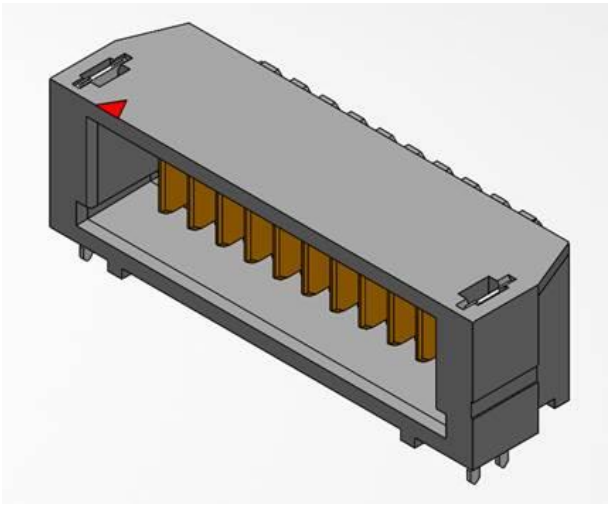
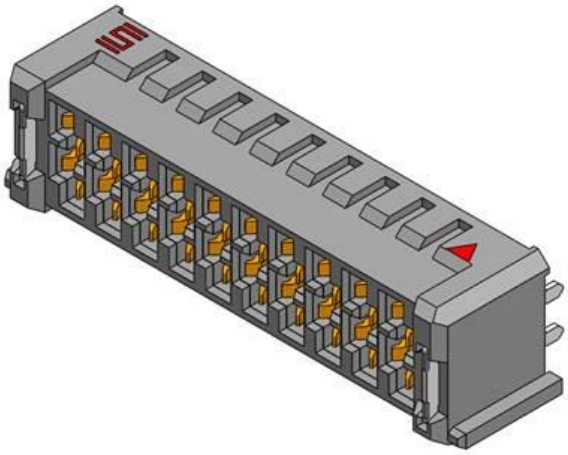
Project Number: Design Qualification Test Report	Tracking Code: 2410700_Report_Rev_2
Requested by: Leo Lee	Date: 8/11/2022
Part #: UMPS-04-05.5-G-V-S-W-TR/ UMPT-04-01-T-RA-WT-TR	Tech: Peter Chen
Part description: UMPS/UMPT	Qty to test: 32
Test Start: 05/20/2020	Test Completed: 06/15/2020





DESIGN QUALIFICATION TEST REPORT

UMPS / UMPT
UMPS-04-05.5-G-V-S-W-TR/ UMPT-04-01-T-RA-WT-TR

REVISION HISTORY

DATA	REV.NUM.	DESCRIPTION	ENG
08/06/2020	**1**	**Initial Issue**	**PC**
08/11/2022	**2**	**Updated the part number**	**PC**

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to IS0 10012-l and ANSI/NCSL 2540-1, as applicable.

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 TLWI-0001.
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-110876-TST. PCB-110859-TST.

FLOWCHARTS

Mating/Unmating/Durability

Group 1 UMPS-04-05.5-G-V-S-W-TR UMPT-04-01-L-RA-WT-TR 8 Assemblies		Group 2 UMPS-02-05.5-G-V-S-W-TR UMPT-02-01-L-RA-WT-TR 8 Assemblies		Group 3 UMPS-10-05.5-G-V-S-W-TR UMPT-10-01-L-RA-WT-TR 8 Assemblies	
Step	**Description**	**Step**	**Description**	**Step**	**Description**
1.	Contact Gaps	1.	Contact Gaps	1.	Contact Gaps
2.	LLCR (2)	2.	Mating/Unmating Force (3)	2.	Mating/Unmating Force (3)
3.	Mating/Unmating Force (3)	3.	Cycles Quantity = 25 Cycles	3.	Cycles Quantity = 25 Cycles
4.	Cycles Quantity = 25 Cycles	4.	Mating/Unmating Force (3)	4.	Mating/Unmating Force (3)
5.	Mating/Unmating Force (3)	5.	Cycles Quantity = 25 Cycles	5.	Cycles Quantity = 25 Cycles
6.	Cycles Quantity = 25 Cycles	6.	Mating/Unmating Force (3)	6.	Mating/Unmating Force (3)
7.	Mating/Unmating Force (3)	7.	Cycles Quantity = 25 Cycles	7.	Cycles Quantity = 25 Cycles
8.	Cycles Quantity = 25 Cycles	8.	Mating/Unmating Force (3)	8.	Mating/Unmating Force (3)
9.	Mating/Unmating Force (3)	9.	Cycles Quantity = 25 Cycles	9.	Cycles Quantity = 25 Cycles
10.	Cycles Quantity = 25 Cycles	10.	Mating/Unmating Force (3)	10.	Mating/Unmating Force (3)
11.	Mating/Unmating Force (3)				
12.	Contact Gaps				
13.	LLCR (2) Max Delta = 15 mOhm				
14.	Thermal Shock (4)				
15.	LLCR (2) Max Delta = 15 mOhm				
16.	Humidity (1)				
17.	LLCR (2) Max Delta = 15 mOhm				
18.	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

Current Carrying Capacity

Group 1
UMPS-10-05.5-G-V-S-W-TR
UMPT-10-01-L-RA-WT-TR
1 Pins Powered
Power

Step	Description
1.	CCC (1) Rows = 1 Number of Positions = 1

Group 2
UMPS-10-05.5-G-V-S-W-TR
UMPT-10-01-L-RA-WT-TR
2 Pins Powered
Power

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

Group 3
UMPS-10-05.5-G-V-S-W-TR
UMPT-10-01-L-RA-WT-TR
3 Pins Powered
Power

Step	Description
1.	CCC (1) Rows = 1 Number of Positions = 3

Group 4
UMPS-10-05.5-G-V-S-W-TR
UMPT-10-01-L-RA-WT-TR
4 Pins Powered
Power

Step	Description
1.	CCC (1) Rows = 1 Number of Positions = 4

Group 5
UMPS-10-05.5-G-V-S-W-TR
UMPT-10-01-L-RA-WT-TR
10 Pins Powered
Power

Step	Description
1.	CCC (1) Rows = 1 Number of Positions = 10

(1) 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

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 +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.

