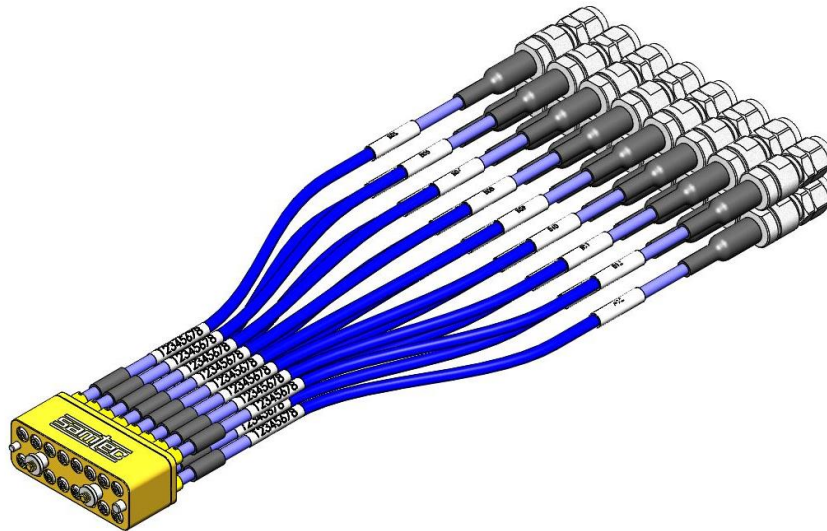




Project Number: Design Qualification Test Report	Tracking Code: 2499640_Report_Rev_2
Requested by: Alvin Wang	Date: 10/22/2020
Part #: BE70A-S-18SP-N-2-08-0152	
Part description: BE70A	Tech: Keney Chen
Test Start: 05/21/2020	Test Completed: 08/30/2020



DESIGN QUALIFICATION TEST REPORT

BE70A
BE70A-S-18SP-N-2-08-0152

Tracking Code: 2499640_Report_Rev_2	Part #: BE70A-S-18SP-N-2-08-0152
Part description: BE70A	

REVISION HISTORY

DATA	REV.NUM.	DESCRIPTION	ENG
9/4/2020	1	Initial Issue	KC
10/22/2020	2	Update the part number to BE70A-S-18SP-N-2-08-0152	KH

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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SCOPE

To perform the following tests: Design Qualification test. Please see test plan.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364

TEST SAMPLES AND PREPARATION

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 4) The automated procedure is used with aqueous compatible soldering materials.
- 5) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
- 6) Any additional preparation will be noted in the individual test sequences.
- 7) Solder Information: Lead free
- 8) Samtec Test PCBs used: PCB-10920-TST.

FLOWCHARTS**Thermal Aging**Group 1

BE70B-J-S-2-08

BE70C-S-XXXX-N-01-0152

2 Assemblies

Step Description**1. Contact Gaps***Note: Inspect distance: tip of pogo pin to shell.***2. LLCR ⁽¹⁾***Note: Signal and ground.***3. Thermal Age ⁽³⁾****4. LLCR ⁽¹⁾**

Max Delta = 15 mOhm

*Note: Signal and ground.***5. Contact Gaps***Note: Inspect distance: tip of pogo pin to shell.*Group 2

BE40C-SPR-N

Assemblies

Step Description**1. Mating/Unmating Force ⁽²⁾***Note:**Spring Force:**Press 0.47inch (distance) of spring and then check the spring force.***2. Thermal Age ⁽³⁾****3. Mating/Unmating Force ⁽²⁾***Note:**Spring Force:**Press 0.47inch (distance) of spring and then check the spring force.*

(1) LLCR = EIA-364-23

Open Circuit Voltage = 20 mV Max

Test Current = 100 mA Max

(2) Mating/Unmating Force = EIA-364-13

(3) Thermal Age = EIA-364-17

Test Condition = 4 (105°C)

Time Condition = B (250 Hours)

FLOWCHARTS Continued**Mating/Unmating/Durability**

Note:

a. No cleaning of board or probe between cycles.

b. No changing of board between cycles.

