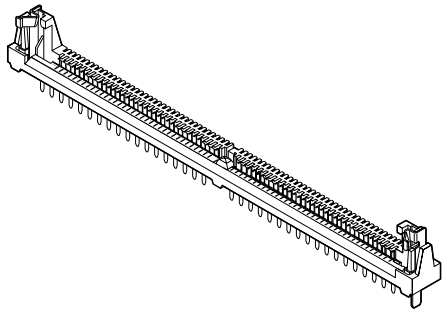
Jameco Part Number 668537

FEATURES AND SPECIFICATIONS

1.27mm (.050") Pitch SIMM Socket

78962

Left Polarization, Vertical Single Row, Metal Latch



Features and Benefits

- Zero insertion force contacts improve socket and module contact life and provide for fast on-line assembly
- Guaranteed 2 points of contact per readout with standard JEDEC module
- Anti-overstress latch feature provides extra protection during module removal
- Polarization posts provide orientation for proper loading of socket into printed circuit board
- Polarization rib properly orients module to socket
- EIA standard dimensions

Reference Information

Product Specification: PS-78954
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980
Mates With: JEDEC modules
Designed In: Inches

Electrical

Voltage: 250V
Current: 1.0A
Contact Resistance: 30mΩ max.
Dielectric Withstanding Voltage: 1000V AC
Insulation Resistance: 5000 MΩ min.

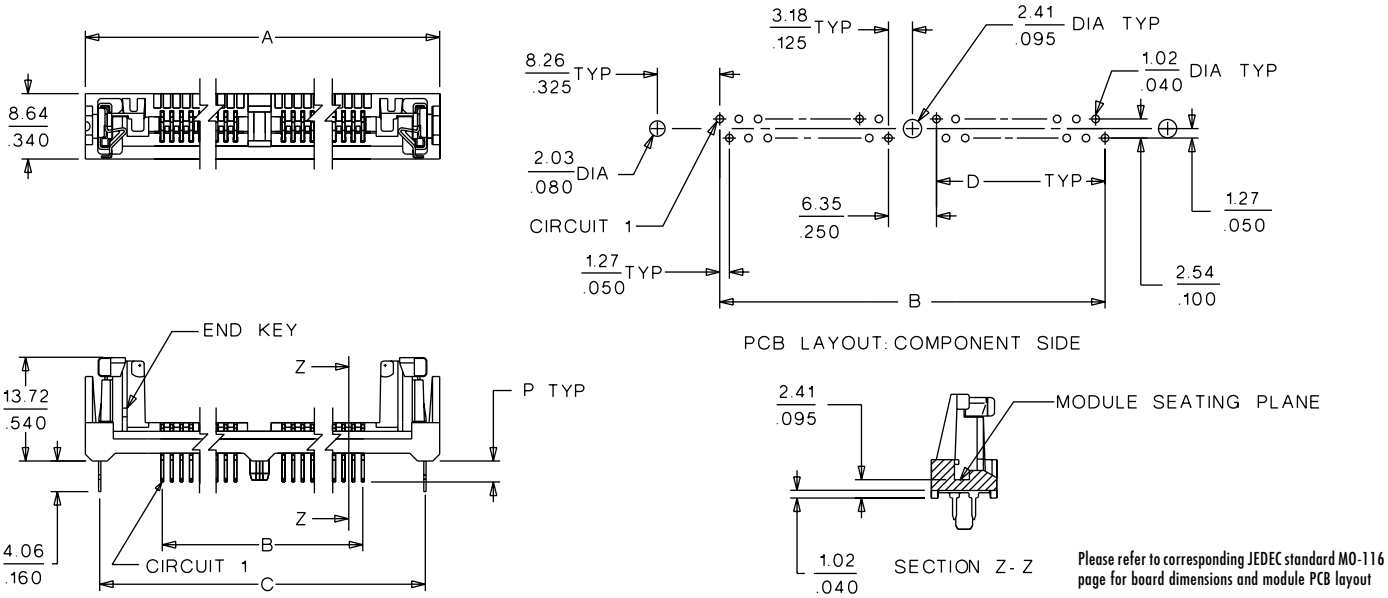
Mechanical

Normal Force: 1.47N average
Durability: 25 cycles

Physical

Housing: Black LCP, UL 94V-0
Latch: Stainless Steel
Contact: Phosphor Bronze Alloy
Plating: See Table
Operating Temperature: -40 to +85˚C

