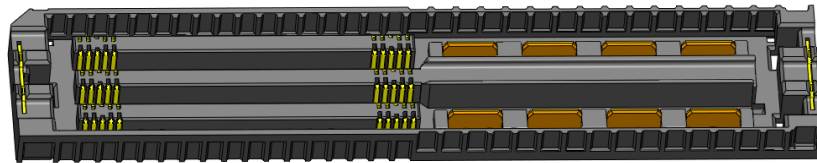
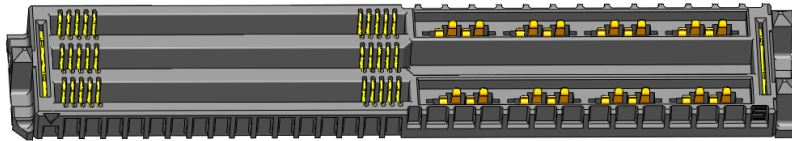




Project Number: Design Qualification Test Report	Tracking Code: CR-968602_Report_Rev_2
Requested by: Will Luo	Date: 2/12/2025
Part #: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR	
Part description: UDF6/ UDM6	Tech: Peter Chen
Test Start: 11/1/2024	Test Completed: 11/29/2024



DESIGN QUALIFICATION TEST REPORT
UDF6/ UDM6
UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR

REVISION HISTORY

DATA	REV.NUM.	DESCRIPTION	ENG
1/12/2023	1	Initial test	PC
2/12/2025	2	Add the power pin data	PC

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) After soldering, the parts to be used for LLCR and DWV/IR testing were cleaned according to CO-SC-WI-3029.
- 4) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 5) The automated procedure is used with aqueous compatible soldering materials.
- 6) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
- 7) Any additional preparation will be noted in the individual test sequences.
- 8) Solder Information: Lead Free
- 9) Samtec Test PCBs used: PCB-112899-TST/PCB-112900-TST.

FLOWCHARTS**Gas Tight**Group 1

UDF6-40-4-03.5-L-A-TH-TR

UDM6-40-4-01.5-L-A-TH-TR

8 Assemblies

Step Description

1. LLCR (2)
2. Gas Tight (1)
3. LLCR (2)
Max Delta = 15 mOhm

 (1) Gas Tight = EIA-364-36

(2) LLCR = EIA-364-23

 Open Circuit Voltage = 20 mV Max
 Test Current = 100 mA Max
Thermal AgingGroup 1

UDF6-40-4-03.5-L-A-TH-TR

UDM6-40-4-01.5-L-A-TH-TR

8 Assemblies

Step Description

1. Contact Gaps
2. Mating/Unmating Force (2)
3. LLCR (1)
4. Thermal Age (3)
5. LLCR (1)
Max Delta = 15 mOhm
6. Mating/Unmating Force (2)
7. Contact Gaps

 (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**Group 1

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
8 Assemblies
Largest Pin Count

Step	Description
1.	Contact Gaps
2.	LLCR ⁽²⁾
3.	Mating/Unmating Force ⁽³⁾
4.	Cycles Quantity = 25 Cycles
5.	Mating/Unmating Force ⁽³⁾
6.	Contact Gaps
7.	LLCR ⁽²⁾ Max Delta = 15 mOhm
8.	Thermal Shock ⁽⁴⁾
9.	LLCR ⁽²⁾ Max Delta = 15 mOhm
10.	Humidity ⁽¹⁾
11.	LLCR ⁽²⁾ Max Delta = 15 mOhm
12.	Mating/Unmating Force ⁽³⁾

Group 2

UDF6-10-2-03.5-L-A-TH-TR
UDM6-10-2-01.5-L-A-TH-TR
8 Assemblies
Smallest Pin Count

Step	Description
1.	Contact Gaps
2.	Mating/Unmating Force ⁽³⁾
3.	Cycles Quantity = 25 Cycles
4.	Mating/Unmating Force ⁽³⁾

-
- (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-Signal

<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>																														
UDF6-40-4-03.5-L-A-TH-TR UDM6-40-4-01.5-L-A-TH-TR 2 Assemblies	UDF6-40-4-03.5-L-A-TH-TR 2 Assemblies	UDM6-40-4-01.5-L-A-TH-TR 2 Assemblies	UDF6-40-4-03.5-L-A-TH-TR UDM6-40-4-01.5-L-A-TH-TR 2 Assemblies																														
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Row-to-Row

<u>Group 5</u>	<u>Group 6</u>	<u>Group 7</u>	<u>Group 8</u>																														
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FLOWCHARTS Continued**Pin-to-Closest Metallic Hardware**Group 9

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
2 Assemblies

Step	Description
1.	DWV Breakdown ⁽²⁾

Group 10

UDF6-40-4-03.5-L-A-TH-TR

2 Assemblies

Step	Description
1.	DWV Breakdown ⁽²⁾

Group 11

UDM6-40-4-01.5-L-A-TH-TR
2 Assemblies

Step	Description
1.	DWV Breakdown ⁽²⁾

Group 12

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
2 Assemblies

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⁾

Signal-to-PowerGroup 13

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
2 Assemblies

Step	Description
1.	DWV Breakdown ⁽²⁾

Group 14

UDF6-40-4-03.5-L-A-TH-TR

2 Assemblies

Step	Description
1.	DWV Breakdown ⁽²⁾

Group 15

UDM6-40-4-01.5-L-A-TH-TR
2 Assemblies

Step	Description
1.	DWV Breakdown ⁽²⁾

Group 16

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
2 Assemblies

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⁾

FLOWCHARTS Continued**Power-to-Power**Group 17

UDF6-40-4-03.5-L-A-TH-TR

UDM6-40-4-01.5-L-A-TH-TR

2 Assemblies

Step	Description
1.	DWV Breakdown ⁽²⁾

Group 18

UDF6-40-4-03.5-L-A-TH-TR

2 Assemblies

Step	Description
1.	DWV Breakdown ⁽²⁾

Group 19

UDM6-40-4-01.5-L-A-TH-TR

2 Assemblies

Step	Description
1.	DWV Breakdown ⁽²⁾

Group 20

UDF6-40-4-03.5-L-A-TH-TR

UDM6-40-4-01.5-L-A-TH-TR

2 Assemblies

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)

FLOWCHARTS Continued**Current Carrying Capacity**Group 1

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
2 Pins Powered
Power

Step Description

1. CCC (2)
Rows = 2
Number of Positions = 1

Group 2

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
4 Pins Powered
Power

Step Description

1. CCC (2)
Rows = 2
Number of Positions = 2

Group 3

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
6 Pins Powered
Power

Step Description

1. CCC (2)
Rows = 2
Number of Positions = 3

Group 4

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
8 Pins Powered
Power

Step Description

1. CCC (2)
Rows = 2
Number of Positions = 4

Group 5

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
6 Pins Powered
Signal

Step Description

1. CCC (2)
Rows = 6
Number of Positions = 1

Group 6

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
12 Pins Powered
Signal

Step Description

1. CCC (2)
Rows = 6
Number of Positions = 2

Group 7

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
18 Pins Powered
Signal

Step Description

1. CCC (2)
Rows = 6
Number of Positions = 3

Group 8

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
24 Pins Powered
Signal

Step Description

1. CCC (2)
Rows = 6
Number of Positions = 4

Group 9

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
240 Pins Powered
Signal

Step Description

1. CCC (2)
Rows = 6
Number of Positions = 40

Group 10

UDF6-40-4-03.5-L-A-TH-TR
UDM6-40-4-01.5-L-A-TH-TR
All Power

Step Description

1. CCC - All Power (1)

(1) CCC - All Power = EIA-364-70

Method 2, Temperature Rise Versus Current Curve

(TIN PLATING) - Tabulate calculated current at RT,65°C, 75°C and 95°C after derating 20% and based on 105°C

(GOLD PLATING) - Tabulate calculated current at RT,85°C, 95°C and 115°C after derating 20% and based on 125°C

(2) CCC = EIA-364-70

Method 2, Temperature Rise Versus Current Curve

(TIN PLATING) - Tabulate calculated current at RT,65°C, 75°C and 95°C after derating 20% and based on 105°C

(GOLD PLATING) - Tabulate calculated current at RT,85°C, 95°C and 115°C after derating 20% and based on 125°C

FLOWCHARTS Continued**Mechanical Shock/Random Vibration/LLCR**Group 1

UDF6-40-4-03.5-L-A-TH-TR

UDM6-40-4-01.5-L-A-TH-TR

8 Assemblies

Step Description

1. LLCR ⁽¹⁾
2. Mechanical Shock ⁽²⁾
3. Random Vibration ⁽³⁾
4. LLCR ⁽¹⁾
Max Delta = 15 mOhm

(1) LLCR = EIA-364-23

Open Circuit Voltage = 20 mV Max

Test Current = 100 mA Max

(2) Mechanical Shock = EIA-364-27

Test Condition = C (100 G Peak, 6 milliseconds, Half Sine)

Number of Shocks = 3 Per Direction, Per Axis, 18 Total

(3) Random Vibration = EIA-364-28

Condition = VB (7.56 gRMS Average, 2 Hours/Axis)

Mechanical Shock/Random Vibration/Event DetectionGroup 1

UDF6-40-4-03.5-L-A-TH-TR

UDM6-40-4-01.5-L-A-TH-TR

60 Points

Step Description

1. Nanosecond Event Detection
(Mechanical Shock) ⁽¹⁾
2. Nanosecond Event Detection
(Random Vibration) ⁽²⁾

(1) Nanosecond Event Detection (Mechanical Shock)

Use EIA-364-87 for Nanosecond Event Detection:

Test Condition = F (50 nanoseconds at 10 ohms)

Use EIA-364-27 for Mechanical Shock:

Test Condition = C (100 G Peak, 6 milliseconds, Half Sine)

Number of Shocks = 3 Per Direction, Per Axis, 18 Total

(2) Nanosecond Event Detection (Random Vibration)

Use EIA-364-87 for Nanosecond Event Detection:

Test Condition = F (50 nanoseconds at 10 ohms)

Use EIA-364-28 for Random Vibration:

Condition = VB (7.56 gRMS Average, 2 Hours/Axis)

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

THERMAL:

- 1) EIA-364-17, *Temperature Life with or without Electrical Load Test Procedure for Electrical Connectors*.
- 2) Test Condition at 105° C.
- 3) Test Time Condition B for 250 hours.
- 4) All test samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

THERMAL SHOCK:

- 1) EIA-364-32, *Thermal Shock (Temperature Cycling) Test Procedure for Electrical Connectors*.
- 2) Test Condition I: -55°C to +85°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.

