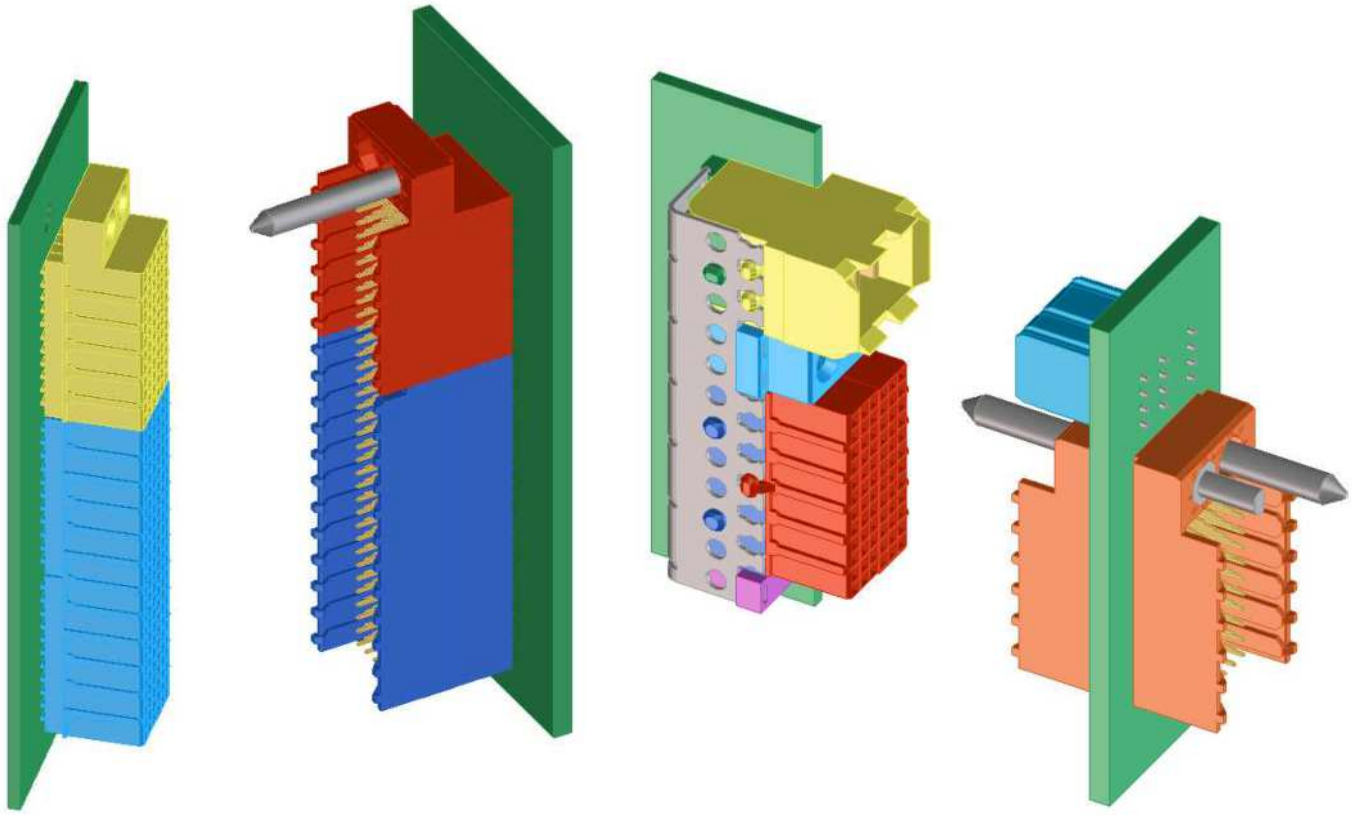
PRODUCT SPECIFICATION

PRODUCT SPECIFICATION FOR HIGH DENSITY METRIC (HDM) BACKPLANE AND DAUGHTERCARD INTERCONNECT SYSTEM (STACKING AND MIDPLANE)



REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
F	EC No: UCP2009-1724 DATE: 2009/05/01	PRODUCT SPECIFICATION FOR HIGH DENSITY METRIC (HDM) INTERCONNECT SYSTEM (MIDPLANE & STACKING)	1 of 7

DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-73780-999	S. DANNELLEY	B. SMART	S. MILLER

1.0 SCOPE

This specification covers the performance requirements and test methods for the following products listed by series numbers:

*	73642, 73643, 73644, 73650, 73942, 73943, 73944, 74992, 74349, 74301	HDM Backplane Signal Module
*	73650, 73769, 73770, 73771, 73781, 73782, 73783, 74428, 74993	HDM Backplane Signal Stacking Module
*	73650, 73797, 73798, 73799, 74349, 74992	HDM Backplane Signal Single-End Midplane Module
*	73650, 73800, 73801, 73802, 74349, 74992	HDM Backplane Signal Double-End Midplane Module
*	73656	HDM Midplane Backplane Power
*	73780, 74300	HDM Daughtercard Signal Stacking Module
*	73998	HDM Daughtercard Power Stacking Module

The HDM backplane stacking and midplane interconnect systems consist of 6-row, 2mm grid modules providing 30 contacts per linear centimeter (over 75 per inch). The stacking connectors are used for parallel board packaging with stack heights from 15mm to 32mm. The midplane backplane modules allow rear-side mating of cards. Both the daughtercard receptacles and the backplane headers are through-hole connectors with solder tail or eye-of-the-needle compliant pin terminals.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAMES

HDM (High Density Metric)

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

Refer to the appropriate sales drawings for information on dimensions, materials, platings and markings.