CATALOG DRAWING (FOR REFERENCE ONLY)



Please refer to corresponding JEDEC standard MO-116 page for board dimensions and module PCB layout

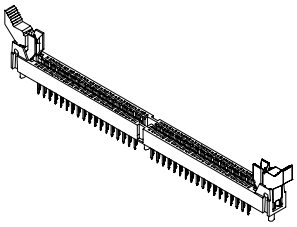
ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No. Tin Plate		Order No. Gold Plate		Dimension				
	With Center Post	Without Center Post	With Center Post	Without Center Post	A	B	C	D	P
40		15-82-0798			74.90 (2.950)	54.60 (2.150)	71.10 (2.800)	24.13 (.950)	2.79 (.110)
64	15-82-1104		15-82-0739		105.40 (4.150)	85.10 (3.350)	101.60 (4.000)	39.37 (1.550)	2.79 (.110)
68	15-82-1105		15-82-1190		110.50 (4.350)	90.20 (3.550)	106.70 (4.200)	41.91 (1.650)	2.79 (.110)
72	15-82-0775		15-82-0762		115.60 (4.550)	95.30 (3.750)	111.80 (4.400)	44.45 (1.750)	2.79 (.110)
80	15-82-1117				125.70 (4.950)	105.40 (4.150)	121.90 (4.800)	49.53 (1.950)	2.79 (.110)
100			15-82-1194		151.10 (5.950)	130.80 (5.150)	147.30 (5.800)	62.23 (2.450)	2.79 (.110)

Plating: Post plate 200µ" min. Tin/Lead over 50µ" min. Nickel overall or post plate 30µ" min. Gold on contact area and 150µ" min. Tin/Lead on solder tails, all over Nickel

Call Molex for information on nonlisted order numbers

molex	**PRODUCT SPECIFICATION**	LANGUAGE ENGLISH



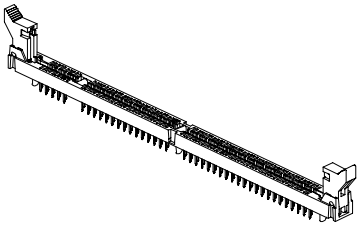


TABLE OF CONTENTS

REV	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C						
SHT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17						

REVISE ON PC ONLY	
C	Add series & mod. module ripout. ECN UDT2002-0550, dmorgan 01/10/04
REV	DESCRIPTION

TITLE

1.27 mm (.050 IN.) PITCH DUAL IN-LINE MEMORY MODULE CONNECTOR

DESIGN CONTROL	STATUS	WRITTEN BY:	CHECKED BY:	APPROVED BY:	DATE: YR / MO / DAY
LISLE	M	DCB			95 / 08 / 08

DOCUMENT NO.	DIMENSION CLASS:	FILE NAME	SHT NO.
PS-71243-9999	C CRITICAL = 0 ▼ MAJOR = 0	PS71243.SAM	1 OF 17

1.0 SCOPE

This specification covers the1.27mm (.050 inch) centerline DIMM socket board to board interconnect for 1.27+/-0.10 (.050+/-.004 in.) thick memory modules.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND PART NUMBER

Product Name
Dual In-Line Memory Module (DIMM)

Series Numbers
71243, 71251, 71481, 71729, 71736, 73705, 73817, 73818, 73822, 74080, 74081, 70482 Series.

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate Sales Drawings for information on dimensions, materialsplatings and markings, recommended module outlines and footprint patterns.

2.3 UL/CSA CERTIFICATION

UL file: E29179
CSA file: LR-19980A-366

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

See the Sales Drawings and the other sections of this Specification for the necessary referenced Documents and Specifications.