MECHANICAL SHOCK (Specified Pulse):

- 1) Reference document: EIA-364-27, *Mechanical Shock Test Procedure for Electrical Connectors*
- 2) Test Condition G
- 3) Peak Value: 100 G
- 4) Duration: 6 Milliseconds
- 5) Wave Form: Sawtooth
- 6) Velocity: 12.3 ft/s
- 7) Number of Shocks: 3 Shocks / Direction, 3 Axis (18 Total)

VIBRATION:

- 1) Reference document: EIA-364-28, *Vibration Test Procedure for Electrical Connectors*
- 2) Test Condition V, Letter B
- 3) Power Spectral Density: 0.10 G² / Hz
- 4) G 'RMS': 7.56
- 5) Frequency: 50 to 2000 Hz
- 6) Duration: 2.0 Hours per axis (3 axis total)

NANOSECOND-EVENT DETECTION:

- 1) Reference document: EIA-364-87, *Nanosecond-Event Detection for Electrical Connectors*
- 2) Prior to test, the samples were characterized to assure the low nanosecond event being monitored will trigger the detector.
- 3) After characterization it was determined the test samples could be monitored for 50 nanosecond events

MATING/UNMATING:

- 1) Reference document: EIA-364-13, *Mating and Unmating Forces Test Procedure for Electrical Connectors*.
- 2) The full insertion position was to within 0.003" to 0.004" of the plug bottoming out in the receptacle to prevent damage to the system under test.
- 3) One of the mating parts is secured to a floating X-Y table to prevent damage during cycling.

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes

TEMPERATURE RISE (Current Carrying Capacity, CCC):

- 1) EIA-364-70, *Temperature Rise versus Current Test Procedure for Electrical Connectors and Sockets*.
- 2) When current passes through a contact, the temperature of the contact increases as a result of I^2R (resistive) heating.
- 3) The number of contacts being investigated plays a significant part in power dissipation and therefore temperature rise.
- 4) The size of the temperature probe can affect the measured temperature.
- 5) Copper traces on PC boards will contribute to temperature rise:
 - a. Self-heating (resistive)
 - b. Reduction in heat sink capacity affecting the heated contacts
- 6) A de-rating curve, usually 20%, is calculated.
- 7) Calculated de-rated currents at four temperature points are reported:
 - a. Ambient
 - b. 40° C
 - c. 50° C
 - d. 70° C
- 8) Typically, neighboring contacts (in close proximity to maximize heat buildup) are energized.
- 9) The thermocouple (or temperature measuring probe) will be positioned at a location to sense the maximum temperature in the vicinity of the heat generation area.
- 10) A computer program, *TR 803.exe*, ensures accurate stability for data acquisition.
- 11) Hook-up wire cross section is larger than the cross section of any connector leads/PC board traces, jumpers, etc.
- 12) Hook-up wire length is longer than the minimum specified in the referencing standard.

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. $\leq +5.0$ 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

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes

GAS TIGHT:

To provide method for evaluating the ability of the contacting surfaces in preventing penetration of harsh vapors which might lead to oxide formation that may degrade the electrical performance of the contact system.

- 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. $\leq +5.0$ 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
- 4) Procedure:
 - a. Reference document: EIA-364-36, *Test Procedure for Determination of Gas-Tight Characteristics for Electrical Connectors, Sockets and/or Contact Systems*.
 - b. Test Conditions:
 - i. Class II--- Mated pairs of contacts assembled to their plastic housings.
 - ii. Reagent grade Nitric Acid shall be used of sufficient volume to saturate the test chamber
 - iii. The ratio of the volume of the test chamber to the surface area of the acid shall be 10:1.
 - iv. The chamber shall be saturated with the vapor for at least 15 minutes before samples are added.
 - v. Exposure time, 55 to 65 minutes.
 - vi. The samples shall be no closer to the chamber walls than 1 inches and no closer to the surface of the acid than 3 inches.
 - vii. The samples shall be dried after exposure for a minimum of 1 hour.
 - viii. Drying temperature 50° C
 - ix. The final LLCR shall be conducted within 1 hour after drying.

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.

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes

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 breakdown voltage shall be measured and recorded.
- b. The dielectric withstanding voltage shall be recorded as 75% of the minimum breakdown voltage.
- c. The working voltage shall be recorded as one-third (1/3) of the dielectric withstanding voltage (one-fourth of the breakdown voltage).

RESULTS

Temperature Rise, CCC at a 20% de-rating

Power Pin

- CCC for a 30°C Temperature Rise-----15.0 A per contact with 2 contact (2 x 1) powered
- CCC for a 30°C Temperature Rise-----13.5 A per contact with 4 contacts (2 x 2) powered
- CCC for a 30°C Temperature Rise-----12.1 A per contact with 6 contacts (2 x 3) powered
- CCC for a 30°C Temperature Rise-----11.8 A per contact with 8 contacts (2 x 4) powered

Signal Pin

- CCC for a 30°C Temperature Rise-----1.54 A per contact with 6 contact (6 x 1) powered
- CCC for a 30°C Temperature Rise-----1.28 A per contact with 12 contacts (6 x 2) powered
- CCC for a 30°C Temperature Rise-----0.84 A per contact with 18 contacts (6 x 3) powered
- CCC for a 30°C Temperature Rise-----0.69 A per contact with 24 contacts (6 x 4) powered
- CCC for a 30°C Temperature Rise-----0.31 A per contact with 240 contacts (6 x 40) powered

ALL POWER POSITIONS with SIGNAL @ 1/2 rated current

- CCC for a 30°C Temperature Rise-----11.3 A per contact (8) with signal powered @ 1/2 rated current
(0.15 A)

Mating – Unmating Forces

Thermal Aging Group

- **Initial**
 - **Mating**
 - Min -----14.35 lbs
 - Max-----15.68 lbs
 - **Unmating**
 - Min ----- 9.47 lbs
 - Max-----10.65 lbs
- **After Thermal**
 - **Mating**
 - Min ----- 8.63 lbs
 - Max-----10.32 lbs
 - **Unmating**
 - Min ----- 6.68 lbs
 - Max----- 7.62 lbs

Mating/Unmating Durability Group

- **Initial**
 - **Mating**
 - Min -----14.07 lbs
 - Max-----16.01 lbs
 - **Unmating**
 - Min ----- 9.56 lbs
 - Max-----11.32 lbs
- **After 25 Cycles**
 - **Mating**
 - Min -----16.02 lbs
 - Max-----20.00 lbs
 - **Unmating**
 - Min -----11.03 lbs
 - Max-----13.65 lbs
- **After Humidity**
 - **Mating**
 - Min -----10.41 lbs
 - Max-----12.28 lbs
 - **Unmating**
 - Min ----- 7.34 lbs
 - Max----- 8.44 lbs

RESULTS Continued

Mating/Unmating Basic (UDF6-10-2-03.5-L-A-TH-TR/ UDM6-10-2-01.5-L-A-TH-TR)

- **Initial**
 - **Mating**
 - **Min** ----- 3.85 lbs
 - **Max** ----- 4.79 lbs
 - **Unmating**
 - **Min** ----- 2.53 lbs
 - **Max** ----- 2.89 lbs
- **After 25 Cycles**
 - **Mating**
 - **Min** ----- 3.86 lbs
 - **Max** ----- 4.86 lbs
 - **Unmating**
 - **Min** ----- 2.72 lbs
 - **Max** ----- 3.32 lbs

Insulation Resistance minimums, IR

Pin to Pin

- **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

Row to Row

- **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

Pin to Closest Metallic Hardware

- **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

RESULTS Continued

Signal to Power

- **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

Power to Power

- **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 -----800 VAC
 - Test Voltage -----610 VAC
 - Working Voltage -----200 VAC

Pin to Pin

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

Row to Row

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

Pin to Closest Metallic Hardware

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

Signal to Power

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

Power to Power

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

RESULTS Continued**LLCR Gas Tight (192 LLCR test points)****Signal**

- Initial ----- 25.66 mOhms Max

Power

- Initial ----- 1.52 mOhms Max
- Gas-Tight
 - <= +5.0 mOhms ----- 189 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 3 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

LLCR Thermal Aging (192 LLCR test points)**Signal**

- Initial ----- 25.55 mOhms Max

Power

- Initial ----- 1.32 mOhms Max
- Thermal Aging
 - <= +5.0 mOhms ----- 192 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 0 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

LLCR Durability (192 LLCR test points)**Signal**

- Initial ----- 25.43 mOhms Max

Power

- Initial ----- 1.65 mOhms Max
- Durability, 25 Cycles
 - <= +5.0 mOhms ----- 192 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 0 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
 - <= +5.0 mOhms ----- 191 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
- Humidity
 - <= +5.0 mOhms ----- 191 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 Shock & Vibration (192 LLCR test points)

Signal

- Initial ----- 27.7 mOhms Max

Power

- Initial ----- 1.27 mOhms Max
- Shock & Vibration
 - <= +5.0 mOhms----- 188 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 3 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

Mechanical Shock & Random Vibration:

- Shock
 - No Damage----- Pass
 - 50 Nanoseconds ----- Pass
- Vibration
 - No Damage----- Pass
 - 50 Nanoseconds ----- Pass