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. 85^{o} C
    c. 95^{o} C
    d. 115^{o} C
8) Typically, neighboring contacts (in close proximity to maximize heat build up) 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. <= +0.33 mOhms: ----------Stable
    b. +0.33 to +0.66 mOhms: ----------Minor
    c. +0.67 to +1.00 mOhms: ----------Acceptable
    d. +1.01 to +50.0 mOhms: ----------Marginal
    e. +50.1 to +1000 mOhms: ----------Unstable
    f. >+1000 mOhms:----------Open Failure

RESULTS

Temperature Rise, CCC at a 20% de-rating

- **CCC for a 30°C Temperature Rise----------18.1 A per contact with 1 contacts (1x1) powered**
- **CCC for a 30°C Temperature Rise----------16.6 A per contact with 2 contacts (1x2) powered**
- **CCC for a 30°C Temperature Rise----------14.0 A per contact with 3 contacts (1x3) powered**
- **CCC for a 30°C Temperature Rise----------13.5 A per contact with 4 contacts (1x4) powered**
- **CCC for a 30°C Temperature Rise----------8.9 A per contact with 10 contacts (1x10) powered**

Mating – Unmating Forces

Mating-Unmating Durability Group

- **Initial**
  - **Mating**
    - **Min ---------- 3.17 Lbs**
    - **Max---------- 4.01 Lbs**
  - **Unmating**
    - **Min ---------- 1.84 Lbs**
    - **Max---------- 2.27 Lbs**
- **After 25 Cycles**
  - **Mating**
    - **Min ---------- 3.10 Lbs**
    - **Max---------- 3.78 Lbs**
  - **Unmating**
    - **Min ---------- 2.35 Lbs**
    - **Max---------- 2.67 Lbs**
- **After 50 Cycles**
  - **Mating**
    - **Min ---------- 2.68 Lbs**
    - **Max---------- 3.01 Lbs**
  - **Unmating**
    - **Min ---------- 2.51 Lbs**
    - **Max---------- 2.72 Lbs**
- **After 75 Cycles**
  - **Mating**
    - **Min ---------- 2.68 Lbs**
    - **Max---------- 2.93 Lbs**
  - **Unmating**
    - **Min ---------- 2.54 Lbs**
    - **Max---------- 2.78 Lbs**
- **After 100 Cycles**
  - **Mating**
    - **Min ---------- 2.56 Lbs**
    - **Max---------- 3.01 Lbs**
  - **Unmating**
    - **Min ---------- 2.39 Lbs**
    - **Max---------- 2.77 Lbs**
- **Humidity**
  - **Mating**
    - **Min ---------- 1.54 Lbs**
    - **Max---------- 1.85 Lbs**
  - **Unmating**
    - **Min ---------- 1.44 Lbs**
    - **Max---------- 1.69 Lbs**

RESULTS Continued

Mating-Unmating Basic (UMPS-10-05.5-G-V-S-W-TR/ UMPT-10-01-L-RA-WT-TR**)**

- **Initial**
  - **Mating**
    - **Min ---------- 9.24 Lbs**
    - **Max----------10.94 Lbs**
  - **Unmating**
    - **Min ---------- 5.73 Lbs**
    - **Max---------- 6.14 Lbs**
- **After 25 Cycles**
  - **Mating**
    - **Min ---------- 8.57 Lbs**
    - **Max---------- 9.91 Lbs**
  - **Unmating**
    - **Min ---------- 6.26 Lbs**
    - **Max---------- 6.79 Lbs**
- **After 50 Cycles**
  - **Mating**
    - **Min ---------- 7.36 Lbs**
    - **Max---------- 8.31 Lbs**
  - **Unmating**
    - **Min ---------- 6.46 Lbs**
    - **Max---------- 7.13 Lbs**
- **After 75 Cycles**
  - **Mating**
    - **Min ---------- 3.72 Lbs**
    - **Max---------- 7.51 Lbs**
  - **Unmating**
    - **Min ---------- 6.56 Lbs**
    - **Max---------- 7.15 Lbs**
- **After 100 Cycles**
  - **Mating**
    - **Min ---------- 7.10 Lbs**
    - **Max---------- 7.67 Lbs**
  - **Unmating**
    - **Min ---------- 6.73 Lbs**
    - **Max---------- 7.23 Lbs**

RESULTS Continued

Mating-Unmating Basic (UMPS-02-05.5-G-V-S-W-TR/ UMPT-02-01-L-RA-WT-TR**)**

- **Initial**
  - **Mating**
    - **Min ---------- 1.82 Lbs**
    - **Max---------- 2.41 Lbs**
  - **Unmating**
    - **Min ---------- 1.25 Lbs**
    - **Max---------- 1.63 Lbs**
- **After 25 Cycles**
  - **Mating**
    - **Min ---------- 2.02 Lbs**
    - **Max---------- 2.41 Lbs**
  - **Unmating**
    - **Min ---------- 1.47 Lbs**
    - **Max---------- 1.79 Lbs**
- **After 50 Cycles**
  - **Mating**
    - **Min ---------- 1.74 Lbs**
    - **Max---------- 2.25 Lbs**
  - **Unmating**
    - **Min ---------- 1.63 Lbs**
    - **Max---------- 2.00 Lbs**
- **After 75 Cycles**
  - **Mating**
    - **Min ---------- 1.75 Lbs**
    - **Max---------- 2.18 Lbs**
  - **Unmating**
    - **Min ---------- 1.73 Lbs**
    - **Max---------- 2.10 Lbs**
- **After 100 Cycles**
  - **Mating**
    - **Min ---------- 1.84 Lbs**
    - **Max---------- 2.25 Lbs**
  - **Unmating**
    - **Min ---------- 1.78 Lbs**
    - **Max---------- 2.13 Lbs**

RESULTS Continued

LLCR Mating/Unmating Durability Group (32 LLCR test points)