4.0 RATINGS

4.1 **VOLTAGE** **100** Volts AC (RMS)/DC

4.2 **CURRENT** **1.0** Amps

4.3 **TEMPERATURE**
Operating: - **40** °C to + **85** °C
Nonoperating: - **55** °C to + **85** °C

5.0 PERFORMANCE

5.1 ELECTRICAL PERFORMANCE

Item	Test Condition	Requirement
Contact Resistance (Low Level)	Mate Connectors with a maximum voltage of 20mV and a current of 100 mA. (Measurement Locations in Section 8.3)	30 milliohm Maximum Initial
Insulation Resistance	Mate Connectors with a voltage of 500 VDC between adjacent terminals and between terminals and ground.	1000 Megohms Minimum
Dielectric Withstanding Voltage	Mate Connectors with a voltage of 500 VAC for 1 minimum between adjacent terminals and between terminals and ground.	No breakdown
Capacitance	Measure between adjacent terminals at 1 MHz. (Loaded: 50 ohms impedence)	Loaded: 2 picofarad maximum. Unloaded: 0.5 picofarad maximum.

5.1 ELECTRICAL PERFORMANCE CONTINUED

5.1.1 Characteristics: Loaded condition (Module inserted)

	1:1 S:G	Configuration	3:1 S:G	Configuration
PARAMETER	**Average**	**Range**	**Average**	**Range**
Capacitance(pF)	1.06	nominal	1.05	1.01-1.06
Inductance(nH)	3.18	nominal	3.65	3.45.-3.94
Propagation Delay (psec)	57.5	nominal	59.3	58.3-60.6
Risetime Degradation (psec)	16.41	NA	28.96	NA
Bandwidth (GHz)	21.3	NA	12.1	NA
Impedance (ohms) @ 45 psec	54.4	nominal	58.3	nominal
% Crosstalk (1v/1ns)	N.E.	F.E.	N.E.	F.E.
1 Drive	0.33%	-0.28%	1.26%	-0.75%
4 Drives	0.90%	-0.82%	3.33%	-2.35%
7 Drives	1.10%	-0.92%	4.57%	-3.50%

5.1.2 Characteristics: Unloaded condition

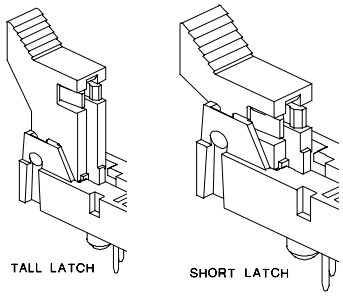
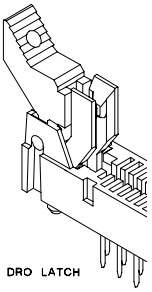
	1:1 S:G	Configuration	3:1 S:G	Configuration
PARAMETER	**Average**	**Range**	**Average**	**Range**
Capacitance (pF)	0.36	nominal	0.34	0.29-0.36

Note: All data is based on analytical analysis. Contact Molex Inc. Corporate Headquarters for Spice model and additional information..