Group 1

BE70B-J-S-2-08
BE70C-S-XXXX-N-01-0152
2 Assemblies

Note: Four cables each housing.

Step	Description
1.	Mating/Unmating Force (a)
2.	Cycles Quantity = 100 Cycles Note: 100 Cycles.
3.	Mating/Unmating Force (a)
4.	Cycles Quantity = 100 Cycles Note: 200 Cycles.
5.	Mating/Unmating Force (a)
6.	Cycles Quantity = 100 Cycles Note: 300 Cycles.
7.	Mating/Unmating Force (a)
8.	Cycles Quantity = 100 Cycles Note: 400 Cycles.
9.	Mating/Unmating Force (a)
10.	Cycles Quantity = 100 Cycles Note: 500 Cycles.
11.	Mating/Unmating Force (a)
12.	Cycles Quantity = 100 Cycles Note: 600 Cycles.
13.	Mating/Unmating Force (a)
14.	Cycles Quantity = 100 Cycles

Group 2

BE70B-J-S-2-08
BE70C-S-XXXX-N-01-0152
2 Assemblies

Note: Four cables each housing.

Step	Description
1.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
2.	Cycles Quantity = 100 Cycles Note: 100 Cycles.
3.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
4.	Cycles Quantity = 100 Cycles Note: 200 Cycles.
5.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
6.	Cycles Quantity = 100 Cycles Note: 300 Cycles.
7.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
8.	Cycles Quantity = 100 Cycles Note: 400 Cycles.
9.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
10.	Cycles

Group 3

BE70B-J-S-2-08
BE70C-S-XXXX-N-01-0152
2 Assemblies

Note: Four cables each housing.

Step	Description
1.	Contact Gaps Note: Inspect distance: tip of pogo pin to shell.
2.	LLCR (a) Note: Note: Signal and ground.
3.	Cycles Quantity = 100 Cycles Note: 100 Cycles.
4.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
5.	Cycles Quantity = 100 Cycles Note: 200 Cycles.
6.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
7.	Cycles Quantity = 100 Cycles Note: 300 Cycles.
8.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
9.	Cycles Quantity = 100 Cycles Note: 400 Cycles.
10.	Contact Gaps

Group 4

BE70B-J-S-2-08
BE70C-S-XXXX-N-01-0152
2 Assemblies

Note: Four cables each housing.

Step	Description
1.	Contact Gaps Note: Inspect distance: tip of pogo pin to shell.
2.	LLCR (a) Note: Signal and ground.
3.	Cycles Quantity = 100 Cycles Note: 100 Cycles.
4.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
5.	Cycles Quantity = 100 Cycles Note: 200 Cycles.
6.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
7.	Cycles Quantity = 100 Cycles Note: 300 Cycles.
8.	Contact Gaps Note: Review distance: tip of pogo pin to shell.
9.	Cycles Quantity = 100 Cycles Note: 400 Cycles.
10.	Contact Gaps

FLOWCHARTS Continued

15. Mating/Unmating Force (3)
Note: 700 Cycles.
16. Cycles
Quantity = 100 Cycles
Note: 800 Cycles.
17. Mating/Unmating Force (3)
18. Cycles
Quantity = 100 Cycles
Note: 900 Cycles.
19. Mating/Unmating Force (3)
20. Cycles
Quantity = 100 Cycles
Note: 1000 Cycles.
21. Mating/Unmating Force (3)

11. Contact Gaps
Quantity = 100 Cycles
Note: 500 Cycles.
Note: Review distance: tip of pogo pin to shell.
12. Cycles
Quantity = 100 Cycles
Note: 600 Cycles.
13. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
14. Cycles
Quantity = 100 Cycles
Note: 700 Cycles.
15. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
16. Cycles
Quantity = 100 Cycles
Note: 800 Cycles.
17. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
18. Cycles
Quantity = 100 Cycles
Note: 900 Cycles.
19. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
20. Cycles
Quantity = 100 Cycles
Note: 1000 Cycles.
21. Contact Gaps
Note: Review distance: tip of pogo pin to shell.

