

PDR #: N/A	DESIGN VERIFICATION PLAN AND REPORT		TEST LEVEL: PV Product Validation	DVP&R NUMBER: 1634	DEPARTMENT: Engineering
CUSTOMER: General Market				DVP&R REVISION: Rev B1	REPORTING ENGINEER: Katy Cunningham
COMPONENT/ASSEMBLY: MX150 1x4 Assy	CLASSIFICATION: T3 S3	MOLEX PART NUMBER: See Unit (s) Under Test (UUT)		DVP&R DATE: 5/31/2012	RESPONSIBLE ENGINEER: Katy Cunningham
MODEL YEAR: N/A	STANDARDS AND SPECIFICATIONS: GMW3191 December 2007	OBJECTIVE: To validate the QSR capacity tool , mold number 4144, for the perimeter seal of MX150 1X4.		CUSTOMER APPROVAL: N/A	RELIABILITY ENGINEERING LAB MANAGER: Gary Muto
					ENGINEERING MANAGER APPROVAL: Vijy Koshy

General Notes :

A) § 4.1.5 Visual examination prior to testing (Pre-Test): Visually examine each test specimen before testing and/or conditioning. The test specimens shall not exhibit any evidence of deterioration, cracks and/or other deformities that could affect performance, function and/or appearance. A control sample shall be retained. Photographs and/or video recordings of the samples being tested shall be taken.

B) § 4.1.6 Visual examination of the crimp area: The insulation grip shall not cut through the insulation and shall firmly enclose the cable. Both insulation and cable conductor shall be visible between the conductor crimp and the insulation crimp with the exception of insulation displacement connections. Conductor strands shall protrude beyond the conductor crimp and be visible but shall not contact the mating terminal. All wire strands shall be enclosed by the conductor crimp. There shall be no damaged wire strands. No insulation material shall be inside the conductor crimp. A flaring is required on the cable side (rear) of the core crimp. This performs a strain relieving function for the core crimp. A flaring is preferred, but not required, for the terminal body side (front) of the core crimp.

C) § 4.1.7 Visual examination after testing (Post Test): After testing, re-examine each test sample and note in detail any observable changes, such as swelling, corrosion, discoloration, physical distortions, cracks, etc. Compare the tested samples to the following items, noting any differences.

D) § 4.1.8 Visual examination Acceptance Criteria: There shall be no corrosion, discoloration, cracks etc., which could affect the functionality of the part. Swelling or physical distortion shall not exceed the tolerances specified on the part drawing.

UNIT(s) UNDER TEST (UUT) - VALIDATED

Customer Part#	Manufacturer	Part#	Part Rev.	Product Drawing #	Drawing Rev.	Description	Mold / Die #	Rev.
	QSR	33521-0402		E-33521-041	B	MX150 1X4 Perimeter Seal	4144	

UNIT(s) UNDER TEST (UUT) - OTHER

	Molex	33471-0461		E-33471-041	T1	MX150 1X4 RCPT Key A w/ CPA & Ergo. Cap. Black		
	Molex	33481-0401		E-33481-041	R	MX150 1X4 BLADE Key A		
	Molex	33001-5002		SD-33012-002	B3	MX150 Receptacle Silver 1.0-0.75mm2		
	Molex	33011-3002		SD-33000-01	C12	MX150 Blade Silver 1.0-0.75mm2		

TEST PLAN							TEST REPORT			TEST DATA
ITEM #	STANDARD	TEST DESCRIPTION	ACCEPTANCE CRITERIA	SAMPLES			MET / NOT MET	TEST REPORT #	REMARKS	
				QTY	TYPE	GAUGE				