5.2 MECHANICAL PERFORMANCE

Item	Test Condition	Requirement
Total Insertion and Withdrawal Force (excl. latches)	Insert and withdraw a steel blade at a rate of 25 +/- 6mm (1+/- 1/4 inch) per minute. Latches shall be excluded in the test. (Gage dimensions in Section 8.1)	Insertion force shall be 0.78 N (2.8 oz) maximum with maximum blade, and withdrawal 0.07 N (0.25 oz) minimum. with minimum. blade per contact respectively x the total contact population
Total Insertion Force (w/ latches)	Insert a nominal thick PCB w/o chamfer at a rate of 25 +/- 6mm (1+/- 1/4 inch) per minute. Latches shall be included in the test.	Maximum Insertion force shall be 0.83 N (3.3 oz) max. per contact respectively x the total contact population
Terminal Retention Force in Housing	Axial pullout force on the terminal in the housing at a rate of 25 +/- 6mm (1 +/- 1/4 inch) per minute.	Contact : 4.45 N (1.0 lbs.) minimum Forklock : 22.24 N. (5.0 lbs) minimum.
Durability	Mate connectors up to 25 cycles at a maxiumum rate of 10 cycles per minute prior to defined Environmental Tests.	Contact Resistance : 10 milliohms Maximum Change from Initial
Vibration Mil-Std-1344 Method 2005.1 Condition I	Amplitude: 1.50mm (.060 inch) peak to peak Sweep: 10-55-10 Hz in one minute Duration: 2 hours in each X-Y-Z axis. (Test module shall be per Section 8.2)	Contact Resistance: 10 milliohms Maximum Change from Initial Discontinuity: not greater than one microsecond
Mechanical Shock Mil-Std-1344 Method 2004.1 Condition A	50 g's with three 1/2 sine waveform shocks in each X-Y-Z axis. (Test module shall be per Section 8.2)	Contact Resistance: 10 milliohms Maximum Change from Initial Discontinuity: not greater than one microsecond
Latch Overstress Force	Apply an actuation force on the latch at a rate of 25 +/- 6mm (1 +/- 1/4 inch) per minute in the fully open position and hold for 10 sec.	66.72 N (15 lbs) minimum. force held for 10 sec. , no damage.
Latch Actuation Force	Apply an actuation force on the latch at a rate of 25 +/- 6mm (1 +/- 1/4 inch) per minute with recommended test module inserted into connector.	The force to fully actuate the latch open shall be 44.48 N (10 lbs) maximum per latch.
Normal Force	Apply a perpendicular force at a rate of 25+/- 6mm (1 +/- 1/4 inch) per minute on the contacts in a manner simulating actual use.	0.49 N (50 grams) minimum end of life.

5.2 MECHANICAL PERFORMANCE CONTINUED

Item	Test Condition	Requirement
Module Ripout Force	Pull up from the center of the module with the latches closed at a rate of 25 +/- 6mm (1 +/- ¼ inch) per minute.	 The module ripout forces is 88.96 N (20 lbs) minimum for a DIMM connector that has a tall or short latch at both ends. See figures above.  The module ripout forces is 35.58 N (8 lbs) minimum for a DIMM connector that has a DRO latch at both ends, and the tower options that have only one tall or short latch and a tower at the other end. See