- **Initial ----------1.24 mOhms Max**
- **Durability, 100 Cycles**
  - **<= +0.33 mOhms ----------32 Points ---------- Stable**
  - **+0.34 to +0.66 mOhms ----------0 Points ---------- Minor**
  - **+0.67 to +1.00 mOhms ----------0 Points ---------- Acceptable**
  - **+1.01 to +50.0 mOhms ----------0 Points ---------- Marginal**
  - **+50.1 to +1000 mOhms----------0 Points ---------- Unstable**
  - **>+1000 mOhms----------0 Points ---------- Open Failure**
- **Thermal Shock**
  - **<= +0.33 mOhms ----------32 Points ---------- Stable**
  - **+0.34 to +0.66 mOhms ----------0 Points ---------- Minor**
  - **+0.67 to +1.00 mOhms ----------0 Points ---------- Acceptable**
  - **+1.01 to +50.0 mOhms ----------0 Points ---------- Marginal**
  - **+50.1 to +1000 mOhms----------0 Points ---------- Unstable**
  - **>+1000 mOhms----------0 Points ---------- Open Failure**
- **Humidity**
  - **<= +0.33 mOhms ----------32 Points ---------- Stable**
  - **+0.34 to +0.66 mOhms ----------0 Points ---------- Minor**
  - **+0.67 to +1.00 mOhms ----------0 Points ---------- Acceptable**
  - **+1.01 to +50.0 mOhms ----------0 Points ---------- Marginal**
  - **+50.1 to +1000 mOhms----------0 Points ---------- Unstable**
  - **>+1000 mOhms----------0 Points ---------- Open Failure**

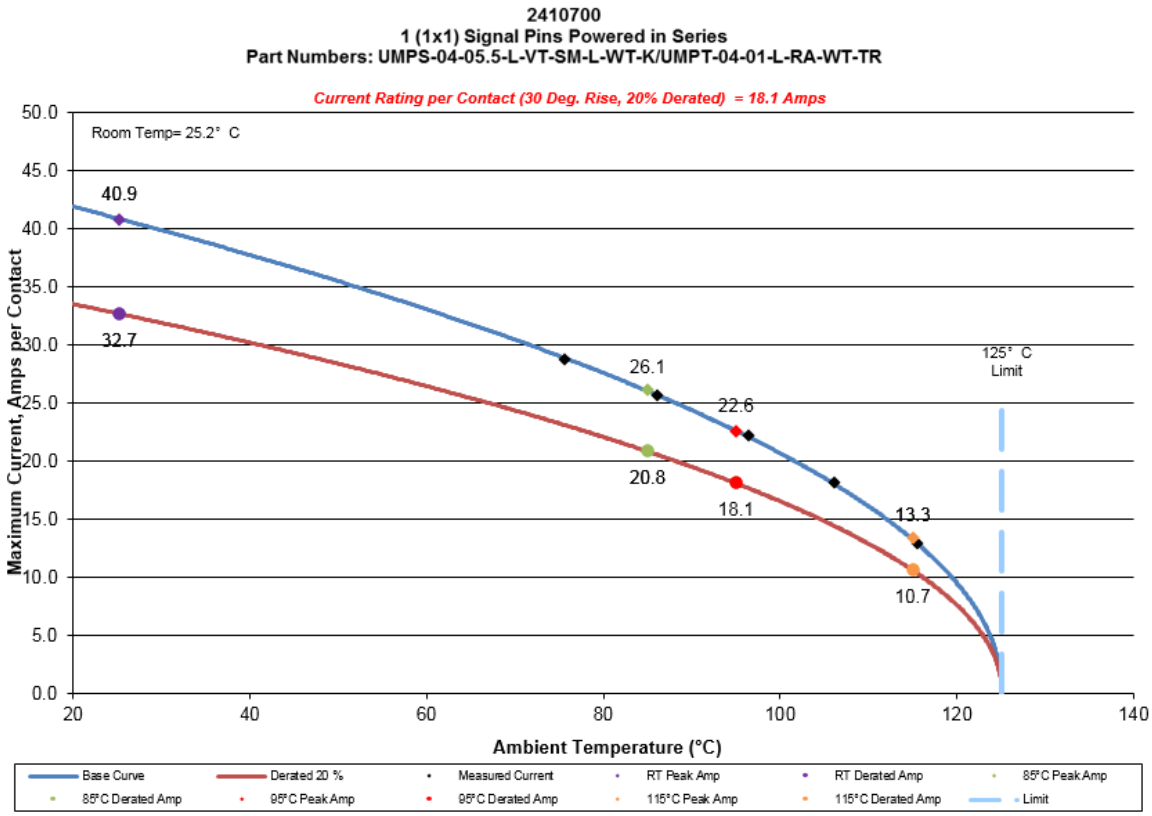
DATA SUMMARIES

TEMPERATURE RISE (Current Carrying Capacity, CCC):

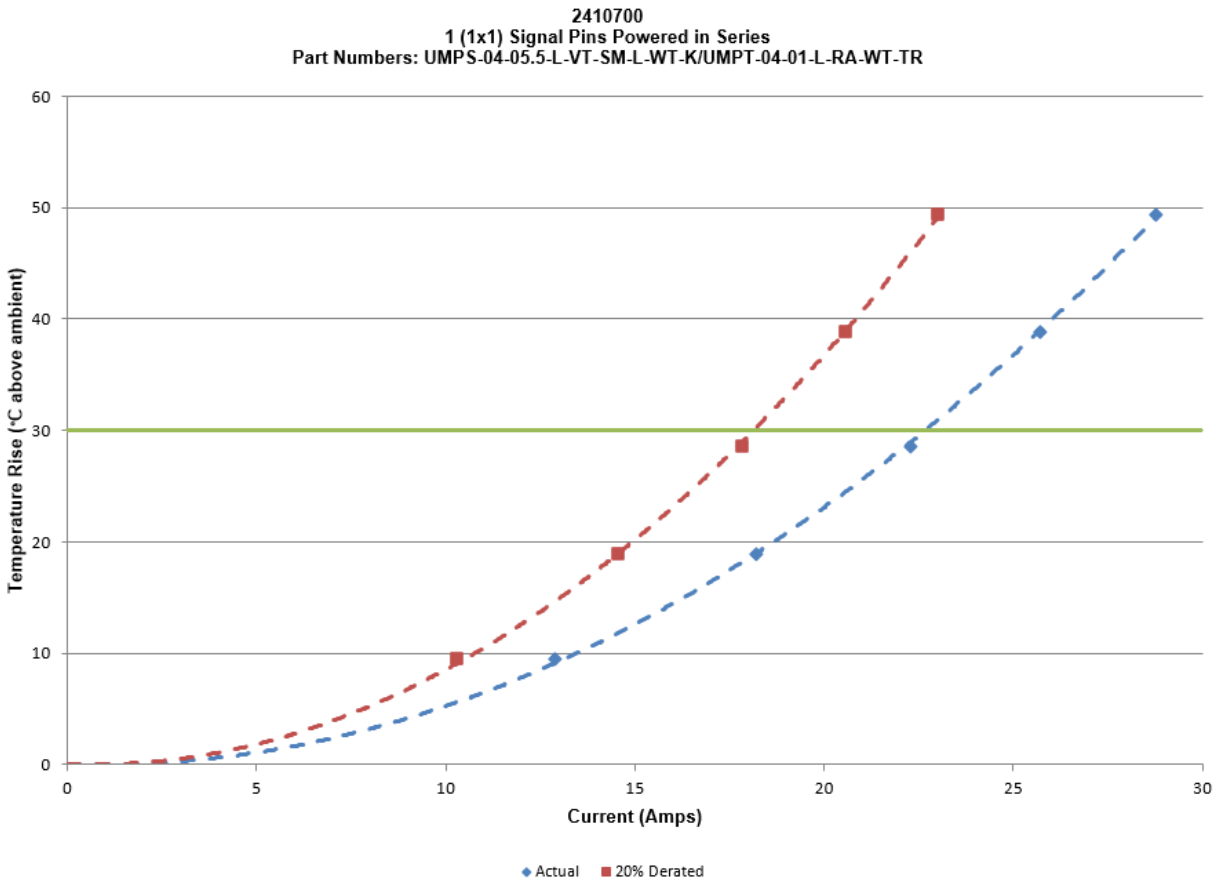
1) High quality thermocouples whose temperature slopes track one another were used for temperature monitoring.
2) The thermocouples were placed at a location to sense the maximum temperature generated during testing.
3) Temperature readings recorded are those for which three successive readings, 15 minutes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

