.4	-0.4		
7	5.3	-0.2		
8	5.2	-0.4		
9	5.1	-0.4		
10	5.1	-0.4		
11	5.1	-0.5		
12	4.8	-0.3		
13	5.0	-0.6		
14	5.1	-0.4		
15	5.4	-0.6		
16	5.4	-0.6		
17	6.0	-1.2		
18	5.1	-0.5		
19	5.5	-0.4		
20	5.6	-0.8		
21	6.2	-1.1		
22	5.5	-0.6		
23	5.7	-0.7		
24	6.2	-0.9		
25	5.5	-0.6		



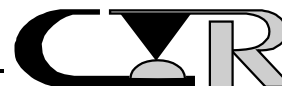
			File #: 207134010
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	25	
Date:	30Mar07	10Apr07	
Pos. ID	Initial	M Shk	
MAX	6.2	0.0	
MIN	4.8	-1.2	
AVG	5.4	-0.5	
STD	0.4	0.3	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



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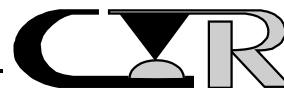
Low Level Contact Resistance				
Project: 207134		Spec: EIA 364, TP 23		
Customer: Samtec		Subgroup: Seq C (ID# C-A-3)		
Product: SEAM,SEAF series		File #: 207134011		
Description: connector				
Open circuit voltage:		20mv	Current:	10 ma
Delta values				
units: milliohms				
Temp °C	21	23		
R.H. %	26	25		
Date:	30Mar07	10Apr07		
Pos. ID	Initial	M Shk		
1	5.6	-0.4		
2	5.5	-0.5		
3	5.8	-0.5		
4	5.4	-0.5		
5	5.3	-0.3		
6	5.6	-0.6		
7	5.6	-0.5		
8	5.6	-0.8		
9	5.2	-0.4		
10	5.6	-0.8		
11	5.3	-0.6		
12	5.3	-0.6		
13	5.3	-0.4		
14	5.1	-0.2		
15	6.1	-1.0		
16	5.7	-0.5		
17	5.4	-0.1		
18	5.3	-0.6		
19	5.9	-0.7		
20	6.4	-0.7		
21	6.3	-0.9		
22	5.4	-0.3		
23	5.9	-0.2		
24	5.5	-0.2		
25	5.7	-0.6		



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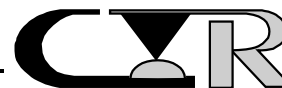
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			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	25	
Date:	30Mar07	10Apr07	
Pos. ID	Initial	M Shk	
MAX	6.4	-0.1	
MIN	5.1	-1.0	
AVG	5.6	-0.5	
STD	0.3	0.2	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



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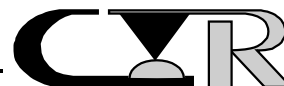
Low Level Contact Resistance				
Project: 207134		Spec: EIA 364, TP 23		
Customer: Samtec		Subgroup: Seq C (ID# C-A-4)		
Product: SEAM,SEAF series		File #: 207134012		
Description: connector				
Open circuit voltage:		20mv	Current:	10 ma
Delta values units: milliohms				
Temp °C	21	23		
R.H. %	26	25		
Date:	30Mar07	10Apr07		
Pos. ID	Initial	M Shk		
1	5.0	-0.2		
2	5.3	-0.2		
3	5.4	-0.7		
4	5.6	-0.6		
5	6.4	-1.1		
6	5.4	-0.5		
7	5.0	-0.2		
8	5.3	-0.5		
9	5.3	-0.6		
10	5.3	-0.8		
11	6.0	-0.9		
12	4.9	-0.4		
13	5.1	-0.2		
14	5.5	-0.5		
15	5.6	-0.7		
16	5.1	-0.3		
17	5.0	-0.4		
18	4.9	-0.4		
19	5.2	-0.2		
20	5.1	0.0		
21	5.2	-0.3		
22	5.9	-0.7		
23	5.6	0.0		
24	5.2	-0.4		
25	5.4	-0.5		



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			File #: 207134012
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	25	
Date:	30Mar07	10Apr07	
Pos. ID	Initial	M Shk	
MAX	6.4	0.0	
MIN	4.9	-1.1	
AVG	5.4	-0.5	
STD	0.4	0.3	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