5.2 MECHANICAL PERFORMANCE CONTINUED

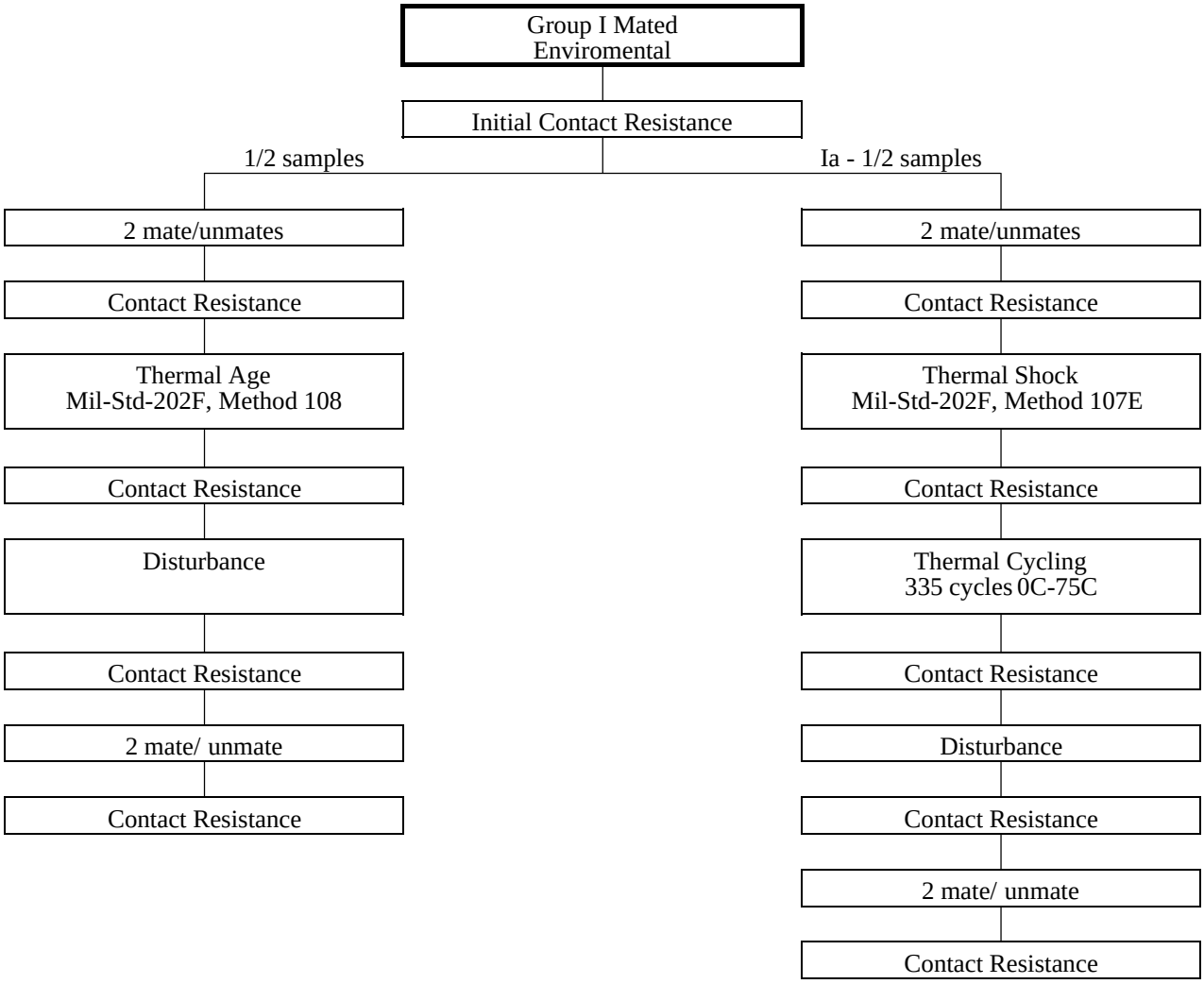
Item	Test Condition	Requirement
Normal Force	Apply a perpendicular force at a rate of 25+/- 6mm (1+/- ¼ inch per minute on the contacts in a manner simulating actual use.	0.49 N (50 grams) minimum end of life.
Retention of connector to PCB	Pull connector out of max. recommended diameter holes. PCB: 1.57+/-0.18 mm (.062+/-.007 inch) thick. Rate: 25.4+/-6 mm (1.0+/-1/4 inch) per minute.	The connector shall not lift off the PCB when pulling up either end with a force of 4.45 N (1.0 lbs) minimum. 22.24 N (5 lbs) max.
Insertion force of connector into PCB	Push connector into min. recommended diameter holes. PCB: 1.57+/-0.18 mm (.062+/-.007 inch) thick. Rate: 25.4+/-6mm (1.0+/-1/4inch) per minute.	Plastic peg: 44.48 N (10.0 lbs.) per peg maximum. Metal forklock: 26.69 N (6.0 lbs) per peg maximum.
Durability of marking	Brush connector per Mil-Std-202, Method 215 with isopropyl alchohol solution.	No degradation of the marking

5.3 ENVIROMENTAL PERFORMANCE

Item	Test Condition	Requirement
Thermal Shock Mil-Std-202F Method 107 E	Mate connectors exposed to 5 cycles of: Temperature °C — Duration (Min) -40 +0/-3 — 15 +25 +/-10 — 5 Max +65 +3/-0 — 15 +25 +/-10 — 5 Max	Appearance: No Damage Contact Resistance: 10 milliohms maximum change from initial
Thermal Aging Mil-Std-202F Method 108	Mated connector exposed to 240+/-10 hrs. at 85+/- 3° C	Appearance: No Damage Contact Resistance: 10 milliohms maximum change from initial
Humidity (Steady State) Mil-Std-202F Method 103	Mated connectors exposed to a temperature of : 50 +/- 2°C with a Relative of 80+/-3% for 300 hours. Remove surface moisture and air dry for 24 hours prior to measurements.	Appearance: No Damage Contact Resistance: 10 milliohms maximum change from initial. Dielectric Withstanding Voltage: No Breakdown Insulation Resistance: 1000 Megohms Minimum