Without Lube

a. Linear configuration with 1 adjacent conductors/contacts powered

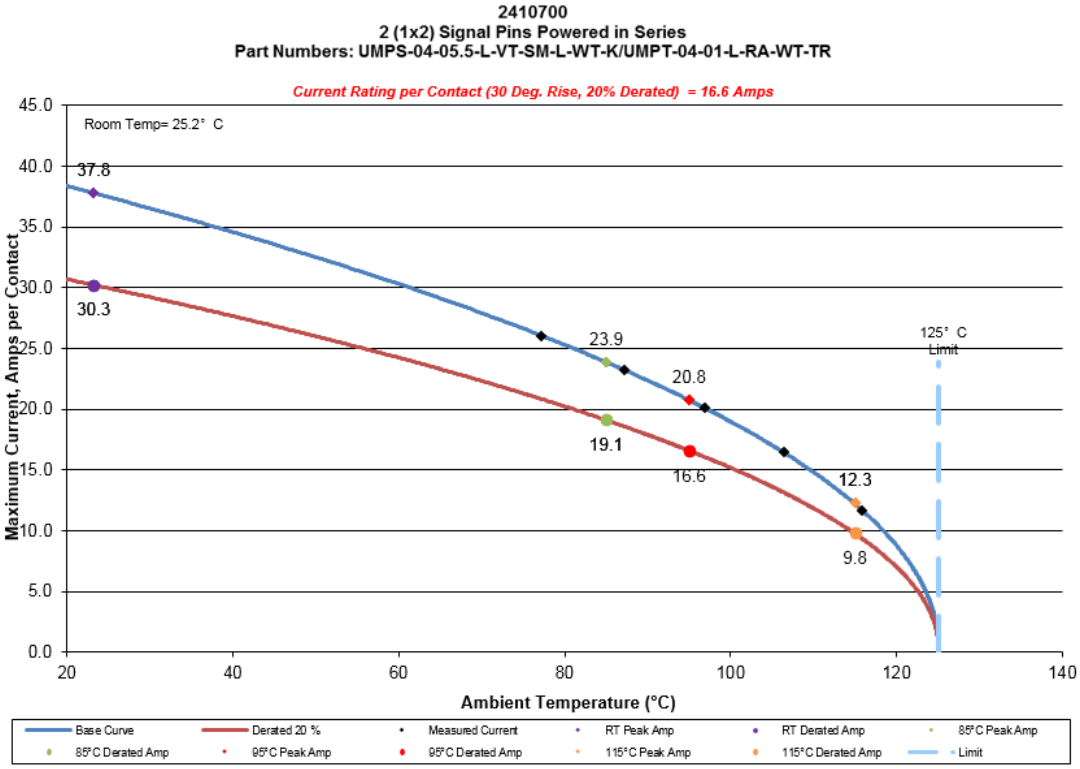


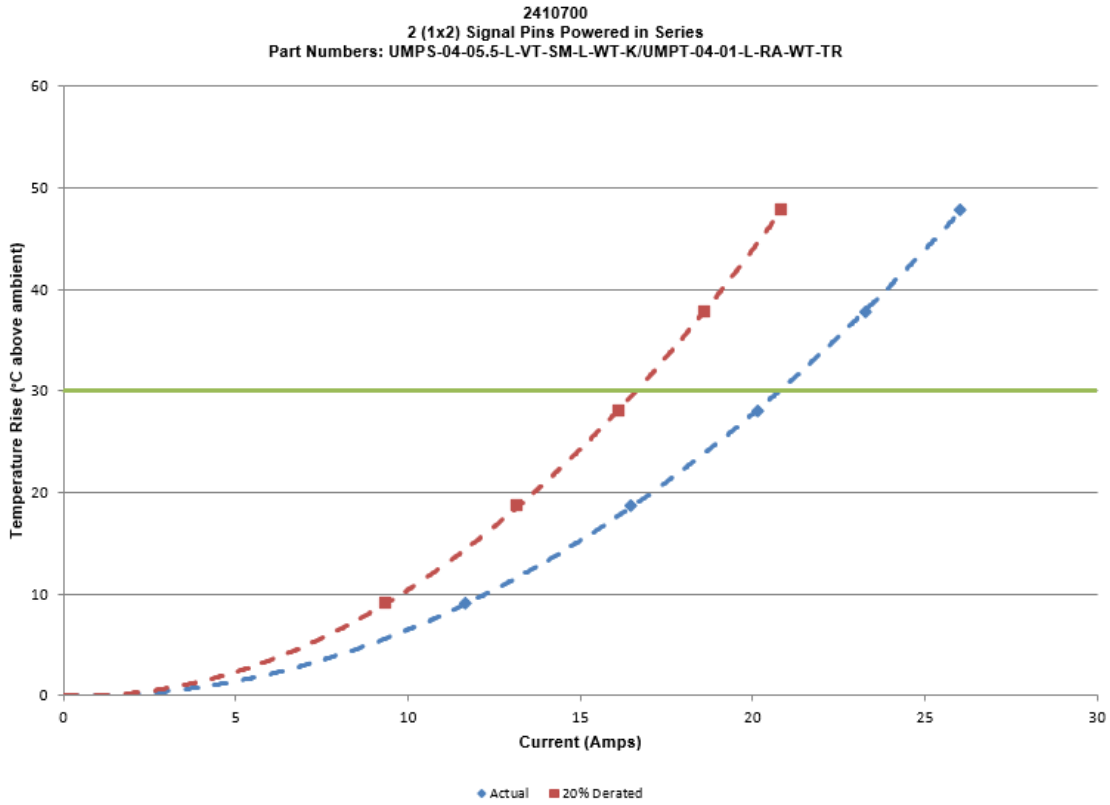
Tracking Code: 2410700_Report_Rev_2	Part #: UMPS-04-05.5-G-V-S-W-TR/ UMPT-04-01-T-RA-WT-TR
Part description: UMPS / UMPT	