11. Cycles
Quantity = 100 Cycles
Note: 500 Cycles.
12. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
13. Cycles
Quantity = 100 Cycles
Note: 600 Cycles.
14. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
15. Cycles
Quantity = 100 Cycles
Note: 700 Cycles.
16. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
17. Cycles
Quantity = 100 Cycles
Note: 800 Cycles.
18. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
19. Cycles
Quantity = 100 Cycles
Note: 900 Cycles.
20. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
21. Cycles
Quantity = 100 Cycles
Note: 1000 Cycles.
22. Contact Gaps
Note: Inspect distance: tip of pogo pin to shell.
23. LLCR (2)
Max Delta = 15 mOhm
Note: Signal and ground.
24. Thermal Shock (4)
25. Contact Gaps

11. Cycles
Quantity = 100 Cycles
Note: 500 Cycles.
12. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
13. Cycles
Quantity = 100 Cycles
Note: 600 Cycles.
14. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
15. Cycles
Quantity = 100 Cycles
Note: 700 Cycles.
16. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
17. Cycles
Quantity = 100 Cycles
Note: 800 Cycles.
18. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
19. Cycles
Quantity = 100 Cycles
Note: 900 Cycles.
20. Contact Gaps
Note: Review distance: tip of pogo pin to shell.
21. Cycles
Quantity = 100 Cycles
Note: 1000 Cycles.
22. Contact Gaps
Note: Inspect distance: tip of pogo pin to shell.
23. LLCR (2)
Max Delta = 15 mOhm
Note: Signal and ground.
24. Cycles
Quantity = 4000 Cycles
Note: 5000 cycles

- Note: Inspect distance: tip of pogo pin to shell.
26. LLCR (2)
Max Delta = 15 mOhm
Note: Signal and ground.
27. Humidity (1)
28. Contact Gaps
Note: Inspect distance: tip of pogo pin to shell.
29. LLCR (2)
Max Delta = 15 mOhm
Note: Signal and ground.

- (1) Humidity = EIA-364-31
Test Condition = B (240 Hours)
Test Method = III (+25°C to +65°C @ 90% RH to 98% RH)
Test Exceptions: ambient pre-condition and delete steps 7a and 7b
- (2) LLCR = EIA-364-23
Open Circuit Voltage = 20 mV Max
Test Current = 100 mA Max
- (3) Mating/Unmating Force = EIA-364-13
- (4) Thermal Shock = EIA-364-32
Exposure Time at Temperature Extremes = 1/2 Hour
Method A, Test Condition = I (-55°C to +85°C)
Test Duration = A-3 (100 Cycles)

FLOWCHARTS Continued

IR/DWV**Signal-to-Ground**Group 1

BE70C-S-XXXX-N-01-0152
3 Assemblies

Step Description

1. DWV Breakdown ⁽²⁾

Group 2

BE70C-S-XXXX-N-01-0152
3 Assemblies

Note: One cable each housing

Step Description

1. IR ⁽⁴⁾
2. DWV at Test Voltage ⁽¹⁾
3. Thermal Shock ⁽⁵⁾
4. IR ⁽⁴⁾
5. DWV at Test Voltage ⁽¹⁾
6. Humidity ⁽³⁾
7. IR ⁽⁴⁾
8. DWV at Test Voltage ⁽¹⁾

(1) DWV at Test Voltage = EIA-364-20

Test Condition = 1 (Sea Level)

DWV test voltage is equal to 75% of the lowest breakdown voltage

Test voltage applied for 60 seconds

(2) DWV Breakdown = EIA-364-20

Test Condition = 1 (Sea Level)

DWV test voltage is equal to 75% of the lowest breakdown voltage

Test voltage applied for 60 seconds

(3) Humidity = EIA-364-31

Test Condition = B (240 Hours)

Test Method = III (+25°C to +65°C @ 90% RH to 98% RH)