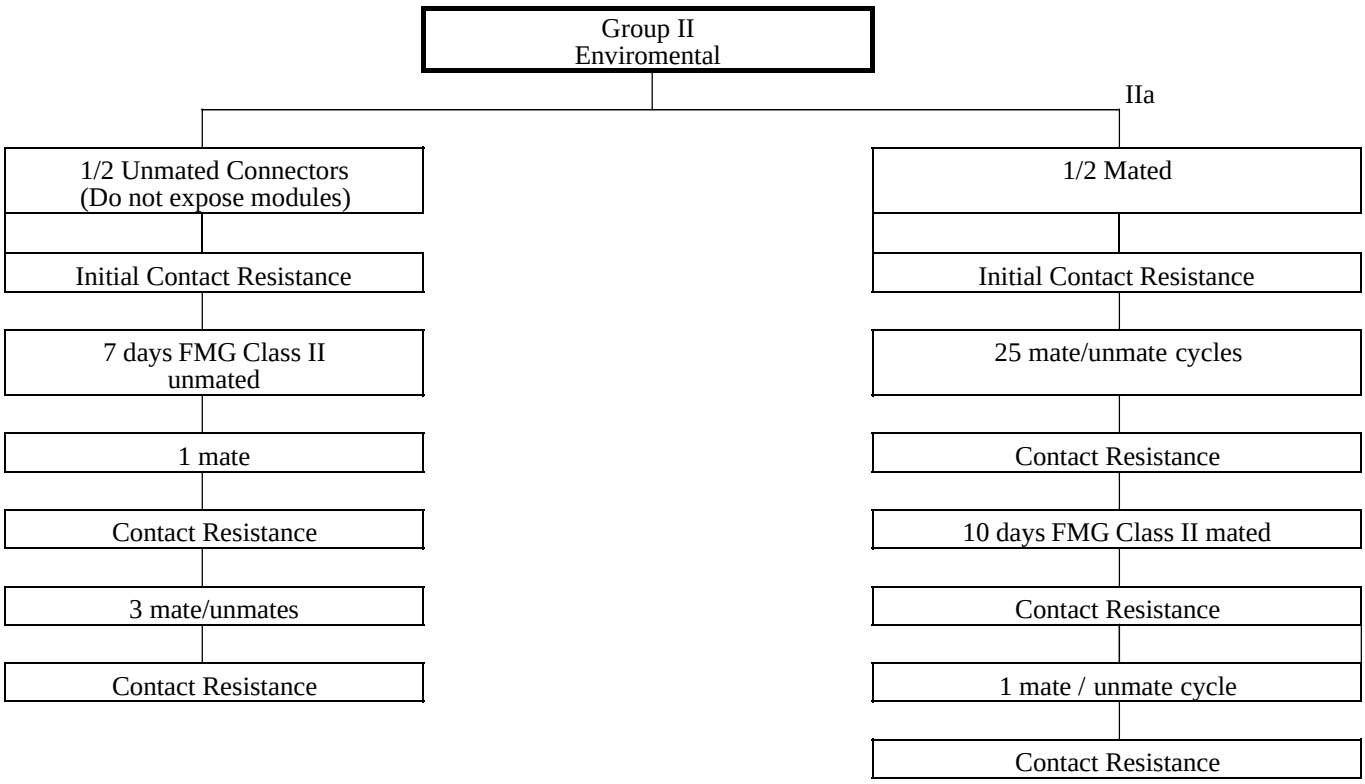
5.3 ENVIROMENTAL PERFORMANCE CONTINUED

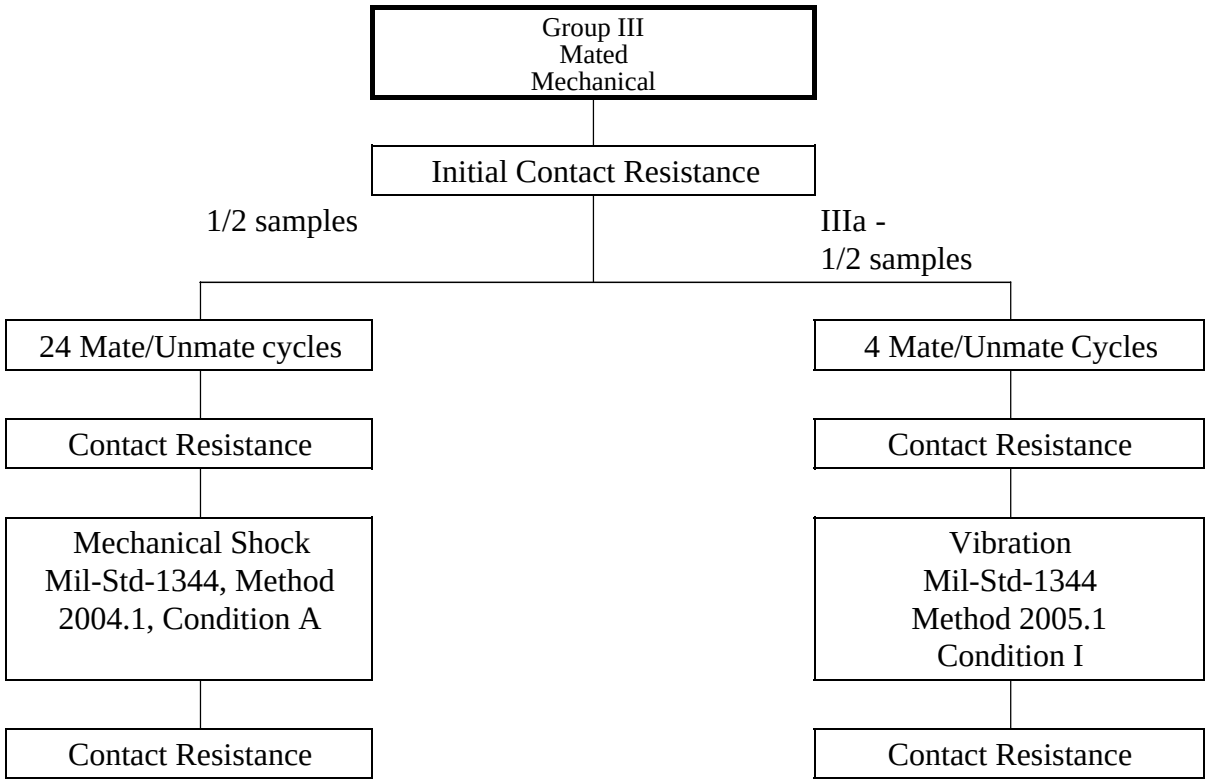
Item	Test Condition	Requirement
Temperature Cycling	Mated connectors exposed for 335 cycles Relative Humidity uncontrolled with a temperature transition of 10°C per minute. Temperature °C Duration (Min) +0 +/- 3 15 +75 +/-3 15 Allow to air dry for 24 hours prior to measurements.	Appearance: No Damage Contact Resistance: 10 milliohms maximum change from initial. Dielectric Withstanding Voltage: No Breakdown Insulation Resistance: 1000 Megohms Minimum
Temperature Rise	Mate the connectors, series 4 contacts and measure the temperature rise at the rated current after 4 hours. (Schematic per Section 8.3)	Maximum Temperature Rise: 30°C above ambient
Solderability Molex SMES-152	Steam age 1 hr. Solder time 5 +/- 0.5 seconds. Solder temperature: 245 +/- 5°C Nonactivated flux.	95% of the immersed area must show no voids, pin holes
IR Process	Exposure: Molex IR Profile per Section 8.4	Appearance: No damage, blistering or solder bridging. Dimensional: Conformance to Sales Drawing requirements
Flowing Mixed Gas (FMG)	Battelle Class II, 10 ppm Cl_2, 10 ppm H_2S, 100 ppm NO_2, 70+/-1% R.H., 25 deg. C. 50-60 CFM. 10 days mated and 7 days unmated exposure.	Contact Resistance: 10 milliohms Maximum change from Initial
Resistance to Solder Heats	Solder Time 3 +/- 0.5 seconds Solder Temperature: 260 +/- 5°C Immerse leads to a depth of 1.57mm (.062 in.) from connector body.	Appearance: No damage or discoloration of connector materials.