DATA SUMMARIES Continued

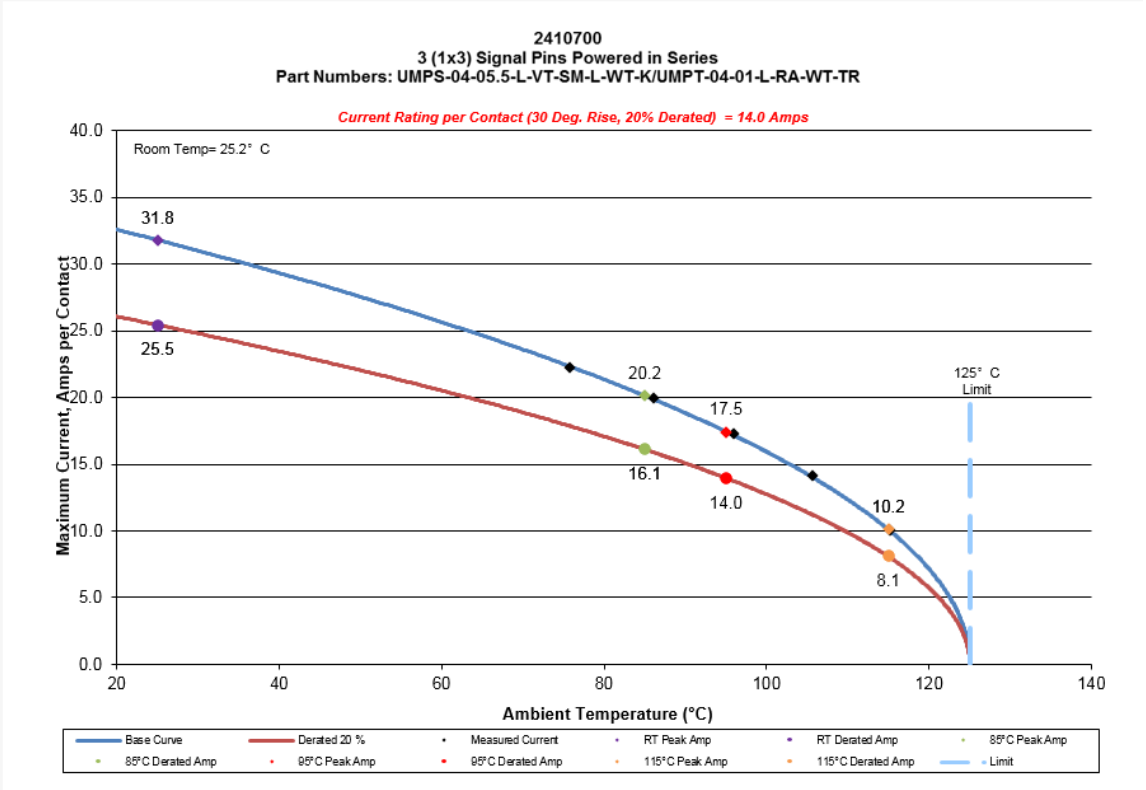
b. Linear configuration with 2 adjacent conductors/contacts powered