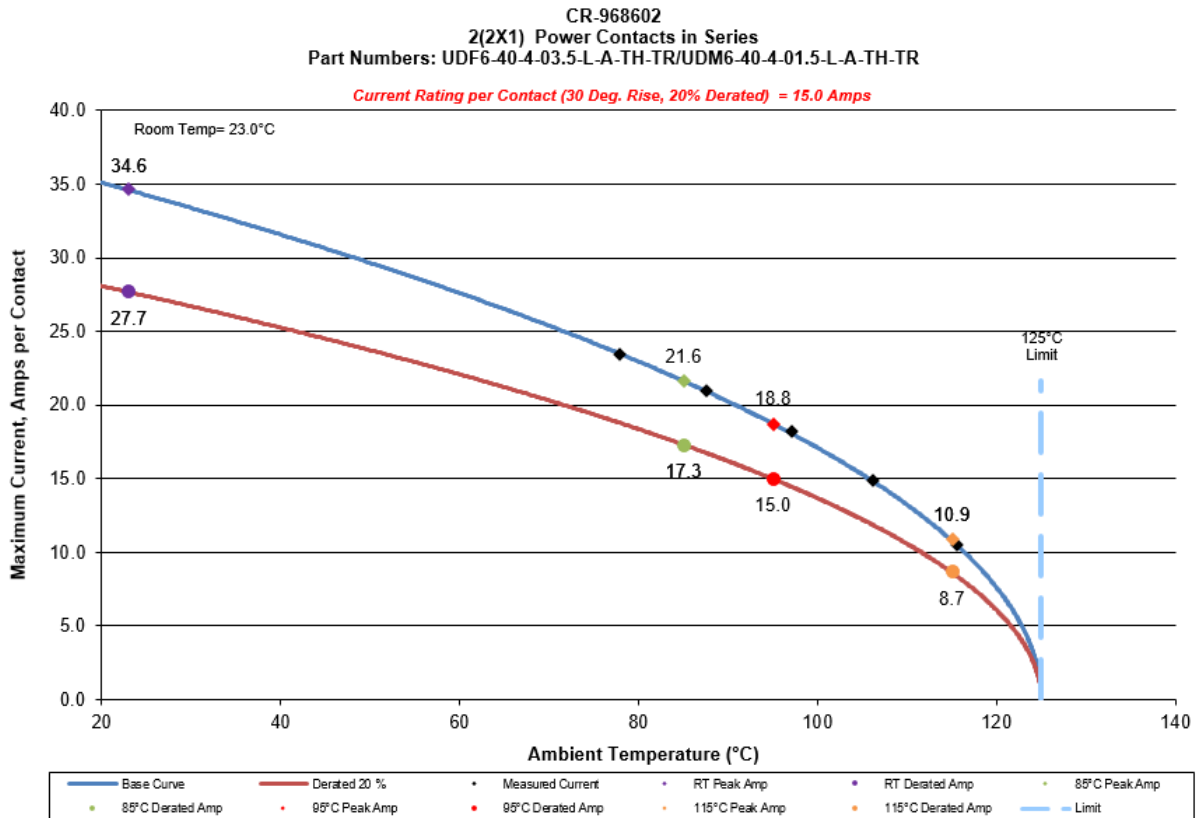
DATA SUMMARIES

TEMPERATURE RISE (Current Carrying Capacity, CCC):

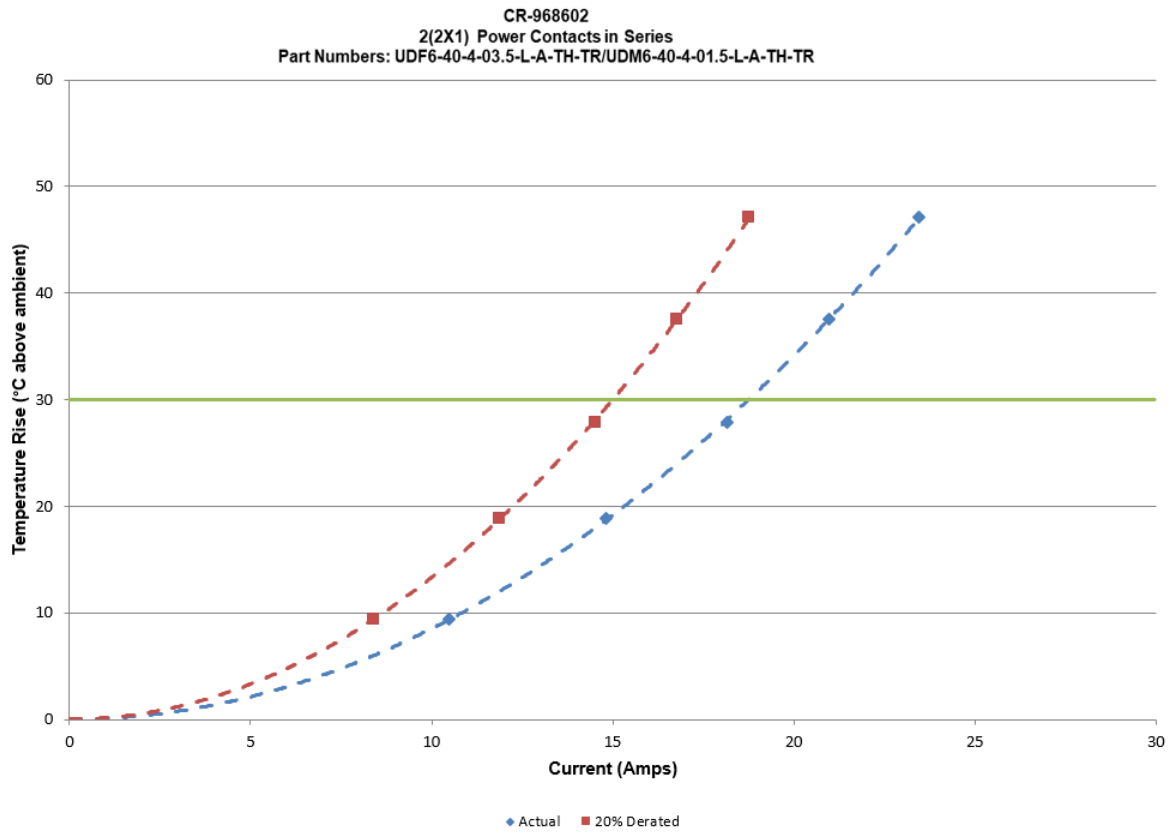
- 1) High quality thermocouples whose temperature slopes track one another were used for temperature monitoring.
- 2) The thermocouples were placed at a location to sense the maximum temperature generated during testing.
- 3) Temperature readings recorded are those for which three successive readings, 15 minutes apart, differ less than 1° C (computer controlled data acquisition).
- 4) Adjacent contacts were powered:

Power Pin

- a. Linear configuration with 2 adjacent conductors/contacts powered

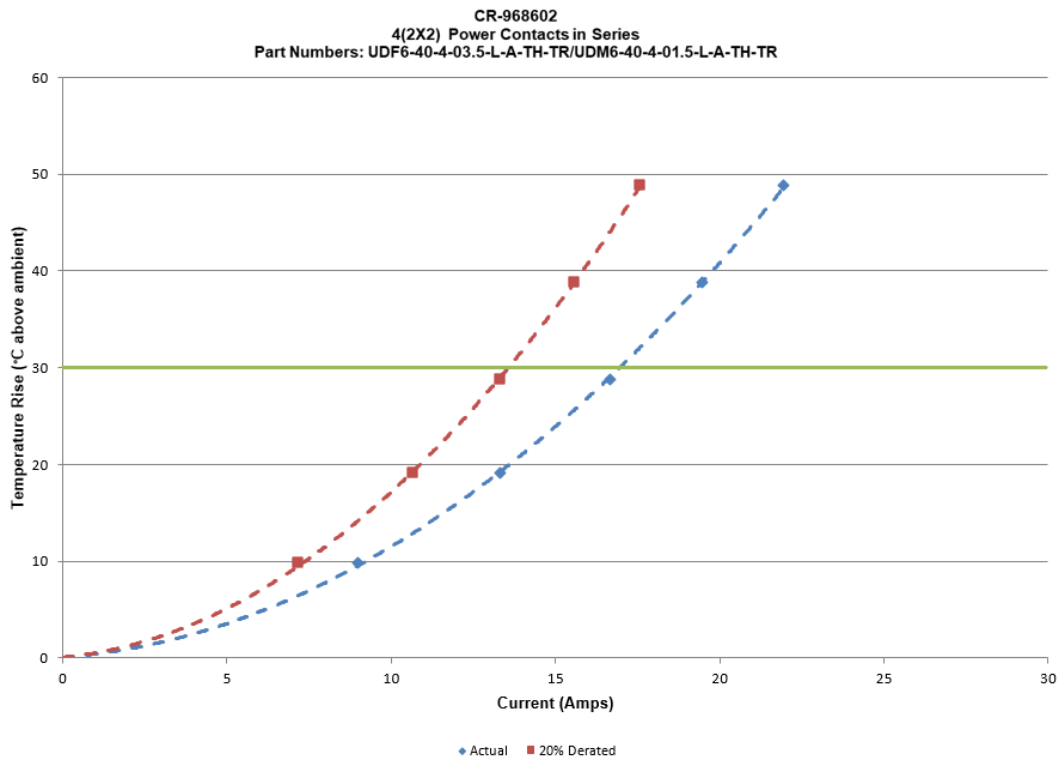
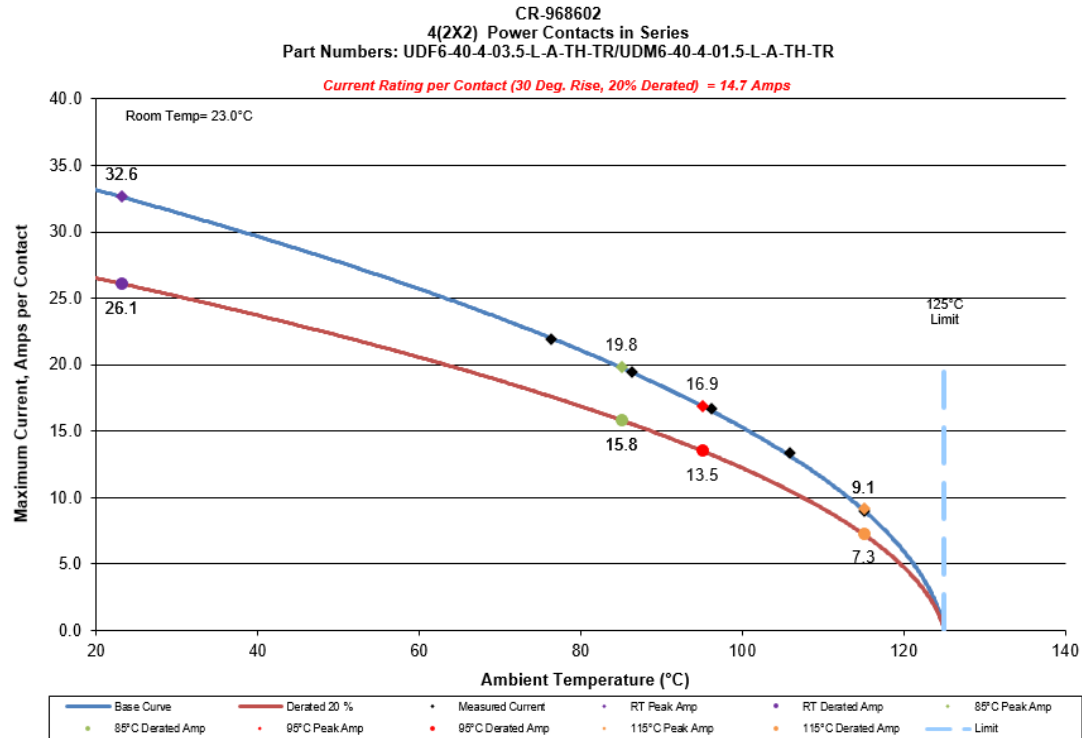