Test Exceptions: ambient pre-condition and delete steps 7a and 7b

(4) IR = EIA-364-21

Test Condition = 500 Vdc, 2 Minutes Max

(5) Thermal Shock = EIA-364-32

Exposure Time at Temperature Extremes = 1/2 Hour

Method A, Test Condition = I (-55°C to +85°C)

Test Duration = A-3 (100 Cycles)

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

THERMAL SHOCK:

- 1) EIA-364-32, *Thermal Shock (Temperature Cycling) Test Procedure for Electrical Connectors*.
- 2) Test Condition 1: -55°C to +125°C
- 3) Test Time: ½ hour dwell at each temperature extreme
- 4) Number of Cycles: 100
- 5) All test samples are pre-conditioned at ambient.
- 6) All test samples are exposed to environmental stressing in the mated condition.

HUMIDITY:

- 1) Reference document: EIA-364-31, *Humidity Test Procedure for Electrical Connectors*.
- 2) Test Condition B, 240 Hours.
- 3) Method III, +25° C to + 65° C, 90% to 98% Relative Humidity excluding sub-cycles 7a and 7b.
- 4) All samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

LLCR:

- 1) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 2) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 3) The following guidelines are used to categorize the changes in LLCR as a result from stressing
 - a. <= +5.0 mOhms: -----Stable
 - b. +5.1 to +10.0 mOhms:-----Minor
 - c. +10.1 to +15.0 mOhms: -----Acceptable
 - d. +15.1 to +50.0 mOhms: -----Marginal
 - e. +50.1 to +1000 mOhms: -----Unstable
 - f. >+1000 mOhms:-----Open Failure

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes.

INSULATION RESISTANCE (IR):

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.

1) PROCEDURE:

- a. Reference document: EIA-364-21, *Insulation Resistance Test Procedure for Electrical Connectors*.
- b. Test Conditions:
 - i. Between Adjacent Contacts or Signal-to-Ground
 - ii. Electrification Time 2.0 minutes
 - iii. Test Voltage (500 VDC) corresponds to calibration settings for measuring resistances.

2) MEASUREMENTS:

- 3) When the specified test voltage is applied (VDC), the insulation resistance shall not be less than 5000 megohms.

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

To determine if the sockets can operate at its rated voltage and withstand momentary over potentials due to switching, surges, and other similar phenomenon. Separate samples are used to evaluate the effect of environmental stresses so not to influence the readings from arcing that occurs during the measurement process.

1) PROCEDURE:

- a. Reference document: EIA-364-20, *Withstanding Voltage Test Procedure for Electrical Connectors*.
- b. Test Conditions:
 - i. Between Adjacent Contacts or Signal-to-Ground
 - ii. Barometric Test Condition 1
 - iii. Rate of Application 500 V/Sec
 - iv. Test Voltage (VAC) until breakdown occurs

2) MEASUREMENTS/CALCULATIONS

- a. The dielectric withstanding voltage shall be recorded as 750VAC.

The working voltage shall be recorded as one-third (1/3) of the dielectric withstanding voltage (one-fourth of the breakdown voltage).

RESULTS**LLCR Mating/Unmating Durability Group 3 (16 LLCR test points)****Signal pin**

- Initial-----22.31 mOhms Max

Ground Pin

- Initial----- 4.84 mOhms Max
- Thermal
- Durability, 1000 Cycles
 - <= +5.0 mOhms-----14 Points -----Stable
 - +5.1 to +10.0 mOhms----- 2 Points -----Minor
 - +10.1 to +15.0 mOhms ----- 0 Points -----Acceptable
 - +15.1 to +50.0 mOhms ----- 0 Points -----Marginal
 - +50.1 to +1000 mOhms----- 0 Points -----Unstable
 - >+1000 mOhms ----- 0 Points -----Open Failure
- Thermal Shock
 - <= +5.0 mOhms-----14 Points -----Stable
 - +5.1 to +10.0 mOhms----- 2 Points -----Minor
 - +10.1 to +15.0 mOhms ----- 0 Points -----Acceptable
 - +15.1 to +50.0 mOhms ----- 0 Points -----Marginal
 - +50.1 to +1000 mOhms----- 0 Points -----Unstable
 - >+1000 mOhms ----- 0 Points -----Open Failure
- Humidity
 - <= +5.0 mOhms-----15 Points -----Stable
 - +5.1 to +10.0 mOhms----- 0 Points -----Minor
 - +10.1 to +15.0 mOhms ----- 1 Points -----Acceptable
 - +15.1 to +50.0 mOhms ----- 0 Points -----Marginal
 - +50.1 to +1000 mOhms----- 0 Points -----Unstable
 - >+1000 mOhms ----- 0 Points -----Open Failure