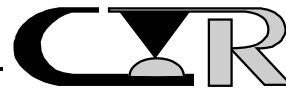
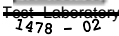
Low Level Contact Resistance					
Project: 207134			Spec: EIA 364, TP 23		
Customer: Samtec			Subgroup: Seq C (ID# C-A-5)		
Product: SEAM,SEAF series			File #: 207134013		
Description: connector					
Open circuit voltage:		20mv		Current: 10 ma	
Delta values					
units: milliohms					
Temp °C	21		23		
R.H. %	26		25		
Date:	30Mar07		10Apr07		
Pos. ID	Initial		M Shk		
1	4.9		0.0		
2	5.6		-0.3		
3	5.2		-0.1		
4	4.8		-0.1		
5	5.2		-0.5		
6	5.5		0.0		
7	5.3		0.0		
8	5.5		-0.7		
9	5.5		-0.5		
10	5.2		-0.3		
11	5.2		-0.5		
12	5.5		-0.7		
13	5.1		-0.6		
14	5.9		-0.8		
15	5.3		-0.5		
16	5.2		-0.4		
17	5.1		-0.3		
18	5.2		-0.5		
19	5.6		-0.8		
20	5.5		-0.2		
21	5.7		-0.5		
22	5.9		-0.7		
23	6.1		-0.9		
24	5.5		-0.5		
25	6.1		-0.5		



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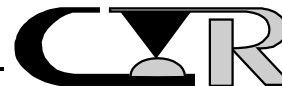
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			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	25	
Date:	30Mar07	10Apr07	
Pos. ID	Initial	M Shk	
MAX	6.1	0.0	
MIN	4.8	-0.9	
AVG	5.4	-0.4	
STD	0.3	0.3	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



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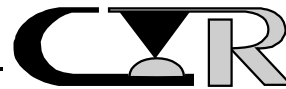
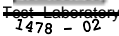
Low Level Contact Resistance				
Project: 207134		Spec: EIA 364, TP 23		
Customer: Samtec		Subgroup: Seq C (ID# C-A-6)		
Product: SEAM,SEAF series		File #: 207134014		
Description: connector				
Open circuit voltage:		20mv	Current: 10 ma	
Delta values units: milliohms				
Temp °C	21	23		
R.H. %	26	25		
Date:	30Mar07	10Apr07		
Pos. ID	Initial	M Shk		
1	5.5	-0.5		
2	5.3	0.4		
3	5.8	-0.7		
4	5.4	-0.6		
5	6.0	-0.8		
6	5.3	-0.3		
7	5.4	-0.4		
8	5.8	-0.8		
9	5.9	-0.9		
10	5.6	-0.7		
11	5.3	-0.3		
12	5.0	-0.3		
13	5.5	-0.5		
14	5.9	-0.9		
15	6.1	-0.7		
16	5.4	-0.6		
17	5.5	-0.5		
18	4.9	-0.2		
19	5.3	-0.3		
20	5.6	-0.3		
21	6.2	-0.9		
22	5.8	-0.6		
23	5.8	-0.6		
24	5.1	-0.2		
25	5.2	-0.2		



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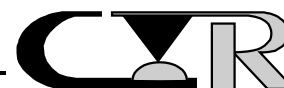
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			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	25	
Date:	30Mar07	10Apr07	
Pos. ID	Initial	M Shk	
MAX	6.2	0.4	
MIN	4.9	-0.9	
AVG	5.5	-0.5	
STD	0.3	0.3	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



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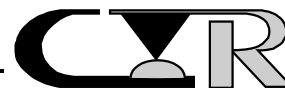
Low Level Contact Resistance				
Project: 207134				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq C (ID# C-A-7)
Product: SEAM,SEAF series				File #: 207134015
Description: connector				
Open circuit voltage:	20mv		Current:	10 ma
			Delta values	
			units: milliohms	
Temp °C	21	23		
R.H. %	26	25		
Date:	30Mar07	10Apr07		
Pos. ID	Initial	M Shk		
1	5.4	-0.2		
2	6.2	-0.3		
3	5.3	-0.4		
4	5.6	-0.6		
5	6.2	0.0		
6	5.1	0.0		
7	5.8	-0.6		
8	6.1	-0.8		
9	5.2	-0.3		
10	5.2	-0.4		
11	5.4	-0.7		
12	4.9	-0.4		
13	5.0	-0.3		
14	5.8	-0.8		
15	5.6	-0.7		
16	5.2	-0.4		
17	5.6	-0.6		
18	5.1	-0.5		
19	5.6	-0.5		
20	5.7	-0.5		
21	5.7	-0.6		
22	5.4	-0.4		
23	5.8	-0.4		
24	5.5	-0.6		
25	5.7	-0.4		