DATA SUMMARIES Continued



DATA SUMMARIES Continued

b. Linear configuration with 4 adjacent conductors/contacts powered

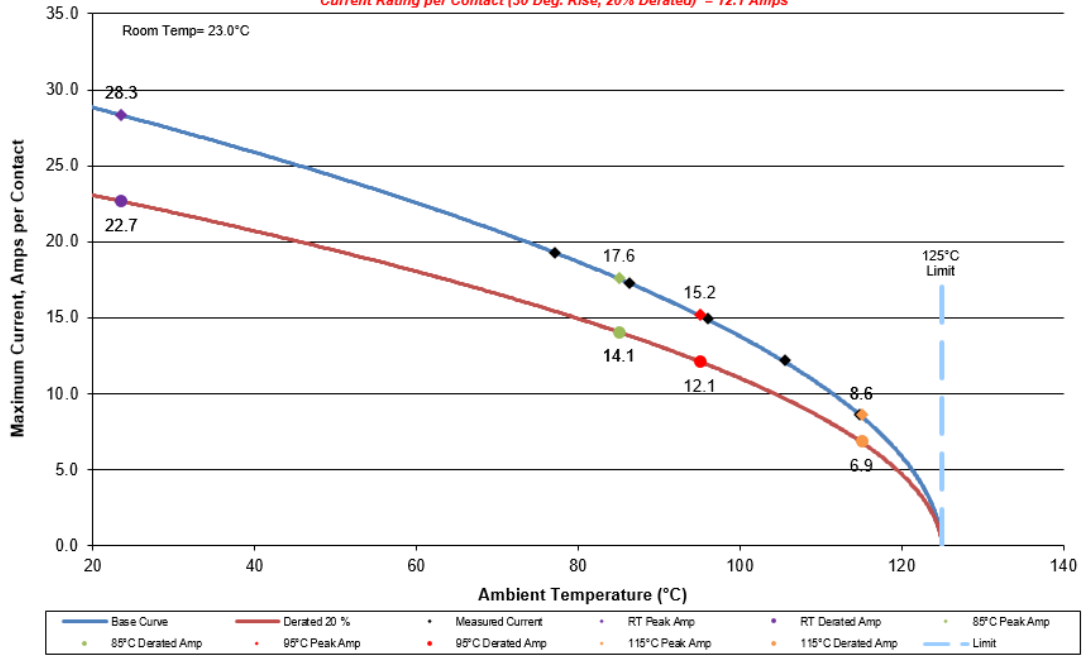


DATA SUMMARIES Continued

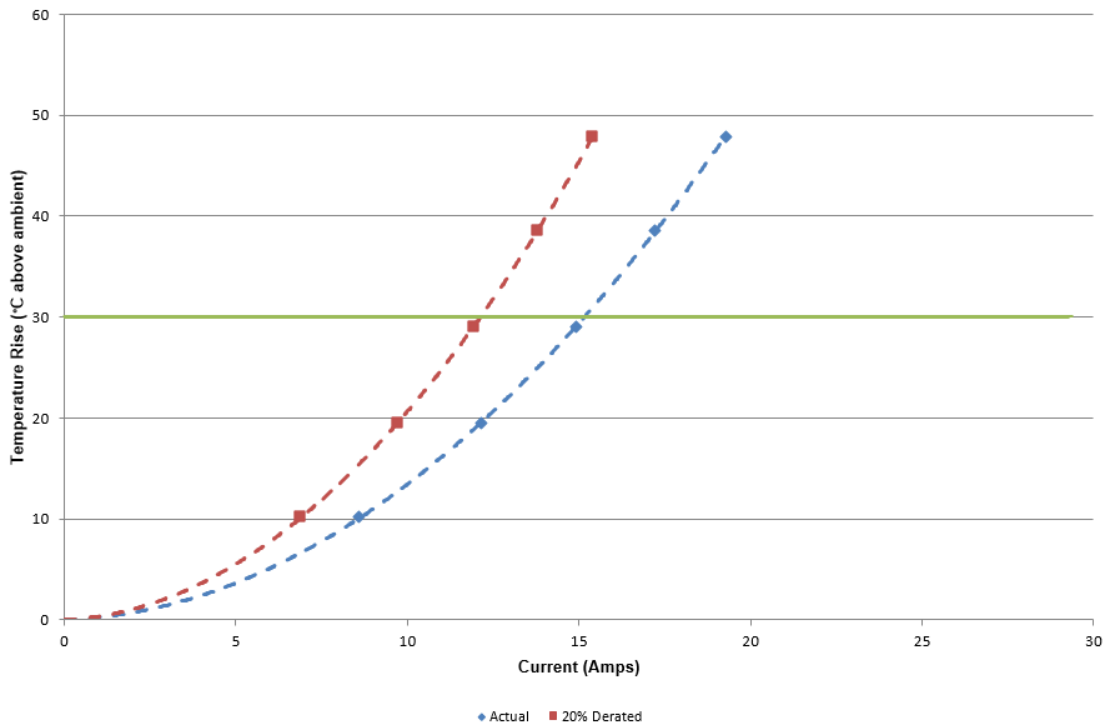
c. Linear configuration with 6 adjacent conductors/contacts powered

CR-968602
 6(2X3) Power Contacts in Series
 Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR

Current Rating per Contact (30 Deg. Rise, 20% Derated) = 12.1 Amps



CR-968602
 6(2X3) Power Contacts in Series
 Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR

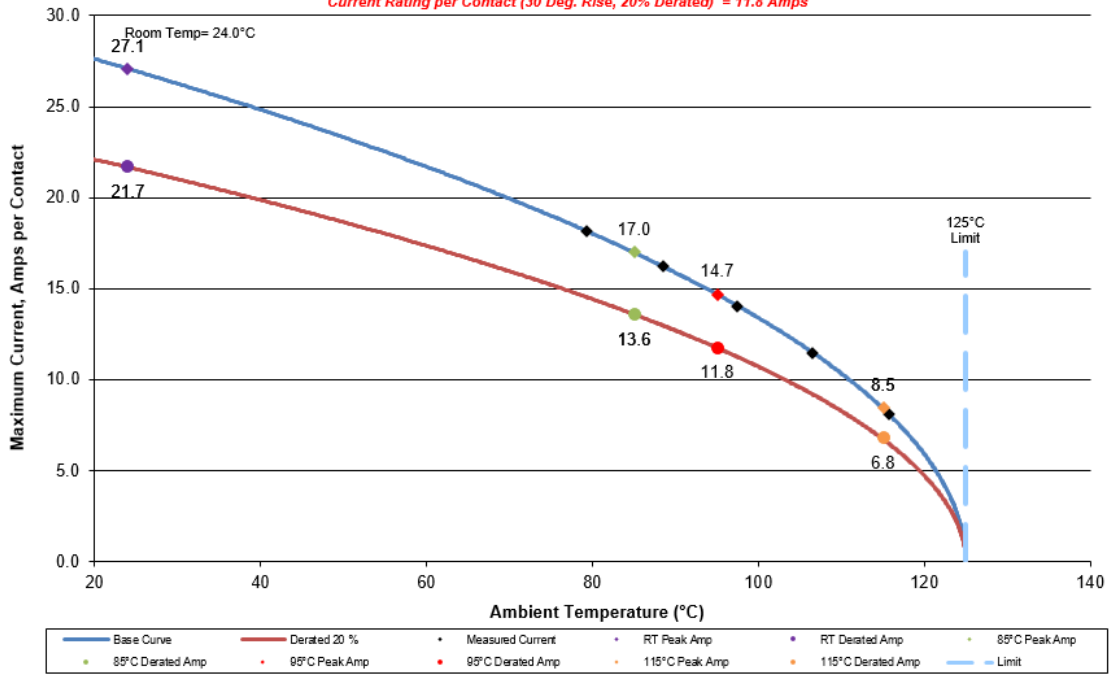


DATA SUMMARIES Continued

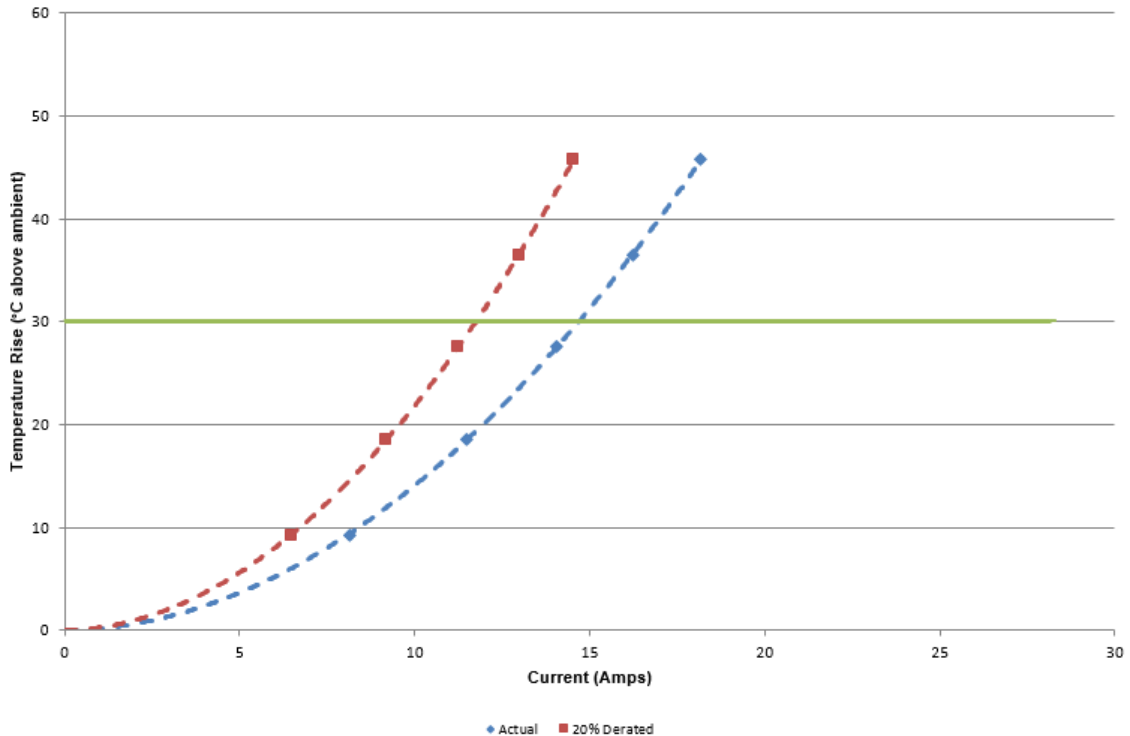
d. Linear configuration with 8 adjacent conductors/contacts powered

CR-968602
8(2X4) Power Contacts in Series
Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR

Current Rating per Contact (30 Deg. Rise, 20% Derated) = 11.8 Amps



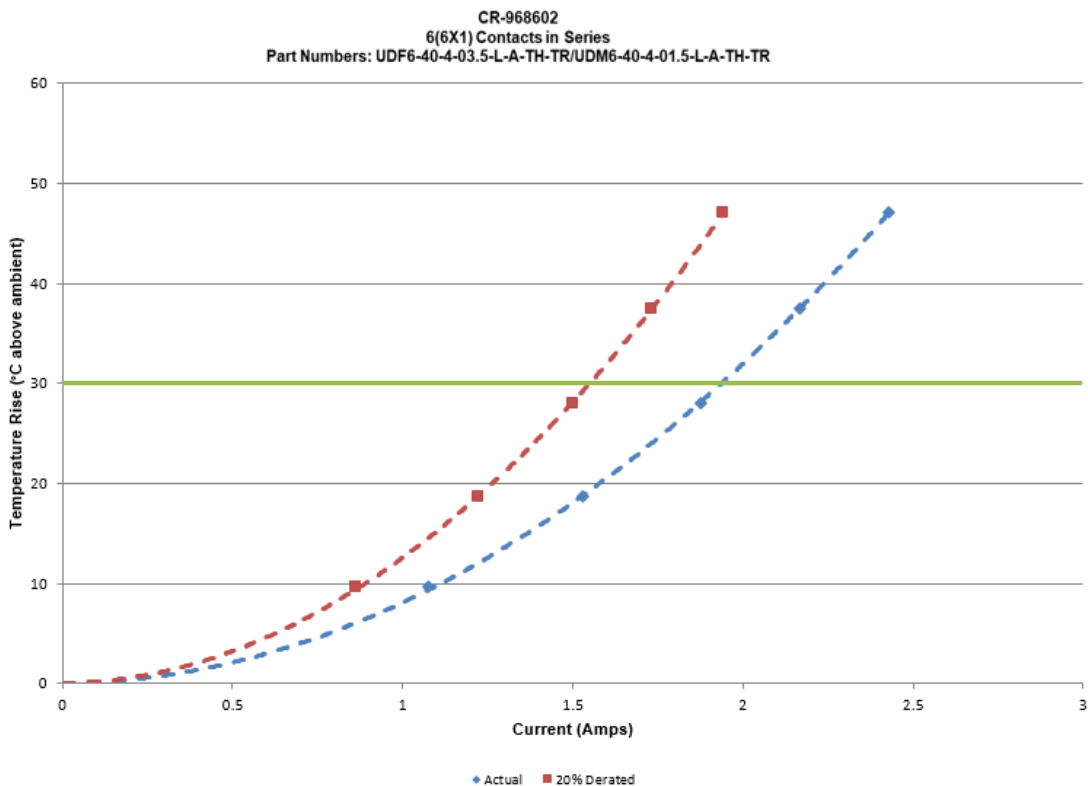
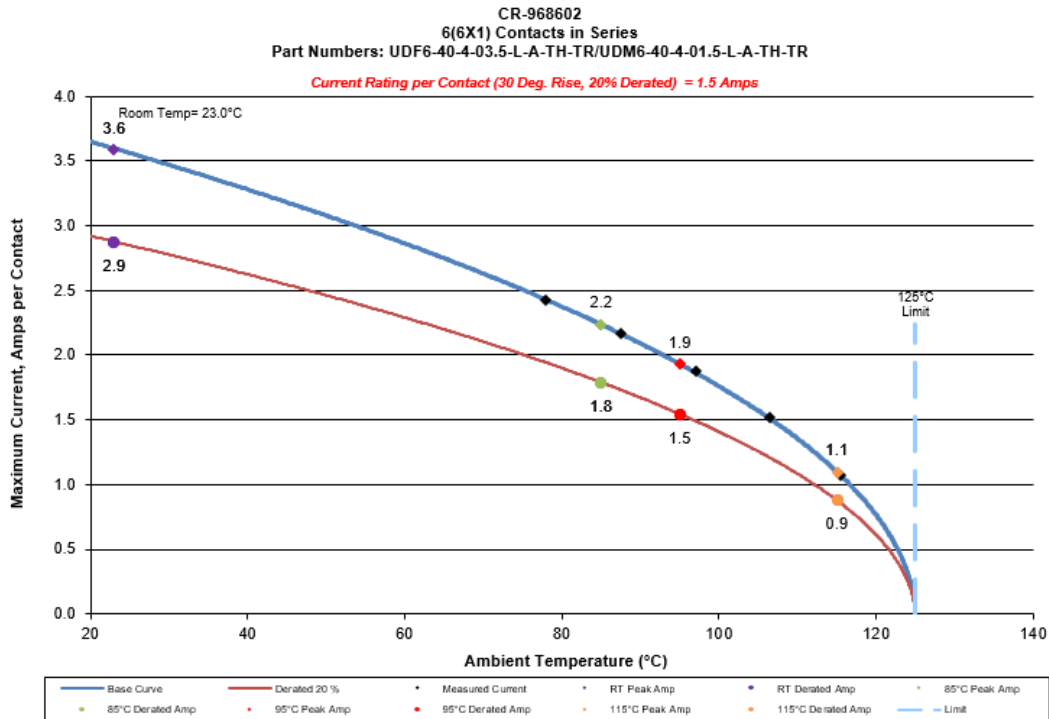
CR-968602
8(2X4) Power Contacts in Series
Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR



DATA SUMMARIES Continued

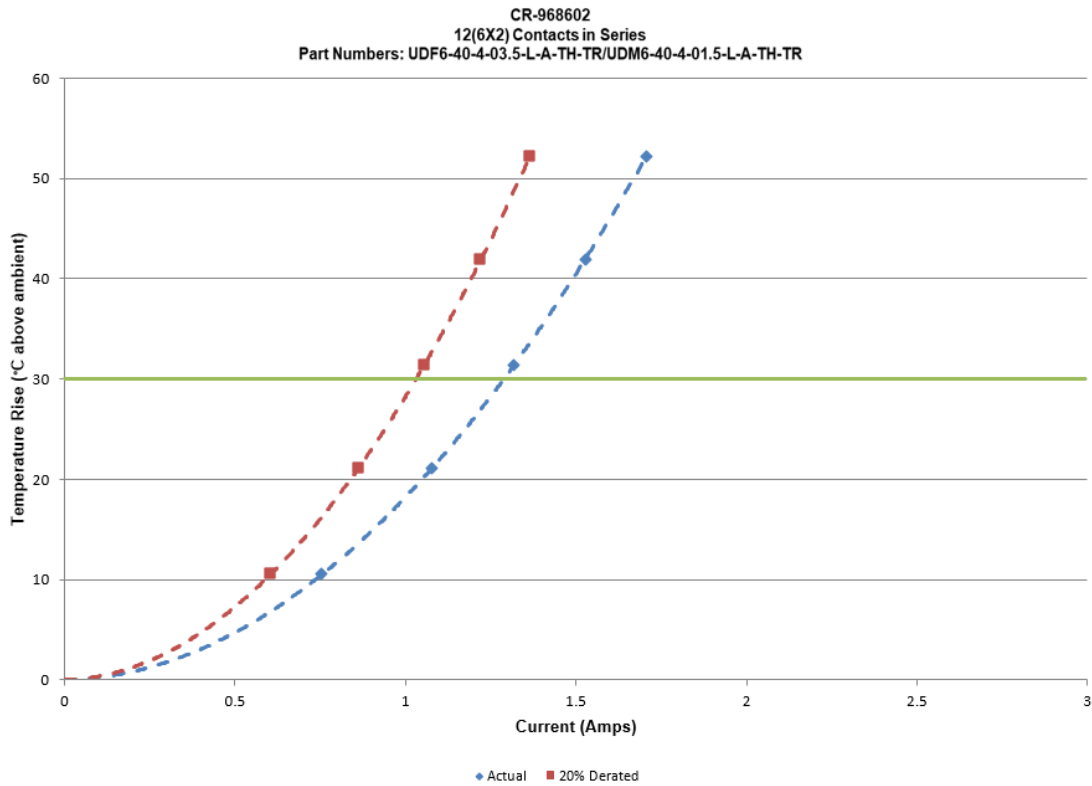
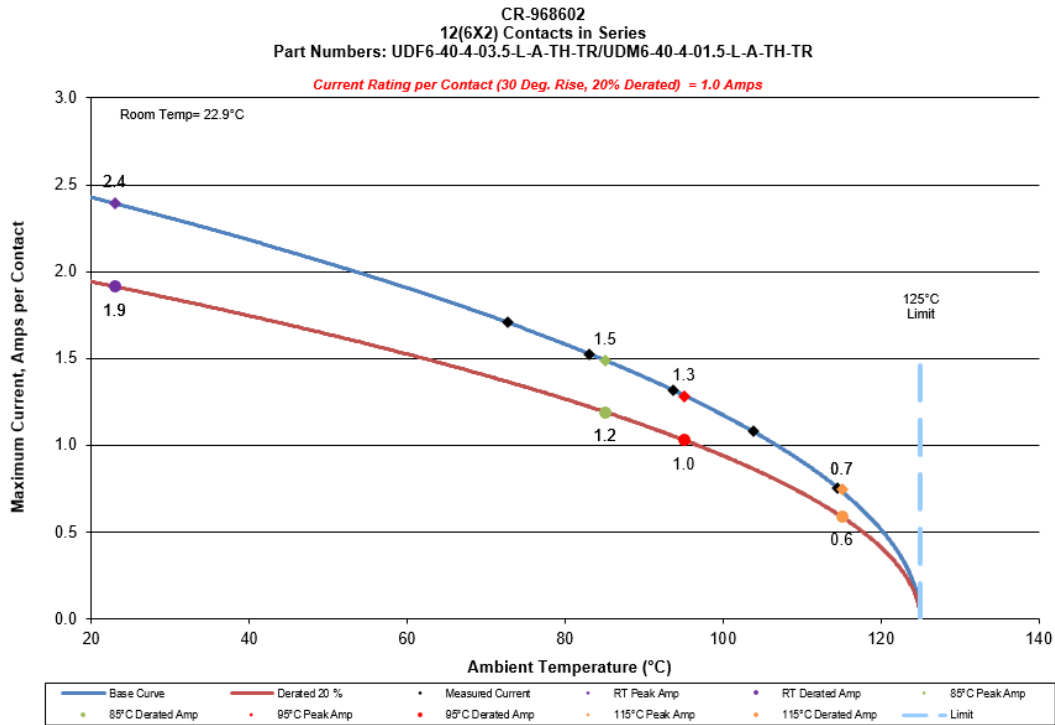
Signal Pin