LLCR Mating/Unmating Durability Group 4 (16 LLCR test points)**Signal pin**

- Initial-----24.48 mOhms Max

Ground Pin

- Initial----- 5.39 mOhms Max
- Thermal
- Durability, 1000 Cycles
 - <= +5.0 mOhms-----15 Points -----Stable
 - +5.1 to +10.0 mOhms----- 1 Points -----Minor
 - +10.1 to +15.0 mOhms ----- 0 Points -----Acceptable
 - +15.1 to +50.0 mOhms ----- 0 Points -----Marginal
 - +50.1 to +1000 mOhms----- 0 Points -----Unstable
 - >+1000 mOhms ----- 0 Points -----Open Failure

RESULTS Continued**LLCR Thermal Aging Group (16 LLCR test points)****Signal pin**

- **Initial**-----26.31 mOhms Max

Ground Pin

- **Initial**----- 5.55 mOhms Max
- **Thermal**
 - **<= +5.0 mOhms**-----10 Points -----Stable
 - **+5.1 to +10.0 mOhms**----- 6 Points -----Minor
 - **+10.1 to +15.0 mOhms** ----- 0 Points -----Acceptable
 - **+15.1 to +50.0 mOhms** ----- 0 Points -----Marginal
 - **+50.1 to +1000 mOhms**----- 0 Points -----Unstable
 - **>+1000 mOhms** ----- 0 Points -----Open Failure

Mating – Unmating Spring Forces**Thermal Aging Group**

- **Initial**
 - **Mating**
 - **Min** -----1.545 Lbs
 - **Max**-----1.598 Lbs
- **After Thermal**
 - **Mating**
 - **Min** -----1.420 Lbs
 - **Max**-----1.432 Lbs

RESULTS Continued**Insulation Resistance minimums, IR****Pin to Ground**

- **Initial**
 - **Mated ----- 45000 Meg Ω -----Passed**
 - **Unmated----- 45000 Meg Ω -----Passed**
- **Thermal Shock**
 - **Mated ----- 45000 Meg Ω -----Passed**
 - **Unmated----- 45000 Meg Ω -----Passed**
- **Humidity**
 - **Mated ----- 45000 Meg Ω -----Passed**
 - **Unmated----- 45000 Meg Ω -----Passed**

Dielectric Withstanding Voltage minimums, DWV

- **Minimums**
 - **Breakdown Voltage----- 1217 VAC**
 - **Test Voltage ----- 913 VAC**
 - **Working Voltage ----- 304 VAC**

Pin to Ground

- **Initial DWV----- Passed**
- **Thermal DWV ----- Passed**
- **Humidity DWV ----- Passed**

DATA SUMMARIES**LLCR Mating/Unmating Durability Group 3**

- 1) A total of 16 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ mOhms:-----Stable
 - b. $+5.1$ to $+10.0$ mOhms:-----Minor
 - c. $+10.1$ to $+15.0$ mOhms:-----Acceptable
 - d. $+15.1$ to $+50.0$ mOhms:-----Marginal
 - e. $+50.1$ to $+1000$ mOhms-----Unstable
 - f. $>+1000$ mOhms:-----Open Failure

