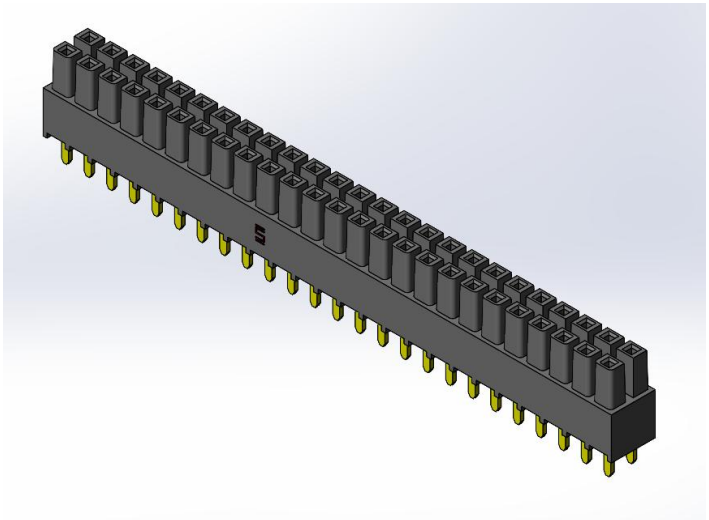
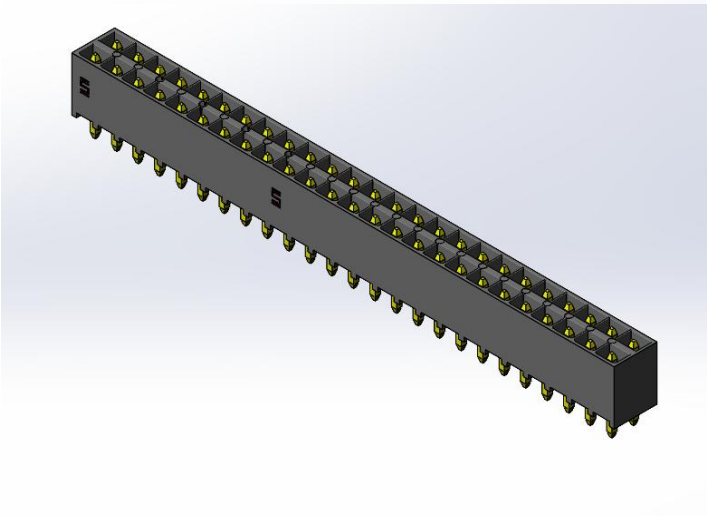
Project Number: Extended Life Product Test Report	Tracking Code: CR-1325206_Report_Rev_1
Requested by: Mark Shireman	Date: 9/17/2026
Part #: IPS1-125-01-S-D/ IPT1-125-01-S-D	
Part description: IPS1/IPT1	Tech: Danton Gan
Test Start: 3/25/2026	Test Completed: 9/15/2026





Extended Life Product Test Report

IPS1/IPT1
IPS1-125-01-S-D/ IPT1-125-01-S-D

REVISION HISTORY

DATE	REV.NUM.	DESCRIPTION	ENG
9/17/2026	**1**	**Initial Issue**	**DG**

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: Extended Life Product 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 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 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-114477-TST

FLOWCHARTS

Extended Life

Group 1 IPS1-125-01-S-D IPT1-125-01-S-D 8 Assemblies 100 Cycles		Group 2 IPS1-125-01-S-D IPT1-125-01-S-D 8 Assemblies 250 Cycles	
Step	**Description**	**Step**	**Description**
1.	Plating Thickness Verification (4)	1.	Plating Thickness Verification (4)
2.	LLCR (2)	2.	LLCR (2)
3.	Cycles Quantity = 100 Cycles	3.	Cycles Quantity = 250 Cycles
4.	LLCR (2) Max Delta = 15 mOhm	4.	LLCR (2) Max Delta = 15 mOhm
5.	Thermal Shock (5)	5.	Thermal Shock (5)
6.	LLCR (2) Max Delta = 15 mOhm	6.	LLCR (2) Max Delta = 15 mOhm
7.	Humidity (1)	7.	Humidity (1)
8.	LLCR (2) Max Delta = 15 mOhm	8.	LLCR (2) Max Delta = 15 mOhm
9.	Photos (3)	9.	Photos (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) Photos
Attach 2-3 photos of contact area

(4) Plating Thickness Verification
Measure, verify, and document plating thickness on both male and female (one group only)
Plating thickness to be measured on loose pins used during assembly

(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 +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 stress in mated conditions.