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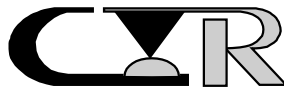
			File #: 207134015
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	25	
Date:	30Mar07	10Apr07	
Pos. ID	Initial	M Shk	
MAX	6.2	0.0	
MIN	4.9	-0.8	
AVG	5.5	-0.5	
STD	0.4	0.2	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



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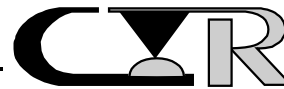
Low Level Contact Resistance				
Project: 207134				Spec: EIA 364, TP 23
Customer: Samtec				Subgroup: Seq C (ID# C-A-8)
Product: SEAM,SEAF series				File #: 207134016
Description: connector				
Open circuit voltage:	20mv		Current:	10 ma
			Delta values	
			units: milliohms	
Temp °C	21	23		
R.H. %	26	25		
Date:	30Mar07	10Apr07		
Pos. ID	Intial	M Shk		
1	5.2	0.3		
2	5.1	0.7		
3	5.8	0.2		
4	5.5	0.3		
5	5.7	0.1		
6	7.3	-2.0		
7	5.1	0.7		
8	4.9	0.4		
9	5.3	0.1		
10	5.5	0.0		
11	4.9	0.3		
12	5.2	0.0		
13	4.9	0.0		
14	5.0	0.3		
15	5.2	0.3		
16	5.4	0.2		
17	5.6	0.4		
18	5.1	0.2		
19	5.5	-0.2		
20	6.6	-0.3		
21	7.1	-1.5		
22	5.9	-0.2		
23	5.5	0.3		
24	5.3	0.4		
25	5.3	0.2		



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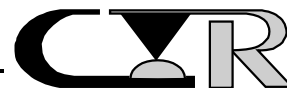
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			File #: 207134016
			Delta values
			units: milliohms
Temp °C	21	23	
R.H. %	26	25	
Date:	30Mar07	10Apr07	
Pos. ID	Intial	M Shk	
MAX	7.3	0.7	
MIN	4.9	-2.0	
AVG	5.5	0.0	
STD	0.6	0.6	
Open	0	0	
Tech	S-R	MAG	
Equip ID	594	539	
	677	948R	



TEST RESULTS

SEQUENCE E



PROJECT NO.: 207036 SPECIFICATION: TC079-1282
VITA 47 Test Plan

PART NO.: See page 4 PART DESCRIPTION: SEAM/SEAF

SAMPLE SIZE: 8 Samples TECHNICIAN: S-R

START DATE: 4/4/07 COMPLETE DATE: 4/4/07

ROOM AMBIENT: 23°C RELATIVE HUMIDITY: 30%

EQUIPMENT ID#: 321, 466, 1457

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:

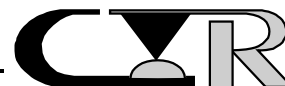
1. The test was performed in accordance with EIA 364, Test Procedure 21.
2. Test Conditions:
 - a) Between Adjacent Contacts : Yes
 - b) Between Rows : Yes
 - c) Mated Condition : Mated
 - d) Mounting Condition : Mounted
 - e) Electrification Time : 2.0 Minutes
 - f) Test Voltage : 500 VDC
3. The test voltage was applied to designated test points on the board.

REQUIREMENTS:

When the specified test voltage is applied, the insulation resistance shall not be less than 1,000 megohms.

RESULTS:

The insulation resistance exceeded 50,000 megohms.



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PROJECT NO.: 207134

SPECIFICATION: TC079-1282

VITA 47 Test Plan

PART NO.: See page 4

PART DESCRIPTION: SEAM/SEAF

SAMPLE SIZE: 8 Samples

TECHNICIAN: S-R

START DATE: 4/4/07

COMPLETE DATE: 4/4/07

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 30%

EQUIPMENT ID#: 321

DIELECTRIC WITHSTANDING VOLTAGE (SEA LEVEL)

PURPOSE:

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

PROCEDURE:

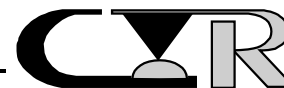
1. The test was performed in accordance with EIA 364, Test Procedure 20.
2. Test Conditions:
 - a) Between Adjacent Contacts : Yes
 - b) Between Rows : Yes
 - c) Mated Condition : Mated
 - d) Mounting Condition : Mounted
 - e) Hold Time : 60 Seconds
 - f) Rate of Application : 500 volts/sec.
 - g) Test Voltage : 900 VAC
3. The voltage was applied to specific test points on the board.