CM1	Connector MECHANICAL, Connector - Connector Mating/Unmating Force (w/o Mechanical Assist) - USCAR-2 Rev. 4 (May 2004) page 34	10	PV	.75mm ² silver	MET	TR# 16727	T3 S3 30 Durometer Perimeter Seal PV Perimeter Seal Tool	
§ 4.1.5	Pre-Test Visual Examination	See General Notes A & D						
§ 4.11	Connector - Connector Engagement Force	The maximum engagement force shall be ≤ 45						Conn-Conn Mate Force (Final-Lock)
§ 4.1.7	Post Test Visual Examination	See General Notes C & D						MIN (N) 18.9 MAX (N) 22.1 AVG (N) 20.2
SC3b	Sealed Connector ENVIRONMENTAL, Temperature/Humidity Cycling - USCAR-2 Rev. 4 (May 2004) page 52	10	PV	.75mm ² silver	MET	TR# 16729	T3 S3 30 Durometer Perimeter Seal PV Perimeter Seal Tool	
§ 4.1.5	Pre-Test Visual Examination	See General Notes A & D						
§ 4.30.3—Line 3	MAT Seal Conditioning	Ten cavities, remove and re-insert terminals in cavities specified in TR.						
§ 3.3	Connector and/or Terminal Cycling	None, mate each connector pair 11 times						
§ 4.19	Isolation Resistance	Isolation resistance shall exceed 100 M W @ 500V _{DC}						
§ 4.30	Pressure/Vacuum (48 kPa)	Pressure: No loss of applied pressure and no bubbles visible exiting any test sample. Vacuum: Must meet Isolation Resistance test and mid test visual Inspection.						
§ 4.19	Isolation Resistance	Isolation resistance shall exceed 100 M W @ 500V _{DC}						
§ 4.1.7	Visual Examination	No evidence of water present in the interior of either mated connector.						
§ 4.23	Temperature/Humidity Cycling - 40 Cycles	None, environmental conditioning only.						
§ 4.30	Pressure/Vacuum (28 kPa)	Pressure: No loss of applied pressure and no bubbles visible exiting any test sample. Vacuum: Must meet Isolation Resistance test and post test Visual Inspection.						

TEST PLAN				TEST REPORT					TEST DATA	
ITEM #	STANDARD	TEST DESCRIPTION	ACCEPTANCE CRITERIA	SAMPLES			MET / NOT MET	TEST REPORT #		REMARKS
				QTY	TYPE	GAUGE				
	§ 4.19	Isolation Resistance	Isolation resistance shall exceed 100 M W @ 500V _{DC}							
	§ 4.1.7	Visual Examination	No evidence of water present in the interior of either mated connector.							
	§ 4.29	Water Submersion	The leakage current shall not exceed 5 mA.							
	§ 4.1.7	Visual Examination	No evidence of water present in the interior of either mated connector.							
	§ 4.19	Isolation Resistance	Isolation resistance shall exceed 100 M W @ 500V _{DC}							
	§ 4.20	Dielectric Strength	No dielectric breakdown or flash-over shall occur between cavities or between the cavities and the outside of a connector at any time during the test.							
	§ 4.34	High Pressure Spray	None, environmental conditioning only--							
	§ 4.19	Isolation Resistance	Isolation resistance shall exceed 100 M W @ 500V _{DC}							
	§ 4.20	Dielectric Strength	No dielectric breakdown or flash-over shall occur between cavities or between the cavities and the outside of a connector at any time during the test.							
	§ 4.1.7	Visual Examination	No evidence of water present in the interior of either mated connector.							
	§ 4.1.7	Post Test Visual Examination	See General Notes C & D. All mechanical assists and/or other elements required to separate connectors for service must function without breakage							
SC4b Sealed Connector ENVIRONMENTAL, Pressure/Vacuum Leak - USCAR-2 Rev. 4 (May 2004) page 61				10	PV	.75mm ² silver	MET	TR# 16731	T3 S3 30 Durometer Perimeter Seal PV Perimeter Seal Tool	
	§ 4.1.5	Pre-Test Visual Examination	See General Notes A & D							
	§ 4.30.3—Line 3	MAT Seal Conditioning	Ten cavities, remove and re-insert terminals in cavities specified in TR.							
	§ 3.3	Connector and/or Terminal Cycling	None, mate each connector pair 11 times							
	§ 4.19	Isolation Resistance	Isolation resistance shall exceed 100 M W @ 500V _{DC}							
	§ 4.30	Pressure/Vacuum (48 kPa)	Pressure: No loss of applied pressure and no bubbles visible exiting any test sample. Vacuum: Must meet Isolation Resistance test and mid test visual inspection.							
	§ 4.19	Isolation Resistance	Isolation resistance shall exceed 100 M W @ 500V _{DC}							
	§ 4.1.7	Visual Examination	No evidence of water present in the interior of either mated connector.							
	§ 4.30.3 - Line 17	Seventy Hour Heat Soak	None, environmental conditioning only (maximum temperature per CUT classification).							
	§ 4.30	Pressure/Vacuum (28 kPa)	Pressure: No loss of applied pressure and no bubbles visible exiting any test sample. Vacuum: Must meet Isolation Resistance test and post test Visual inspection.							
	§ 4.19	Isolation Resistance	Isolation resistance shall exceed 100 M W @ 500V _{DC}							
	§ 4.1.7	Visual Examination	No evidence of water present in the interior of either mated connector.							
	§ 4.1.7	Post Test Visual Examination	See General Notes C & D.							