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 stress in mated conditions.

LLCR:

6) EIA-364-23, Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets.
7) A computer program, LLCR 221.exe, ensures repeatability for data acquisition.
8) 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

RESULTS

LLCR Extended Life Group (192 LLCR test points)

Group 1 –100 cycles

- **Initial ----------4.13 mOhms Max**
- **Durability, 100 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 +2000 mOhms----------0 Points ---------- Unstable**
  - **>+2000 mOhms----------0 Points ---------- Open Failure**
- **Thermal Shock**
  - **<= +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 +2000 mOhms----------0 Points ---------- Unstable**
  - **>+2000 mOhms----------0 Points ---------- Open Failure**
- **Humidity**
  - **<= +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 +2000 mOhms----------0 Points ---------- Unstable**
  - **>+2000 mOhms----------0 Points ---------- Open Failure**

Group 2 –250 cycles

- **Initial ----------4.14 mOhms Max**
- **Durability, 250 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 +2000 mOhms----------0 Points ---------- Unstable**
  - **>+2000 mOhms----------0 Points ---------- Open Failure**
- **Thermal Shock**
  - **<= +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 +2000 mOhms----------0 Points ---------- Unstable**
  - **>+2000 mOhms----------0 Points ---------- Open Failure**
- **Humidity**
  - **<= +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 +2000 mOhms----------0 Points ---------- Unstable**
  - **>+2000 mOhms----------0 Points ---------- Open Failure**

DATA SUMMARIES

LLCR Extended Life Group

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. <= +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 +2000 mOhms ----------Unstable
   f. > +2000 mOhms: ----------Open Failure

Group 1-100 cycles

	LLCR Measurement Summaries by Pin Type			
Date	2026/3/25	2026/3/26	2026/4/15	
Room Temp (Deg C)	23	23	23	
Rel Humidity (%)	50	50	50	
Technician	Danton Gan	Danton Gan	Danton Gan	
mOhm values	Actual **Initial**	**Delta 100 Cycles**	**Delta Therm Shck**	**Delta Humidity**
	Pin Type: Signal 1			
Average	3.56	0.11	0.18	
St. Dev.	0.21	0.08	0.13	
Min	3.21	0	0	
Max	4.13	0.36	0.89	
Summary Count	192	192	192	
Total Count	192	192	192	

LLCR Delta Count by Category						
	Stable	**Minor**	**Acceptable**	**Marginal**	**Unstable**	**Open**
mOhms	**<=5**	**>5 & <=10**	**>10 & <=15**	**>15 & <=50**	**>50 & <=1000**	**>1000**
Cycles	**192**	**0**	**0**	**0**	**0**	**0**
Therm Shck	**192**	**0**	**0**	**0**	**0**	**0**

DATA SUMMARIES Continued

Group 2-250 cycles

	LLCR Measurement Summaries by Pin Type			
Date	2026/3/25	2026/3/26	2026/4/15	
Room Temp (Deg C)	23	23	23	
Rel Humidity (%)	50	50	50	
Technician	Danton Gan	Danton Gan	Danton Gan	
mOhm values	Actual **Initial**	**Delta 250 Cycles**	**Delta Therm Shck**	**Delta Humidity**
	Pin Type: Signal 1			
Average	3.52	0.15	0.19	
St. Dev.	0.22	0.15	0.16	
Min	2.46	0	0	
Max	4.14	0.91	0.92	
Summary Count	192	192	192	
Total Count	192	192	192	

LLCR Delta Count by Category						
	Stable	**Minor**	**Acceptable**	**Marginal**	**Unstable**	**Open**
mOhms	**<=5**	**>5 & <=10**	**>10 & <=15**	**>15 & <=50**	**>50 & <=1000**	**>1000**
Cycles	**192**	**0**	**0**	**0**	**0**	**0**
Therm Shck	**192**	**0**	**0**	**0**	**0**	**0**

EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: HZ-MO-05
Description: Micro-ohmmeter/Data Acquisition System
Manufacturer: Keithley
Model: 3706
Serial #: 1285188
Accuracy: Last Cal: 9/26/2025, Next Cal: 9/25/2026

Equipment #: HZ-THC-01
Description: Humidity transmitter
Manufacturer: Thermtron
Model: SM-8-8200
Serial #: 38846
Accuracy: Last Cal: 3/28/2026, Next Cal: 3/27/2027

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: 03/28/2026, Next Cal: 03/27/2027