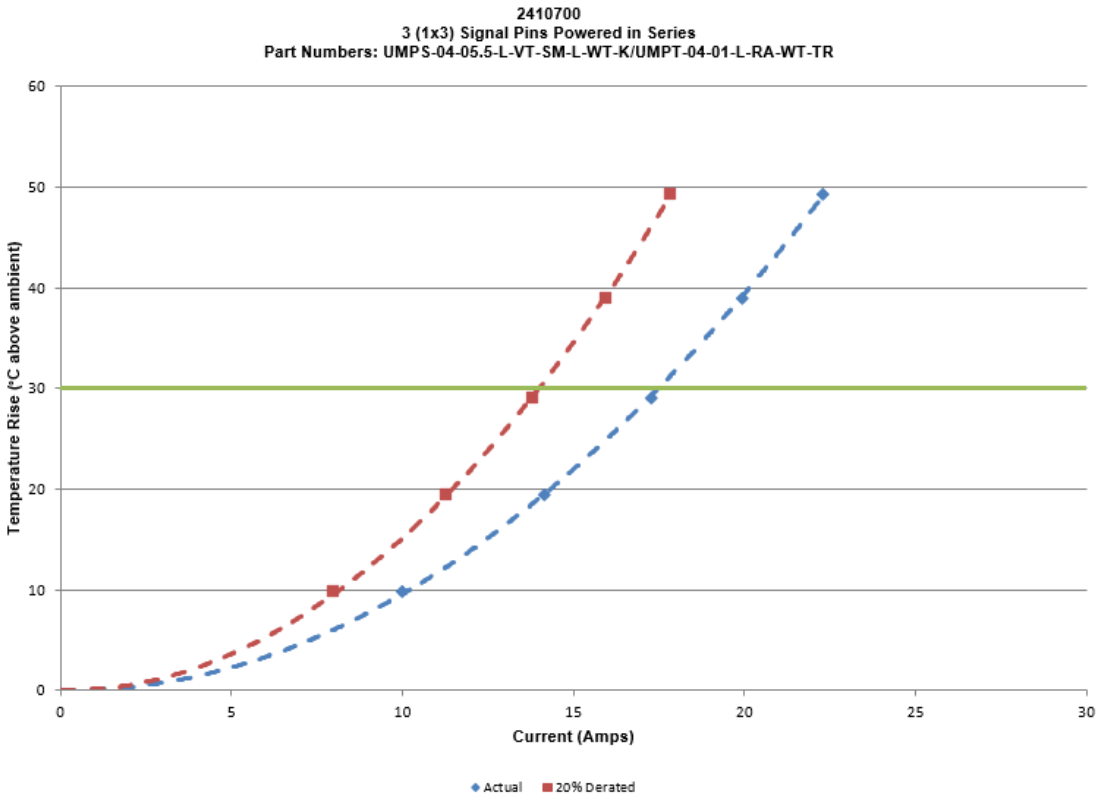




DATA SUMMARIES Continued

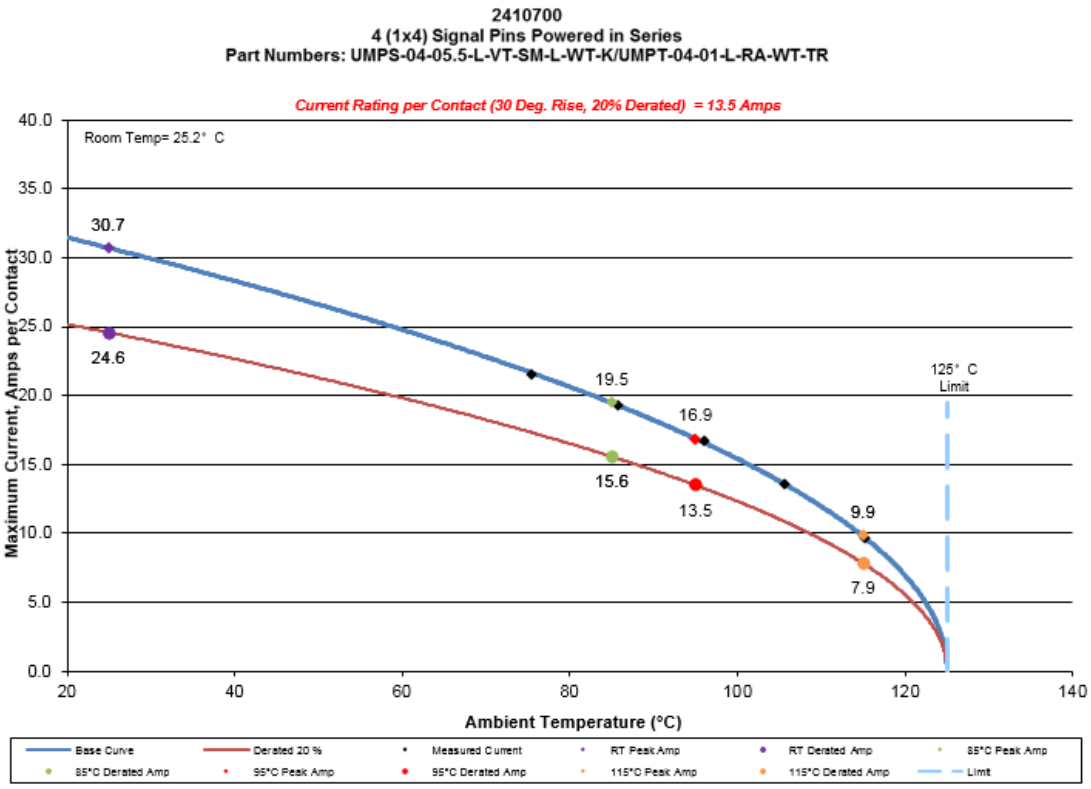
c. Linear configuration with 3 adjacent conductors/contacts powered

