



Qualification Test Report

Mini Crown Edge Connector
501-128072
20 MAR 2018 Rev 1

1. INTRODUCTION

1.1 Purpose

Testing was performed on Mini Crown Edge Connector to determine its conformance to requirements of product specification 108-2301, Revision O4.

1.2 Scope

This report covers the electrical, mechanical, and environmental performance of the Hybrid Power Card Edge Connector.

1.3 Conclusion

Mini Crown Edge Connector conformed to the electrical, mechanical, and environmental performance requirements of product specification 108-2301, Revision O4.

1.4 Test Specimens

Test specimens were representative of normal production lots. Specimens identified with the following part numbers were used for test:

Test Group	Quantity	Part Number	Description
All group	2 each	1651826-1	Top assembly socket connector, standard solder tail MC-P6S9 Mini Crown Edge with latches (ELCON PN 283-0172-01303)
	2 each	1766336-1	Top assembly socket connector, surface mount MC-P6S9 Mini Crown Edge with latches (ELCON PN 283-0172-03003)
	2 each	6651929-1	Mini Crown Edge connector

1.5 Environmental Conditions

Unless otherwise stated, the following environmental conditions prevailed during testing:
Temperature: 15°C to 35°C Relative Humidity 25% to 75%

1.6 Qualification Test Sequence

TEST OR EXAMINATION	TEST GROUP (a)						
	1	2	3	4	5	6	7
	TEST SEQUENCE (b)						
Initial Examination of Product	1	1	1	1	1	1	1
CTF Dimensional Verification	2	2	2				
LLCR	3,8,10,14	3,8,10,14	3,5,7,9				2,5,7,9,11,13
Insulation Resistance	4,11	4,11					
Withstanding Voltage	5,12	5,12					
Temperature Rise vs Current							
Re-Seating	13	13					12
Random Vibration			6				
Mechanical Shock			8				
Durability, 20 Cycles	6		4				3
Durability, 50 Cycles		6					
Mating Force				2			
Unmating Force				3			
Maximum Force on Connector				4			
Press-Fit Compliant Pin/Terminal Insertion						2	
Press-Fit Compliant Pin/Terminal Retention						3	
Thermal Shock	7	7					
Humidity/Temperature Cycling	9	9					
Temperature Life							4
Thermal Disturbance							10
Mixed Flowing Gas, Unmated							6
Mixed Flowing Gas, Mated							8
Porosity						2	
Final Examination of Product	15	15	10	5	3	4	14

2. SUMMARY OF TESTING

2.1 Initial examination– All Test Groups

All specimens submitted for testing were representative of normal production lots. A Certificate of Conformance was issued by Product Assurance. Where specified, specimens were visually examined and no evidence of physical damage detrimental to product performance was observed.

2.2 Low Level Contact Resistance- Test Group 1, 2, 5, 6.

All low-level contact resistance measurement results, taken at 100 milliamperes maximum and 20 millivolts maximum open circuit voltage is shown as below.

Test Group		Test Condition	LLCR (mΩ)		Spec	Jud.
			Mean	MAX		
#1,2,3,7	Signal	Initial	2.91	4.36	Signal: 25mΩ max Power: 3mΩ Max	OK
		Final	3.03	5.62		OK
	Power	Initial	0.8	1		OK
		Final	1.07	1.5		OK

2.3 Insulation resistance

All insulation resistance measurements were greater than 5000 MΩ

2.4 Dielectric Withstanding Voltage

No dielectric breakdown or flashover occurred.

2.5 Temperature rise vs current

A 25-ampere current per contact generated a 30°C temperature rise. A 30-ampere current per contact generated a 40 °C temperature rise.

2.6 Reseating

No physical damage occurred as a result of manually mating and unmating the specimens 3 times

2.7 Random Vibration

No discontinuities were detected during vibration testing. Following vibration testing, no cracks, breaks, or loose parts on the specimens were visible.

2.8 Mechanical shock

No discontinuities were detected during mechanical shock testing. Following mechanical shock testing, no cracks, breaks, or loose parts on the specimens were visible.

2.9 Durability

No physical damage occurred to the specimens as a result of mating and unmating the specimens 50 times.

2.10 Mating force and Unmating force

All mating force measurements were less than 25 pounds.
All unmating force measurements were greater than 4 pounds.

2.11 Thermal shock

No evidence of physical damage was visible as a result of exposure to thermal shock.

2.12 Humidity-temperature cycling

No evidence of physical damage was visible as a result of exposure to Humidity-temperature cycling

2.13 Temperature life

No evidence of physical damage was visible as a result of temperature life testing.

2.14 Thermal Disturbance

No evidence of physical damage was visible as a result of thermal disturbance.

2.15 Mixed Flowing Gas, Mated and Unmated

No evidence of physical damage was visible as a result of exposure to the pollutants of mixed flowing gas.

2.16 Final examination of product

Specimens were visually examined and no evidence of physical damage detrimental to product performance was observed.

3. TEST REQUIREMENTS AND PROCEDURES SUMMARY

Follow test requirements and procedures in product specification 108-2301, Revision O4.