LLCR Measurement Summaries by Pin Type				
Date	7/24/2020	7/31/2020	8/14/2020	8/25/2020
Room Temp (Deg C)	23	23	23	23
Rel Humidity (%)	51	51	51	51
Technician	Keney Chen	Keney Chen	Keney Chen	Keney Chen
mOhm values	Actual Initial	Delta 1000 Cycles	Delta Them shock	Delta Humidity
Pin Type 1: Ground				
Average	4.50	0.14	0.32	0.20
St. Dev.	0.26	0.33	0.77	0.47
Min	4.02	-0.46	-0.67	-0.63
Max	4.84	0.55	1.79	0.92
Summary Count	8	8	8	8
Total Count	8	8	8	8
Pin Type 2: Signal				
Average	19.21	2.96	2.06	2.74
St. Dev.	1.92	3.32	2.84	3.38
Min	16.03	-3.34	-1.91	0.01
Max	22.31	6.46	5.98	10.20
Summary Count	8	8	8	8
Total Count	8	8	8	8

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	≤ 5	$>5 \text{ \& } \leq 10$	$>10 \text{ \& } \leq 15$	$>15 \text{ \& } \leq 50$	$>50 \text{ \& } \leq 1000$	>1000
1000 Cycles	14	2	0	0	0	0
Them shock	14	2	0	0	0	0
Humidity	15	0	1	0	0	0

DATA SUMMARIES Continued**LLCR Mating/Unmating Durability Group 4**

- 1) A total of 16 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ mOhms: -----Stable
 - b. $+5.1$ to $+10.0$ mOhms: -----Minor
 - c. $+10.1$ to $+15.0$ mOhms: -----Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: -----Marginal
 - e. $+50.1$ to $+1000$ mOhms: -----Unstable
 - f. $>+1000$ mOhms: -----Open Failure

LLCR Measurement Summaries by Pin Type				
Date	7/24/2020	7/31/2020		
Room Temp (Deg C)	23	23		
Rel Humidity (%)	51	51		
Technician	Keney Chen	Keney Chen		
mOhm values	Actual Initial	Delta 1000 Cycles	Delta	Delta
Pin Type 1: Ground				
Average	4.59	0.20		
St. Dev.	0.31	0.17		
Min	4.02	0.01		
Max	5.39	0.55		
Summary Count	16	16		
Total Count	16	16		
Pin Type 2: Signal				
Average	19.86	0.88		
St. Dev.	1.94	1.99		
Min	16.03	-0.53		
Max	24.48	7.04		
Summary Count	16	16		
Total Count	16	16		

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	$>5 \text{ \& } \leq 10$	$>10 \text{ \& } \leq 15$	$>15 \text{ \& } \leq 50$	$>50 \text{ \& } \leq 1000$	>1000
1000 Cycles	15	1	0	0	0	0

DATA SUMMARIES Continued**LLCR Thermal Aging Group**

- 1) A total of 16 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ mOhms: -----Stable
 - b. $+5.1$ to $+10.0$ mOhms: -----Minor
 - c. $+10.1$ to $+15.0$ mOhms: -----Acceptable
 - d. $+15.1$ to $+50.0$ mOhms: -----Marginal
 - e. $+50.1$ to $+1000$ mOhms: -----Unstable
 - f. $>+1000$ mOhms: -----Open Failure

LLCR Measurement Summaries by Pin Type				
Date	8/11/2020	8/25/2020		
Room Temp (Deg C)	23	23		
Rel Humidity (%)	52	51		
Technician	Keney Chen	Keney Chen		
mOhm values	Actual Initial	Delta Thermal	Delta	Delta
Pin Type 1: Ground				
Average	4.80	0.65		
St. Dev.	0.37	0.51		
Min	4.46	0.09		
Max	5.55	1.47		
Summary Count	8	8		
Total Count	8	8		
Pin Type 2: Signal				
Average	21.66	6.86		
St. Dev.	3.72	1.86		
Min	17.15	3.97		
Max	26.31	8.89		
Summary Count	8	8		
Total Count	8	8		

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	≤ 5	>5 & ≤ 10	>10 & ≤ 15	>15 & ≤ 50	>50 & ≤ 1000	>1000
Thermal	10	6	0	0	0	0