- a. Linear configuration with 6 adjacent conductors/contacts powered



DATA SUMMARIES Continued

b. Linear configuration with 12 adjacent conductors/contacts powered

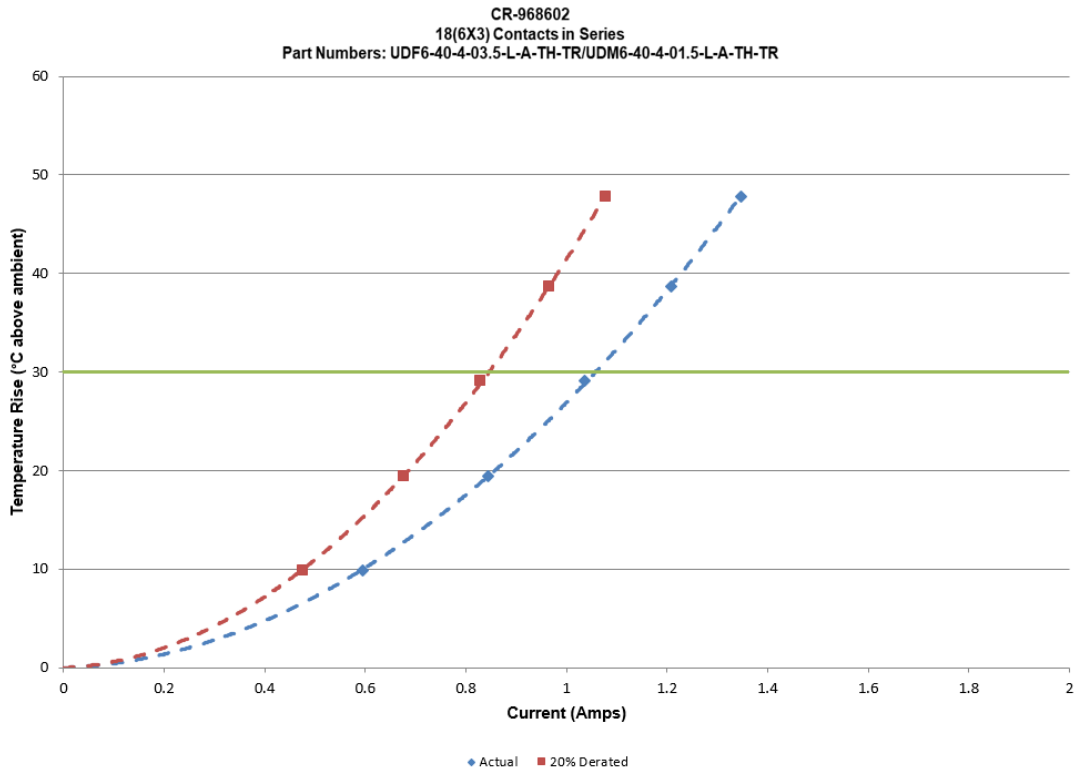
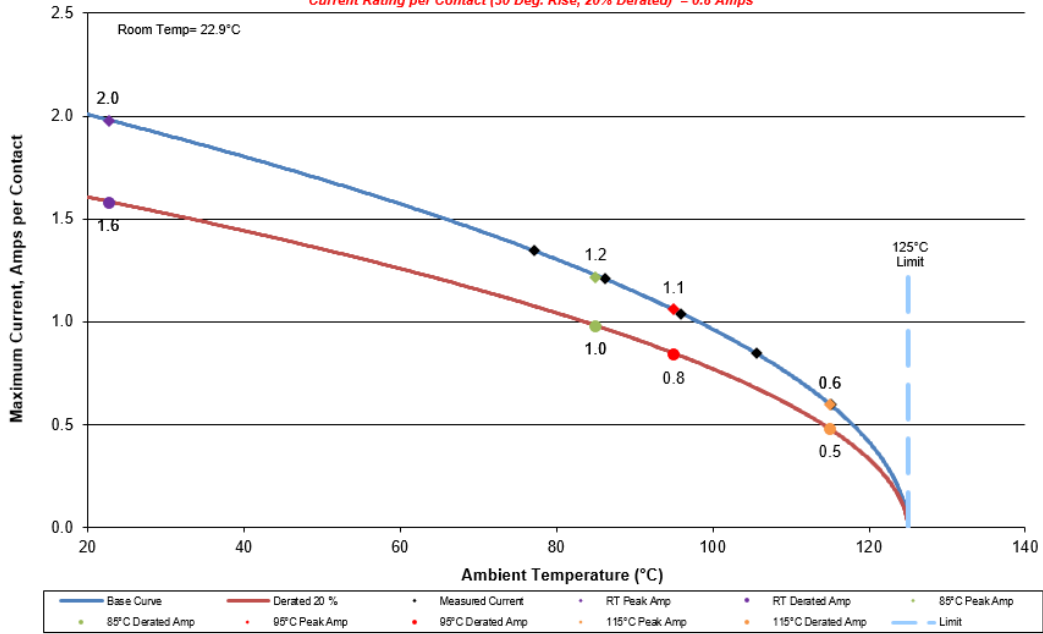


DATA SUMMARIES Continued

c. Linear configuration with 18 adjacent conductors/contacts powered

CR-968602
 18(6X3) Contacts in Series
 Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR

Current Rating per Contact (30 Deg. Rise, 20% Derated) = 0.8 Amps

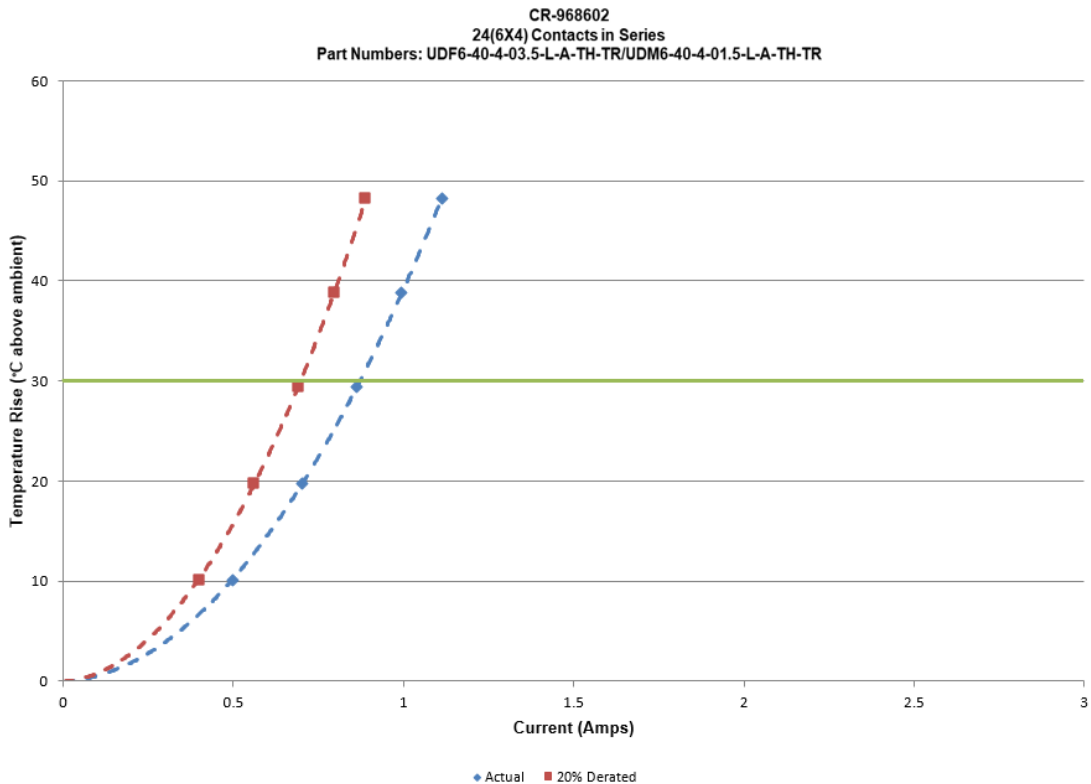
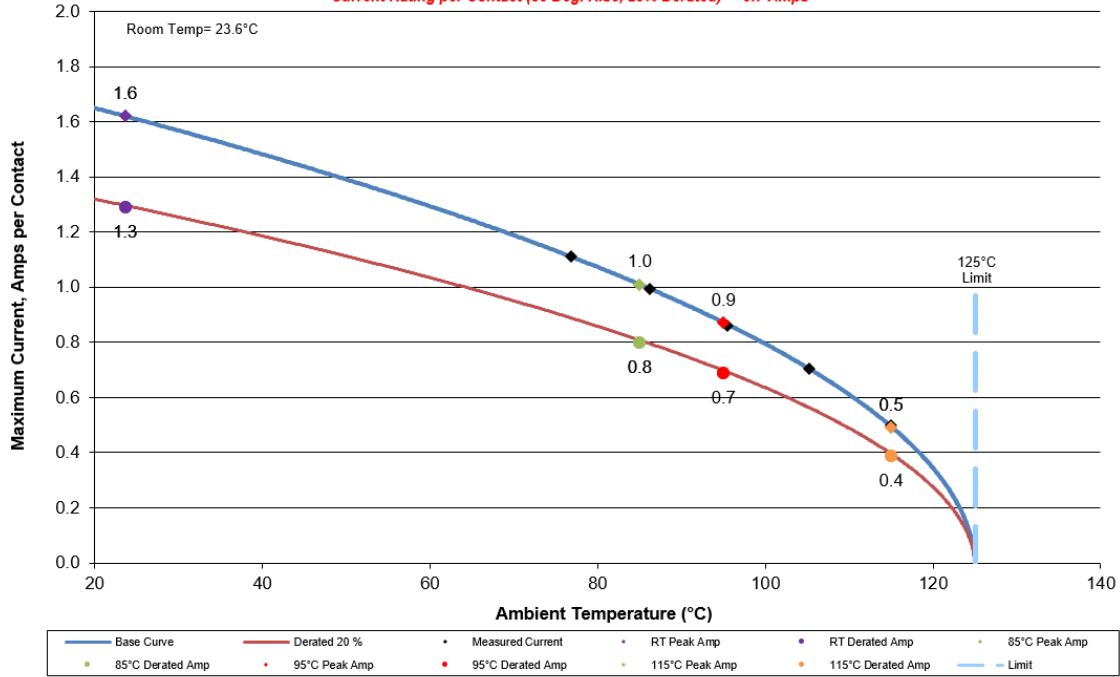


DATA SUMMARIES Continued

d. Linear configuration with 24 adjacent conductors/contacts powered

CR-968602
24(6X4) Contacts in Series
Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR