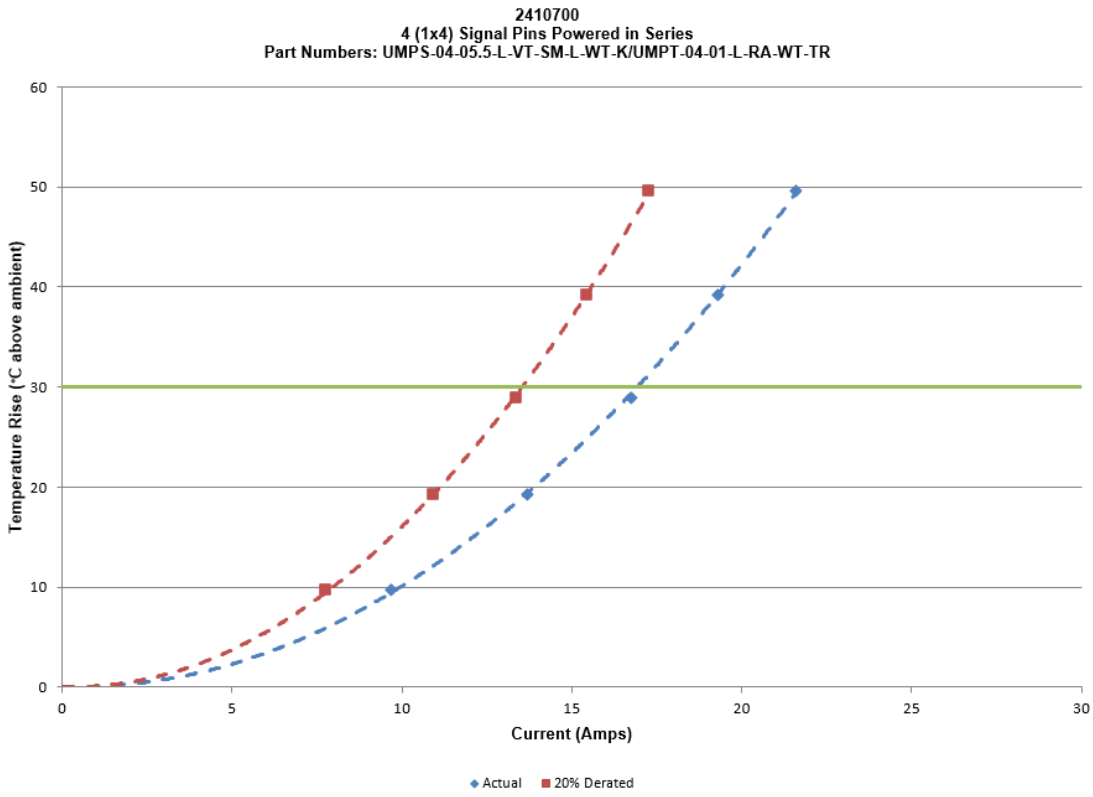




DATA SUMMARIES Continued

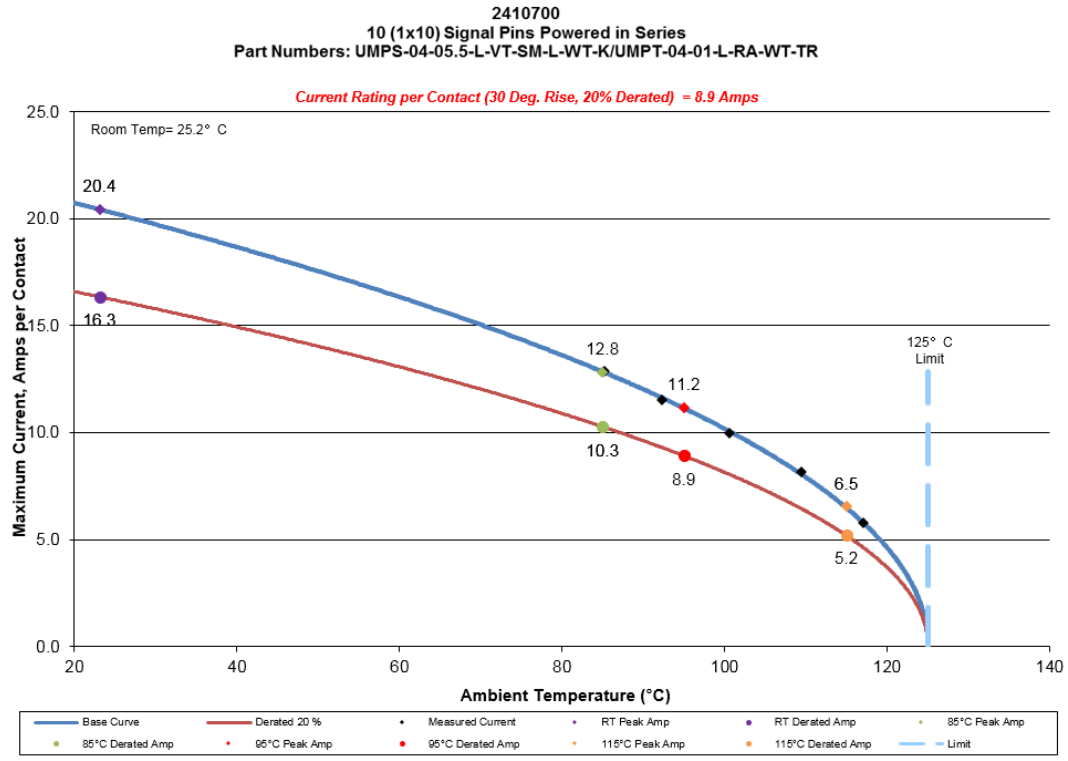
d. Linear configuration with 4 adjacent conductors/contacts powered

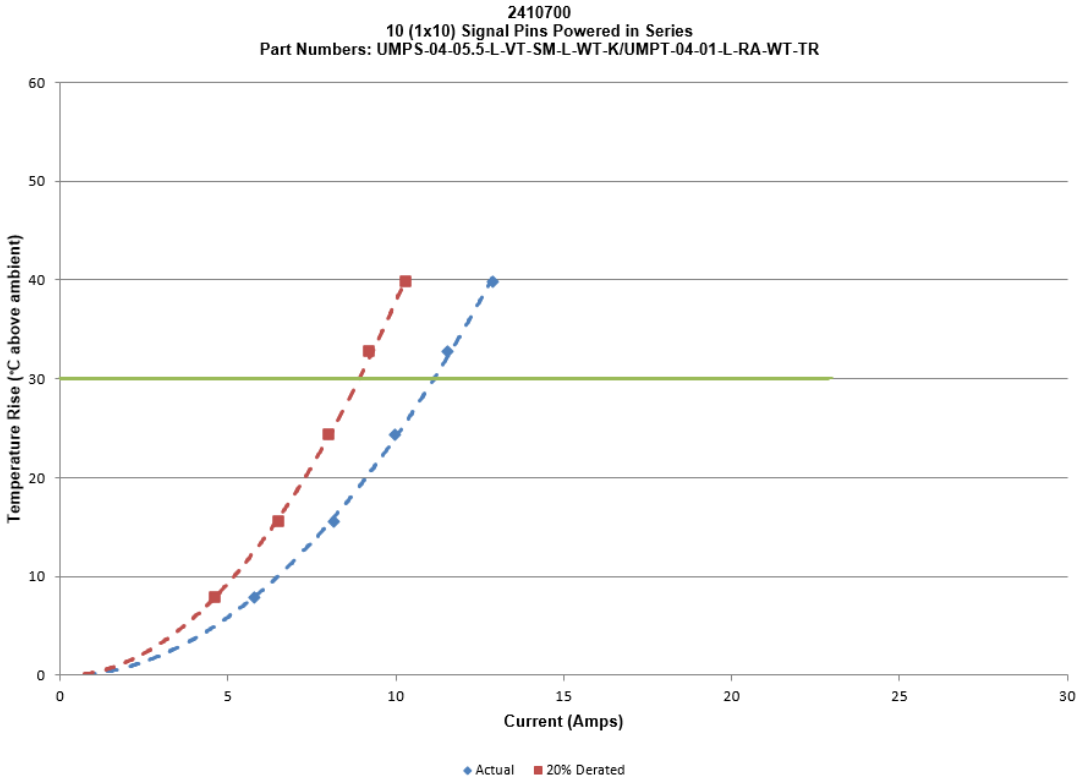




DATA SUMMARIES Continued

e. Linear configuration with all adjacent conductors/contacts powered





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Part description: UMPS / UMPT	

DATA SUMMARIES Continued

MATING-UNMATING FORCE:

Mating-Unmating Durability Group

	Initial				25 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	14.10	3.17	8.18	1.84	13.79	3.10	10.45	2.35
Maximum	17.84	4.01	10.10	2.27	16.81	3.78	11.88	2.67
Average	15.56	**3.50**	9.11	**2.05**	15.02	**3.38**	11.20	**2.52**
St Dev	1.38	0.31	0.71	0.16	1.11	0.25	0.47	0.11
Count	8	8	8	8	8	8	8	8

	50 Cycles				75 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	11.92	2.68	11.16	2.51	11.92	2.68	11.30	2.54
Maximum	13.39	3.01	12.10	2.72	13.03	2.93	12.37	2.78
Average	12.63	**2.84**	11.63	**2.61**	12.45	**2.80**	11.75	**2.64**
St Dev	0.56	0.12	0.39	0.09	0.50	0.11	0.35	0.08
Count	8	8	8	8	8	8	8	8