DATA SUMMARIES Continued**INSULATION RESISTANCE (IR):**

	Pin to Pin		
	Mated	Unmated	Unmated
Minimum	BE70C/BE70C	BE70C	BE70C
Initial	Not Tested	45000	45000
Thermal	Not Tested	45000	45000
Humidity	Not Tested	45000	45000

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Voltage Rating Summary	
Minimum	BE70C/BE70C
Break Down Voltage	1217
Test Voltage	913
Working Voltage	304

Pin to Ground	
Initial Test Voltage	Passed
After Thermal Test Voltage	Passed
After Humidity Test Voltage	Passed

Mating and Un-mating Group

Review distance: tip of pogo pin to shell

	Mating and Un-mating (Machine)				Mating and Un-mating (Manual)			
	1#	2#	3#	4#	5#	6#	7#	8#
100cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
200cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
300cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
400cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
500cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
600cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
700cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
800cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
900cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
1000cycles	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed

EQUIPMENT AND CALIBRATION SCHEDULES**Equipment #:** HZ-TCT-01**Description:** Normal force analyzer**Manufacturer:** Mecmesin Multitester**Model:** Mecmesin Multitester 2.5-i**Serial #:** 08-1049-04**Accuracy:** Last Cal: 4/26/2020, Next Cal: 4/25/2021**Equipment #:** HZ-OV-01**Description:** Oven**Manufacturer:** Huida**Model:** CS101-1E**Serial #:** CS101-1E-B**Accuracy:** Last Cal: 12/13/2019, Next Cal: 12/12/2020**Equipment #:** HZ-THC-01**Description:** Humidity transmitter**Manufacturer:** Thermtron**Model:** SM-8-8200**Serial #:** 38846**Accuracy:** Last Cal: 2/27/2020, Next Cal: 2/26/2021**Equipment #:** HZ-TSC-01**Description:** Vertical Thermal Shock Chamber**Manufacturer:** Cincinnatti Sub Zero**Model:** VTS-3-6-6-SC/AC**Serial #:** 10-VT14994**Accuracy:** See Manual

... Last Cal: 06/28/2020, Next Cal: 06/27/2021

Equipment #: HZ-HPM-01**Description:** NA9636H**Manufacturer:** Ainuo**Model:** 6031A**Serial #:** 089601091**Accuracy:** Last Cal: 3/7/2020, Next Cal: 3/6/2021**Equipment #:** HZ-MO-05**Description:** Micro-ohmmeter**Manufacturer:** Keithley**Model:** 3706**Serial #:** 1285188**Accuracy:** Last Cal: 11/15/2019, Next Cal: 11/14/2020

EQUIPMENT AND CALIBRATION SCHEDULES Continued**Equipment #:** HZ-MO-01**Description:** Micro-ohmmeter**Manufacturer:** Keithley**Model:** 2700**Serial #:** 1199807**Accuracy:** Last Cal: 04/26/2020, Next Cal: 04/25/2021**Equipment #:** HZ-PS-01**Description:** Power Supply**Manufacturer:** Agilent**Model:** 6031A**Serial #:** MY41000982**Accuracy:** Last Cal: 04/26/2020, Next Cal: 04/25/2021**Equipment #:** ACLM-01**Description:** Accelerometer**Manufacturer:** PCB Piezotronics**Model:** 352C03**Serial #:** 115819**Accuracy:** See Manual

... Last Cal: 07/18/2020, Next Cal: 07/18/2021

Equipment #: ED-03**Description:** Event Detector**Manufacturer:** Analysis Tech**Model:** 32EHD**Serial #:** 1100604**Accuracy:** See Manual

... Last Cal: 10/31/2019, Next Cal: 10/31/2020

Equipment #: MO-04**Description:** Multimeter /Data Acquisition System**Manufacturer:** Keithley**Model:** 2700**Serial #:** 0798688**Accuracy:** See Manual

... Last Cal: 09/11/2019, Next Cal: 09/11/2020