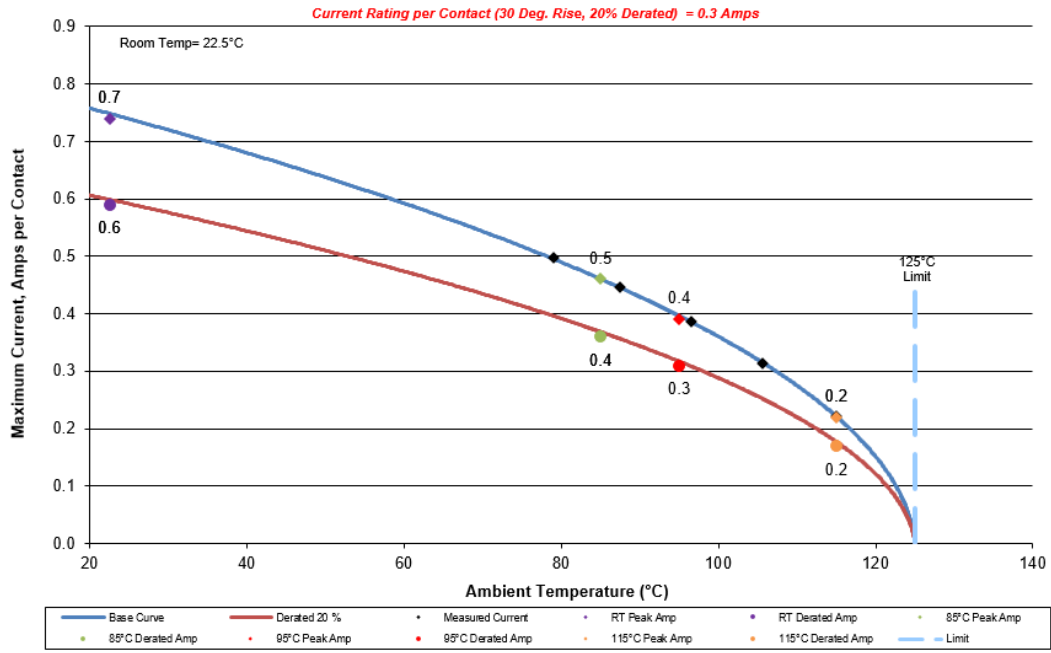
Current Rating per Contact (30 Deg. Rise, 20% Derated) = 0.7 Amps



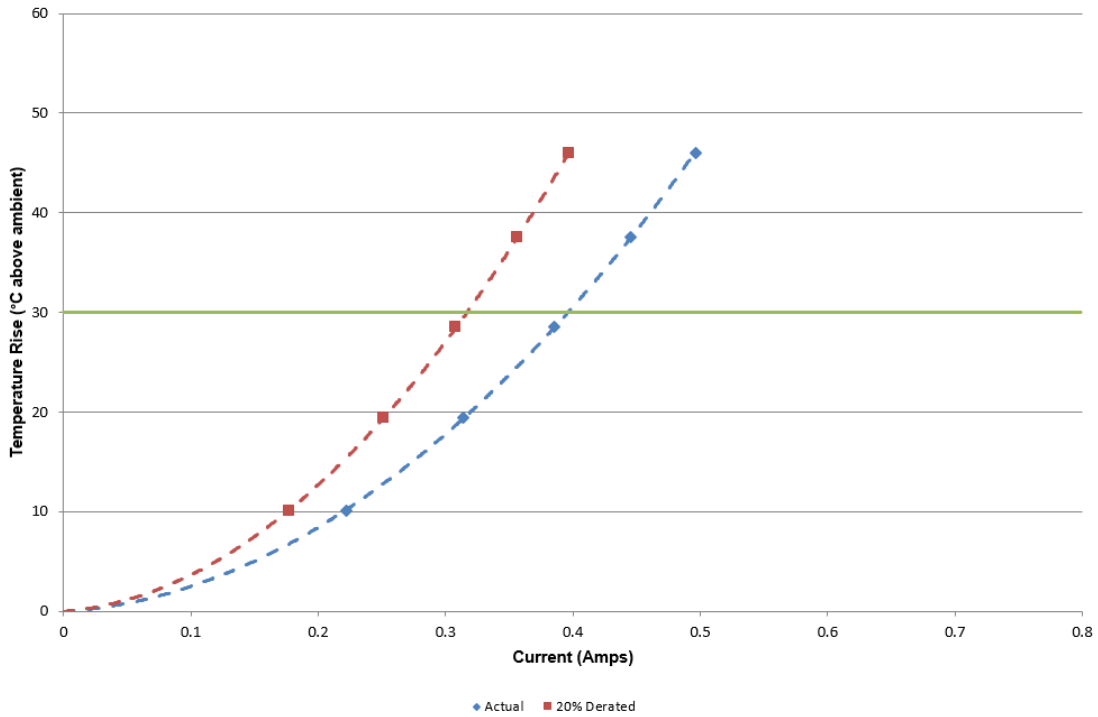
DATA SUMMARIES Continued

e. Linear configuration with 240 adjacent conductors/contacts powered

CR-968602
 All (6X40) Contacts in Series
 Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR



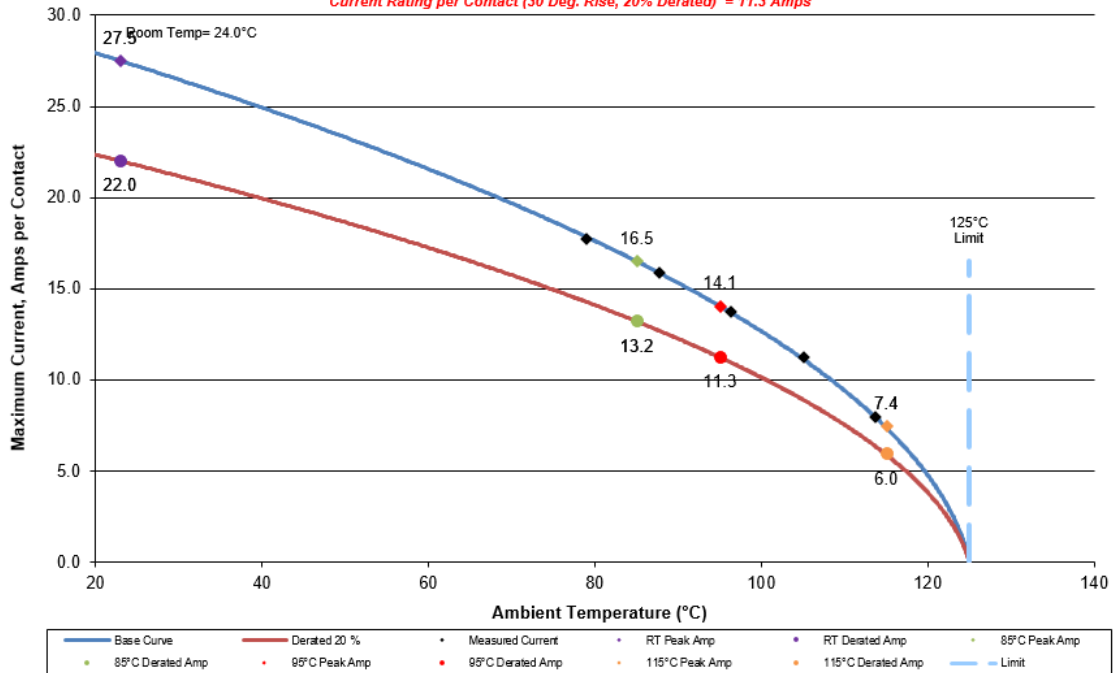
CR-968602
 All (6X40) Contacts in Series
 Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR



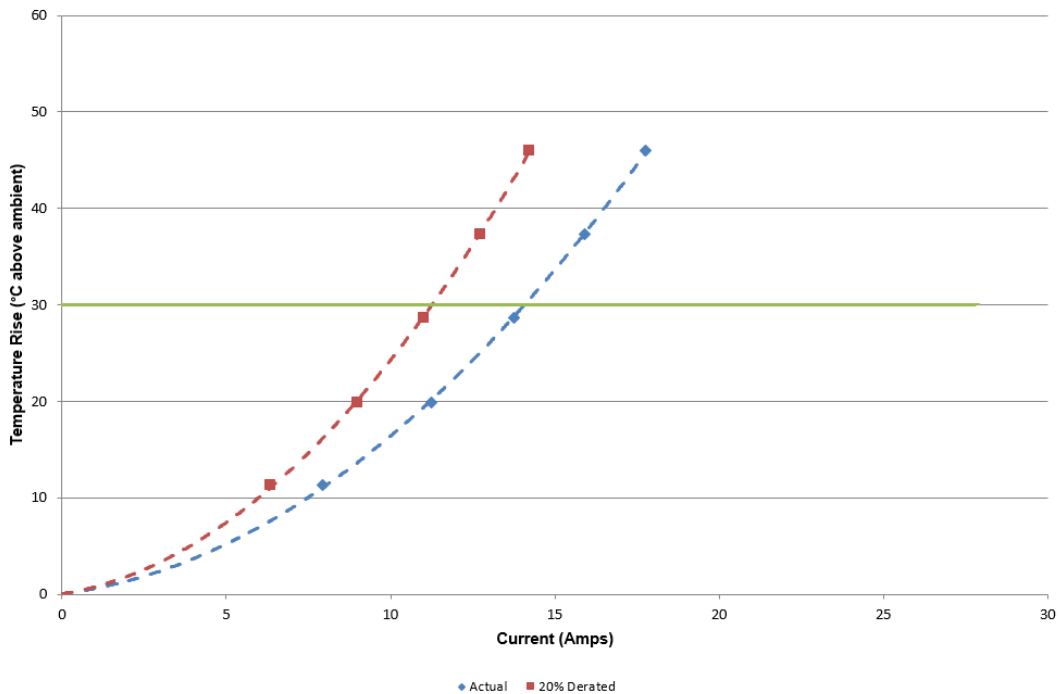
DATA SUMMARIES Continued

f. ALL POWER POSITIONS with SIGNAL @ 1/2 rated current

CR-968602
 8(2X4) Power Contacts in Series
 Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR
 Current Rating per Contact (30 Deg. Rise, 20% Derated) = 11.3 Amps



CR-968602
 8(2X4) Power Contacts in Series
 Part Numbers: UDF6-40-4-03.5-L-A-TH-TR/UDM6-40-4-01.5-L-A-TH-TR