	100 Cycles				After Humidity			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	11.39	2.56	10.63	2.39	6.85	1.54	6.41	1.44
Maximum	13.39	3.01	12.32	2.77	8.23	1.85	7.52	1.69
Average	12.54	**2.82**	11.73	**2.64**	7.54	**1.70**	6.89	**1.55**
St Dev	0.63	0.14	0.52	0.12	0.46	0.10	0.37	0.08
Count	8	8	8	8	8	8	8	8

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Part description: UMPS / UMPT	

DATA SUMMARIES Continued

Mating-Unmating basic（UMPS-10-05.5-G-V-S-W-TR/ UMPT-10-01-L-RA-WT-TR）

	Initial				After 25 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	41.10	9.24	25.49	5.73	38.12	8.57	27.84	6.26
Maximum	48.66	10.94	27.31	6.14	44.08	9.91	30.20	6.79
Average	44.89	**10.09**	26.19	**5.89**	41.51	**9.33**	29.16	**6.56**
St Dev	2.29	0.51	0.59	0.13	2.09	0.47	0.73	0.16
Count	8	8	8	8	8	8	8	8

	After 50 Cycles				After 75 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	32.74	7.36	28.73	6.46	16.55	3.72	29.18	6.56
Maximum	36.96	8.31	31.71	7.13	33.40	7.51	31.80	7.15
Average	33.87	**7.61**	30.22	**6.80**	30.54	**6.87**	30.41	**6.84**
St Dev	1.40	0.32	1.04	0.23	5.68	1.28	0.92	0.21
Count	8	8	8	8	8	8	8	8

	After 100 Cycles			
	Mating		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	31.58	7.10	29.94	6.73
Maximum	34.12	7.67	32.16	7.23
Average	32.91	**7.40**	30.60	**6.88**
St Dev	0.72	0.16	0.81	0.18
Count	8	8	8	8

Tracking Code: 2410700_Report_Rev_2	Part #: UMPS-04-05.5-G-V-S-W-TR/ UMPT-04-01-T-RA-WT-TR
Part description: UMPS / UMPT	

DATA SUMMARIES Continued

Mating-Unmating Basic（UMPS-02-05.5-G-V-S-W-TR/ UMPT-02-01-L-RA-WT-TR）

	Initial				After 25 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	8.10	1.82	5.56	1.25	8.98	2.02	6.54	1.47
Maximum	10.72	2.41	7.25	1.63	10.72	2.41	7.96	1.79
Average	9.36	**2.11**	6.52	**1.47**	9.95	**2.24**	7.26	**1.63**
St Dev	0.80	0.18	0.58	0.13	0.55	0.12	0.52	0.12
Count	8	8	8	8	8	8	8	8

	After 50 Cycles				After 75 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	7.74	1.74	7.25	1.63	7.78	1.75	7.70	1.73
Maximum	10.01	2.25	8.90	2.00	9.70	2.18	9.34	2.10
Average	8.68	**1.95**	8.30	**1.87**	8.82	**1.98**	8.73	**1.96**
St Dev	0.70	0.16	0.65	0.15	0.68	0.15	0.55	0.12
Count	8	8	8	8	8	8	8	8

	After 100 Cycles			
	Mating		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	8.18	1.84	7.92	1.78
Maximum	10.01	2.25	9.47	2.13
Average	8.96	**2.02**	8.89	**2.00**
St Dev	0.62	0.14	0.61	0.14
Count	8	8	8	8

DATA SUMMARIES Continued

LLCR Mating/Unmating Durability Group

1). A total of 40 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. <= +0.33 mOhms: ----------Stable
   b. +0.34 to +0.66 mOhms: ----------Minor
   c. +0.67 to +1.00 mOhms: ----------Acceptable
   d. +1.01 to +50.0 mOhms: ----------Marginal
   e. +50.1 to +1000 mOhms: ----------Unstable
   f. >+1000 mOhms:----------Open Failure

	LLCR Measurement Summaries by Pin Type			
Date	5/26/2020	5/29/2020	6/4/2020	6/15/2020
Room Temp (Deg C)	23	23	23	23
Rel Humidity (%)	51	54	54	54
Technician	Peter Chen	Peter Chen	Peter Chen	Peter Chen
mOhm values	**Actual Initial**	**Delta 100 Cycles**	**Delta Therm Shck**	**Delta Humidity**
	Pin Type 1: Signal			
Average	1.09	0.03	0.03	0.09
St. Dev.	0.06	0.02	0.02	0.08
Min	1.00	0.00	0.00	0.00
Max	1.24	0.11	0.08	0.31
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 & <=10**	**>10 & <=15**	**>15 & <=50**	**>50 & <=1000**	**>1000**
100 Cycles	**32**	**0**	**0**	**0**	**0**	**0**
Therm Shck	**32**	**0**	**0**	**0**	**0**	**0**
Humidity	**32**	**0**	**0**	**0**	**0**	**0**

EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: HZ-MO-03
Description: Micro-ohmmeter
Manufacturer: Keithley
Model: 580
Serial #: 297288
Accuracy: Last Cal: 2019-8-06, Next Cal: 2020-8-05

Equipment #: HZ-TCT-01
Description: Normal force analyzer
Manufacturer: Mecmesin Multitester
Model: Mecmesin Multitester 2.5-i
Serial #: 08-1049-04
Accuracy: Last Cal: 2019-4-28, Next Cal: 2020-4-27

Equipment #: HZ-THC-01
Description: Humidity transmitter
Manufacturer: Thermtron
Model: HMM30C
Serial #: D0240037
Accuracy: Last Cal: 2019-3-3, Next Cal: 2020-3-2

Equipment #: HZ-MO-01
Description: Micro-ohmmeter
Manufacturer: Keithley
Model: 2700
Serial #: 1199807
Accuracy: Last Cal: 2019-4-28, Next Cal: 2020-4-27

Equipment #: HZ-PS-01
Description: Power Supply
Manufacturer: Agilent
Model: 6031A
Serial #: MY41000982
Accuracy: Last Cal: 2019-4-28, Next Cal: 2020-4-27

Equipment #: HZ-TSC-01
Description: Thermal Shock transmitter
Manufacturer: Keithley
Model: 10-VT14994
Serial #: VTS-3-6-6-SC/AC
Accuracy: Last Cal: 2019-11-1, Next Cal: 2020-11-1