2.3 SAFETY AGENCY APPROVALS

UL File Number: E29179
CSA File Number: 152514 (LR19980)

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

AS-73642-9998	Application Specification HDM Compliant Backplane Connectors
AS-73656-1998	Application Specification HDM Compliant BP Power Modules
AS-73670-9996	Application Specification HDM Compliant Terminal Performance
AS-73670-9997	Application Specification HDM Backplane and Daughtercard Trace Routing Guidelines
AS-73670-9998	Application Specification HDM Compliant and Solder Tail Daughtercard Connectors

Refer to the appropriate sales drawings and other sections of this specification for the necessary referenced documents and specifications.

4.0 RATINGS

4.1 CURRENT

Signal Contact: 1 Amp
Power: 15 Amps per blade at 30°C rise from ambient temperature
Midplane Power: 11 Amps per blade at 30°C rise from ambient temperature

4.2 VOLTAGE

Signal Contact: 250VAC
Power Contact: 500VAC

4.3 TEMPERATURE RANGE

Operating: -55°C to 105°C
Non-operating: -55°C to 85°C

4.4 CONTACT WIPE LENGTH

5.0mm Backplane Pin	1.75mm
5.5mm Backplane Pin	2.25mm
6.0mm Backplane Pin	2.75mm
Short Power Blade	3.75mm
Medium Power Blade	4.75mm
Long Power Blade	5.75mm

5.0 PERFORMANCE

5.1 ELECTRICAL PERFORMANCE

ITEM	TEST CONDITION	REQUIREMENT
CONTACT RESISTANCE (LOW LEVEL)	Mated, 100mA max, 20mV per EIA-364-TP-23	10 milliohm maximum change
INSULATION RESISTANCE	Unmated, 500VDC per EIA-364-TP-21	Initial: 5000 megohms minimum Final: 1000 megohms minimum
DIELECTRIC WITHSTANDING VOLTAGE	Unmated, 1500VAC for signal, 2000VAC for power, per EIA-364-TP-20	No breakdown or flashover
SIGNAL CONTINUITY	Mated per EIA-364-TP-87	No interrupts greater than 10 nanoseconds
COMPLIANT PIN INTERFACE RESISTANCE	Contact inserted into PCB per EIA-364-TP-23	1 milliohm maximum

5.2 MECHANICAL PERFORMANCE

ITEM	TEST CONDITION	REQUIREMENT
MATING FORCE	Mate daughtercard and backplane assembly per EIA-364-TP-13	0.6N per signal pin 1.3N per power blade (nominal values)
DURABILITY	250 Cycles, mated and unmated per EIA-364-TP-09	10 milliohm max change in LLCR
VIBRATION	Mated, 10-100Hz, 10g's, 24 hr, 3 axis per EIA-364-TP-28	10 milliohm max change in LLCR
MECHANICAL SHOCK	Mated, 30g half-sine, 11ms, 3 axis per EIA-364-TP-27	10 milliohm max change in LLCR
NORMAL FORCE/ SPRING RATE	Apply perpendicular force to terminal at rate of 25+/-6mm per minute	Signal: 0.5N (50 g) min Spring rate: 12.5g/mil deflection (nominal) Power: 1.0N (100 g) min
GUIDE PIN STRENGTH	Apply perpendicular force to guide pin tip at rate of 12.7+/-6mm per minute. Record force at 1mm pin displacement	Guide pin in plastic housing: 75N (nominal value)

5.3 ENVIRONMENTAL PERFORMANCE

ITEM	TEST CONDITION	REQUIREMENT
THERMAL SHOCK	Mated, 5 cycles from -55°C to 85°C per EIA-364-TP-32	10 milliohm max change in LLCR
TEMPERATURE LIFE	Mated, +105°C for 1000 hours per EIA-364-TP-17	10 milliohm max change in LLCR
HUMIDITY	Mated, 600 hours from +25°C to +65°C per EIA-364-TP-31	10 milliohm max change in LLCR
DUST	Unmated per EIA-364-TP-50	10 milliohm max change in LLCR
MIXED FLOWING GAS	10 days unmated, 10 days mated, per EIA-364-TP-65 and ASTM B827	10 milliohm max change in LLCR

6.0 TEST SEQUENCE

Bellcore Test Plan

GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
Visual Exam	Visual Exam	Visual Exam	Visual Exam	Visual Exam
Separation Force Mate/Unmate Forces	Mate/Unmate Forces	Separation Force Mate/Unmate Forces	LLCR/CPIR	Normal Force
LLCR/CPIR	LLCR/CPIR	LLCR/CPIR	Durability (100 cycles)	Plating Thickness
Durability (100 cycles)	Thermal Shock	Temperature Life	Mate/Unmate Forces	Porosity
Separation Force	Humidity	LLCR/CPIR	LLCR	
LLCR	LLCR/CPIR	Separation Force Mate/Unmate Forces	MFG (10 days Unmated)	
Dust	Mate/Unmate Forces	Visual Exam	LLCR (After 5 & 10 days)	
LLCR	Visual Exam	Normal Force	MFG (10 days Mated)	
Vibration (3 axis)	Normal Force		LLCR (After 5 & 10 days)	
LLCR			Disturbance	
Mechanical Shock (3 axis)			LLCR	
LLCR/CPIR			Durability (100 cycles)	
Separation Force Mate/Unmate Forces			LLCR/CPIR	
Visual Exam			Visual Exam	
Normal Force			Normal Force	

LLCR = Low Level Contact Resistance
CPIR = Compliant Pin Interface Resistance