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.



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PROJECT NO.: 207036

SPECIFICATION: TC079-1282

VITA 47 Test Plan

PART NO.: See page 4

PART DESCRIPTION: SEAM/SEAF

SAMPLE SIZE: 8 Samples

TECHNICIAN: S-R

START DATE: 4/4/07

COMPLETE DATE: 4/4/07

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 30%

EQUIPMENT ID#: 321, 466, 1457

INSULATION RESISTANCE(IR) ALTITUDE

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 at high altitude.

PROCEDURE:

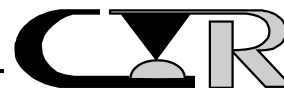
1. The test was performed in accordance with EIA 364, Test Procedure 21.
2. Test Conditions:
 - a) Between Adjacent Contacts : Yes
 - b) Between Rows : Yes
 - c) Mated Condition : Mated
 - d) Mounting Condition : Mounted
 - e) Electrification Time : 2.0 Minutes
 - f) Test Voltage : 500 VDC
 - g) Altitude : 60,000ft above sea level
3. The test voltage was applied to designated test points on the board.

REQUIREMENTS:

When the specified test voltage is applied, the insulation resistance shall not be less than 1,000 megohms.

RESULTS:

The insulation resistance exceeded 50,000 megohms.



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PROJECT NO.: 207134

SPECIFICATION: TC079-1282
VITA 47 Test Plan

PART NO.: See page 4

PART DESCRIPTION: SEAM/SEAF

SAMPLE SIZE: 8 Samples

TECHNICIAN: S-R

START DATE: 4/4/07

COMPLETE DATE: 4/4/07

ROOM AMBIENT: 23°C

RELATIVE HUMIDITY: 30%

EQUIPMENT ID#: 321

DIELECTRIC WITHSTANDING VOLTAGE (DWV) ALTITUDE

PURPOSE:

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

PROCEDURE:

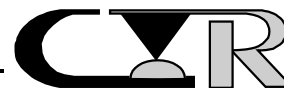
1. The test was performed in accordance with EIA 364, Test Procedure 20.
2. Test Conditions:
 - a) Between Adjacent Contacts : Yes
 - b) Between Rows : Yes
 - c) Mated Condition : Mated
 - d) Mounting Condition : Mounted
 - e) Hold Time : 60 Seconds
 - f) Rate of Application : 100 volts/sec.
 - g) Test Voltage : 230 VAC
 - h) Altitude : 60,000ft above sea level
3. The voltage was applied to specific test points on the board.

REQUIREMENTS:

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

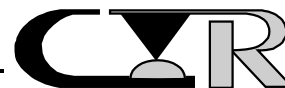
RESULTS:

All test samples as tested met the requirements as specified.



TEST RESULTS

SEQUENCE F



Test ESD

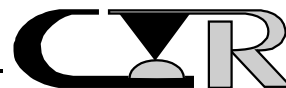
Project No.	207134	Gp.No.	F	Tech.	Owen Gallagher	Eng.	Dom
Customer	Samtec		Spec.	EN61000-4-2		Par.No.	
Date Started	4/12/07	Date Completed	4/12/07	Temp.(°C)	N/A	R.H.(%)	N/A
MIL-STD-202		MIL-STD-1344		US CAR PF1		EIA 364	
Method or TP			Other	X			
Samples Tested (ID No.)	F-A-1			File Name			
Equipment ID	OUTSIDE TESTING – Calibration Certificate # 433142						
Mated	X	Unmated		Mounted	X	Unmounted	

DESCRIPTION:

Step 1. ESD voltage level 5KV,10KV, 15KV repeat 10 times
Step 2. ESD application 250 times and then reexamined
Step 3. ESD application for a two minute duration

REQUIREMENTS:

Step 1. No damage was found
Step 2. No damage was found
Step 3. No damage was found



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