DATA SUMMARIES Continued**MATING/UNMATING:****Thermal Aging Group**

	Initial				After Thermals			
	Mating		Unmating		Mating		Unmating	
	Newton's	Force (Lbs)	Newton's	Force (Lbs)	Newton's	Force (Lbs)	Newton's	Force (Lbs)
Minimum	63.83	14.35	42.12	9.47	38.39	8.63	29.71	6.68
Maximum	69.74	15.68	47.37	10.65	45.90	10.32	33.89	7.62
Average	66.71	15.00	44.16	9.93	42.65	9.59	31.84	7.16
St Dev	2.07	0.47	1.99	0.45	2.67	0.60	1.62	0.36
Count	8	8	8	8	8	8	8	8

Mating/Unmating Durability Group

	Initial				25 Cycles			
	Mating		Unmating		Mating		Unmating	
	Newton's	Force (Lbs)	Newton's	Force (Lbs)	Newton's	Force (Lbs)	Newton's	Force (Lbs)
Minimum	62.58	14.07	42.52	9.56	71.26	16.02	49.06	11.03
Maximum	71.21	16.01	50.35	11.32	88.96	20.00	60.72	13.65
Average	67.80	15.24	45.58	10.25	80.11	18.01	54.17	12.18
St Dev	3.27	0.74	2.80	0.63	6.25	1.41	4.01	0.90
Count	8	8	8	8	8	8	8	8

	After Humidity			
	Mating		Unmating	
	Newton's	Force (Lbs)	Newton's	Force (Lbs)
Minimum	46.30	10.41	32.65	7.34
Maximum	54.62	12.28	37.54	8.44
Average	50.00	11.24	35.24	7.92
St Dev	2.41	0.54	1.66	0.37
Count	8	8	8	8

Mating/Unmating Basic (UDF6-10-2-03.5-L-A-TH-TR / UDM6-10-2-01.5-L-A-TH-TR)

	Initial				25 Cycles			
	Mating		Unmating		Mating		Unmating	
	Newton's	Force (Lbs)	Newton's	Force (Lbs)	Newton's	Force (Lbs)	Newton's	Force (Lbs)
Minimum	17.12	3.85	11.25	2.53	17.17	3.86	12.10	2.72
Maximum	21.31	4.79	12.85	2.89	21.62	4.86	14.77	3.32
Average	19.05	4.28	12.17	2.74	18.97	4.26	13.26	2.98
St Dev	1.62	0.36	0.57	0.13	1.52	0.34	0.97	0.22
Count	8	8	8	8	8	8	8	8

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

	Pin to Pin		
	Mated	Unmated	Unmated
Minimum	UDF6/UDM6	UDF6	UDM6
Initial	45000	45000	45000
Thermal	45000	45000	45000
Humidity	45000	45000	45000

	Pin to Power		
	Mated	Unmated	Unmated
Minimum	UDF6/UDM6	UDF6	UDM6
Initial	45000	45000	45000
Thermal	45000	45000	45000
Humidity	45000	45000	45000

	Power to Power		
	Mated	Unmated	Unmated
Minimum	UDF6/UDM6	UDF6	UDM6
Initial	45000	45000	45000
Thermal	45000	45000	45000
Humidity	45000	45000	45000

	Row to Row		
	Mated	Unmated	Unmated
Minimum	UDF6/UDM6	UDF6	UDM6
Initial	45000	45000	45000
Thermal	45000	45000	45000
Humidity	45000	45000	45000

	Pin to Closest Metallic Hardware		
	Mated	Unmated	Unmated
Minimum	UDF6/UDM6	UDF6	UDM6
Initial	45000	45000	45000
Thermal	45000	45000	45000
Humidity	45000	45000	45000

DATA SUMMARIES Continued**DIELECTRIC WITHSTANDING VOLTAGE (DWV):**

Voltage Rating Summary	
Minimum	UDF6/UDM6
Break Down Voltage	801
Test Voltage	601
Working Voltage	200

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

Row to Row	
Initial Test Voltage	Passed
After Thermal Test Voltage	Passed
After Humidity Test Voltage	Passed

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

Pin to Closest Metallic Hardware	
Initial Test Voltage	Passed
After Thermal Test Voltage	Passed
After Humidity Test Voltage	Passed

Ground to Closest Metallic Hardware	
Initial Test Voltage	Passed
After Thermal Test Voltage	Passed
After Humidity Test Voltage	Passed

DATA SUMMARIES Continued**LLCR Durability:**

- 1) A total of 192 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	11/6/2024	11/11/2024	11/19/2024	11/29/2024
Room Temp (Deg C)	23	23	23	23
Rel Humidity (%)	51	51	51	51
Technician	Peter Chen	Peter Chen	Peter Chen	Peter Chen
mOhm values	Actual Initial	Delta Cycles	Delta Therm Shck	Delta Humidity
Pin Type: Signal 1				
Average	22.11	1.31	1.46	1.55
St. Dev.	1.17	1.05	1.19	1.18
Min	19.12	0	0.01	0.03
Max	25.43	4.91	5.07	5.17
Summary Count	160	160	160	160
Total Count	160	160	160	160
Pin Type: Power 1				
Average	1.09	0.18	0.15	0.16
St. Dev.	0.21	0.21	0.15	0.16
Min	0.5	0	0.01	0
Max	1.65	0.96	0.57	0.61
Summary Count	32	32	32	32
Total Count	32	32	32	32

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
Cycles	192	0	0	0	0	0
Therm Shck	191	1	0	0	0	0
Humidity	191	1	0	0	0	0

DATA SUMMARIES Continued

LLCR Thermal Aging:

- 1) A total of 192 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	11/8/2024	11/20/2024	
Room Temp (Deg C)	23	23	
Rel Humidity (%)	54	54	
Technician	Peter Chen	Peter Chen	
mOhm values	Actual	Delta	
	Initial	Thermal	
Pin Type: Signal 1			
Average	22.45	1.44	
St. Dev.	1.37	1.17	
Min	19.29	0.01	
Max	25.55	4.98	
Summary Count	160	160	
Total Count	160	160	
Pin Type: Power 1			
Average	1.08	0.09	
St. Dev.	0.09	0.09	
Min	0.89	0	
Max	1.32	0.32	
Summary Count	32	32	
Total Count	32	32	

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	≤ 5	>5 & ≤ 10	>10 & ≤ 15	>15 & ≤ 50	>50 & ≤ 1000	>1000
Thermal	192	0	0	0	0	0

DATA SUMMARIES Continued

LLCR Gas Tight:

- 1) A total of 192 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	11/6/2024	11/6/2024	
Room Temp (Deg C)	23	23	
Rel Humidity (%)	51	51	
Technician	Peter Chen	Peter Chen	
mOhm values	Actual	Delta	
	Initial	Acid Vapor	
Pin Type: Signal 1			
Average	21.71	1.00	
St. Dev.	1.14	1.10	
Min	18.97	0.01	
Max	25.66	6.75	
Summary Count	160	160	
Total Count	160	160	
Pin Type: Power 1			
Average	1.11	0.17	
St. Dev.	0.17	0.18	
Min	0.77	0.00	
Max	1.52	0.63	
Summary Count	32	32	
Total Count	32	32	

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
Acid Vapor	189	3	0	0	0	0

DATA SUMMARIES Continued

LLCR Shock & Vibration:

- 1). A total of 192 points were measured.
- 2). EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3). 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	12/5/2024	2/3/2025	
Room Temp (Deg C)	22	23	
Rel Humidity (%)	33	39	
Technician	Brian Stemle	Brian Stemle	
mOhm values	Actual	Delta	
	Initial	Shock-Vib	
Pin Type: Signal 1			
Average	21.55	1.02	
St. Dev.	1.35	1.45	
Min	18.87	0	
Max	27.7	10.11	
Summary Count	160	160	
Total Count	160	160	
Pin Type: Power 1			
Average	1.15	0.05	
St. Dev.	0.05	0.04	
Min	1.04	0	
Max	1.27	0.13	
Summary Count	32	32	
Total Count	32	32	

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
Shock-Vib	188	3	1	0	0	0

DATA SUMMARIES Continued**Nanosecond Event Detection:**

Shock and Vibration Event Detection Summary	
Contacts tested	60
Test Condition	C, 100g's, 6ms, Half-Sine
Shock Events	0
Test Condition	V-B, 7.56 rms g
Vibration Events	0
Total Events	0

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: 4/26/2024, Next Cal: 4/25/2025**Equipment #:** HZ-OV-01**Description:** Oven**Manufacturer:** Huida**Model:** CS101-1E**Serial #:** CS101-1E-B**Accuracy:** Last Cal: 12/13/2024, Next Cal: 12/12/2025**Equipment #:** HZ-THC-01**Description:** Humidity transmitter**Manufacturer:** Thermtron**Model:** SM-8-8200**Serial #:** 38846**Accuracy:** Last Cal: 2/28/2024, Next Cal: 2/27/2025**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: 06/28/2024, Next Cal: 06/27/2025

Equipment #: HZ-HPM-01**Description:** NA9636H**Manufacturer:** Ainuo**Model:** 6031A**Serial #:** 089601091**Accuracy:** Last Cal: 3/7/2024, Next Cal: 3/6/2025**Equipment #:** HZ-MO-05**Description:** Micro-ohmmeter**Manufacturer:** Keithley**Model:** 3706**Serial #:** 1285188**Accuracy:** Last Cal: 11/15/2024, Next Cal: 11/14/2025**Equipment #:** HZ-MO-01**Description:** Micro-ohmmeter**Manufacturer:** Keithley**Model:** 2700**Serial #:** 1199807**Accuracy:** Last Cal: 04/28/2024, Next Cal: 04/28/2025

EQUIPMENT AND CALIBRATION SCHEDULES Continued**Equipment #:** HZ-PS-01**Description:** Power Supply**Manufacturer:** Agilent**Model:** 6031A**Serial #:** MY41000982**Accuracy:** Last Cal: 04/23/2024, Next Cal: 04/28/2025**Equipment #:** SVC-01**Description:** Shock & Vibration Table**Manufacturer:** Data Physics**Model:** LE-DSA-10-20K**Serial #:** 10037**Accuracy:** See Manual

... Last Cal: 11/31/2024, Next Cal: 11/31/2025

Equipment #: ACLM-01**Description:** Accelerometer**Manufacturer:** PCB Piezotronics**Model:** 352C03**Serial #:** 115819**Accuracy:** See Manual

... Last Cal: 07/09/2024, Next Cal: 07/09/2025

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

... Last Cal: 06/04/2024, Next Cal: 06/04/2025

Equipment #: DG-MFG-01**Description:** Mixed Flow Gas Chamber**Manufacturer:** Yamasaki**Model:** GH-180**Serial #:** 715**Accuracy:** Last Cal: 12/5/2024, Next Cal: 12/4/2025