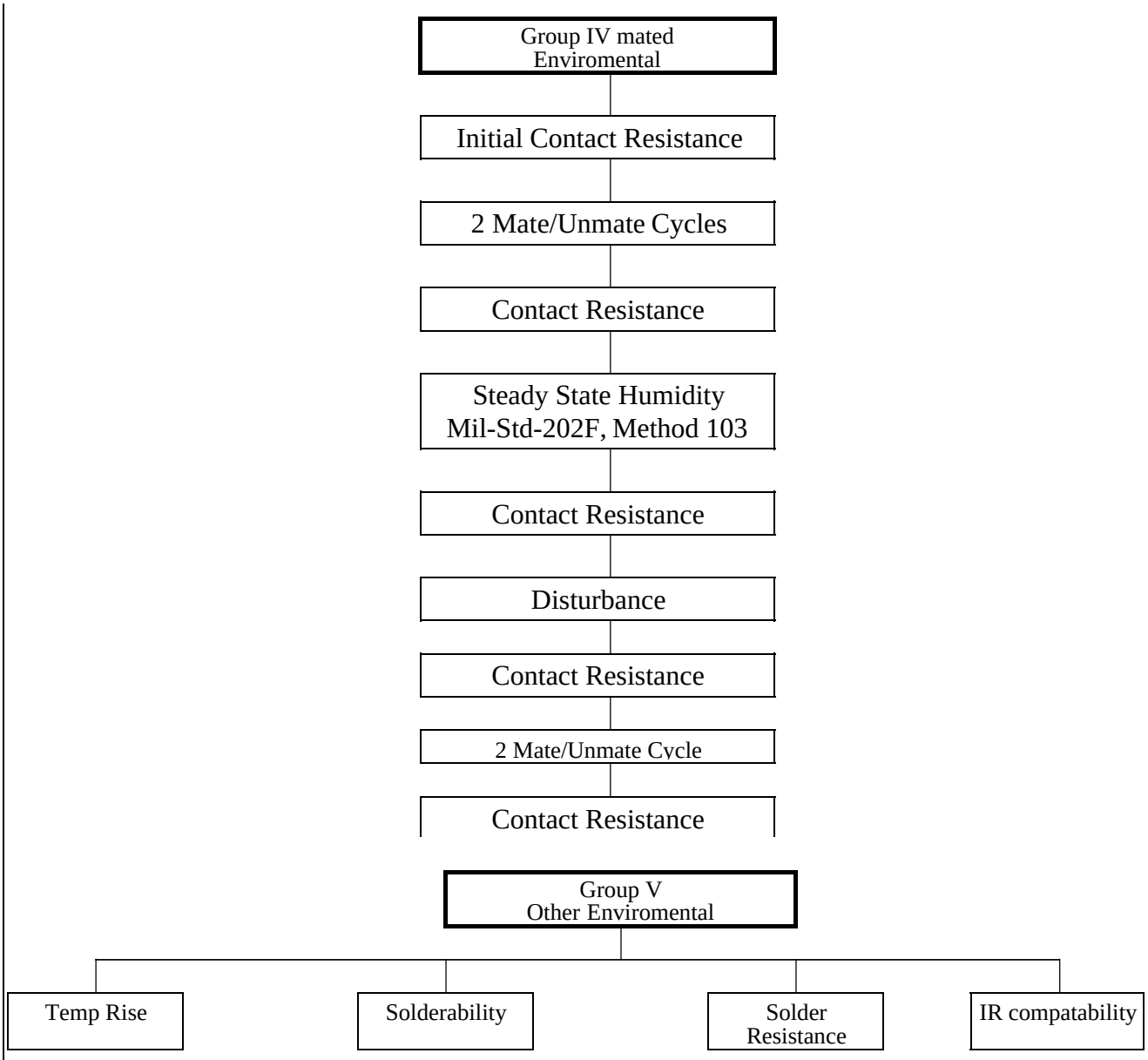


6.0 TEST SEQUENCE AND QUALIFICATION

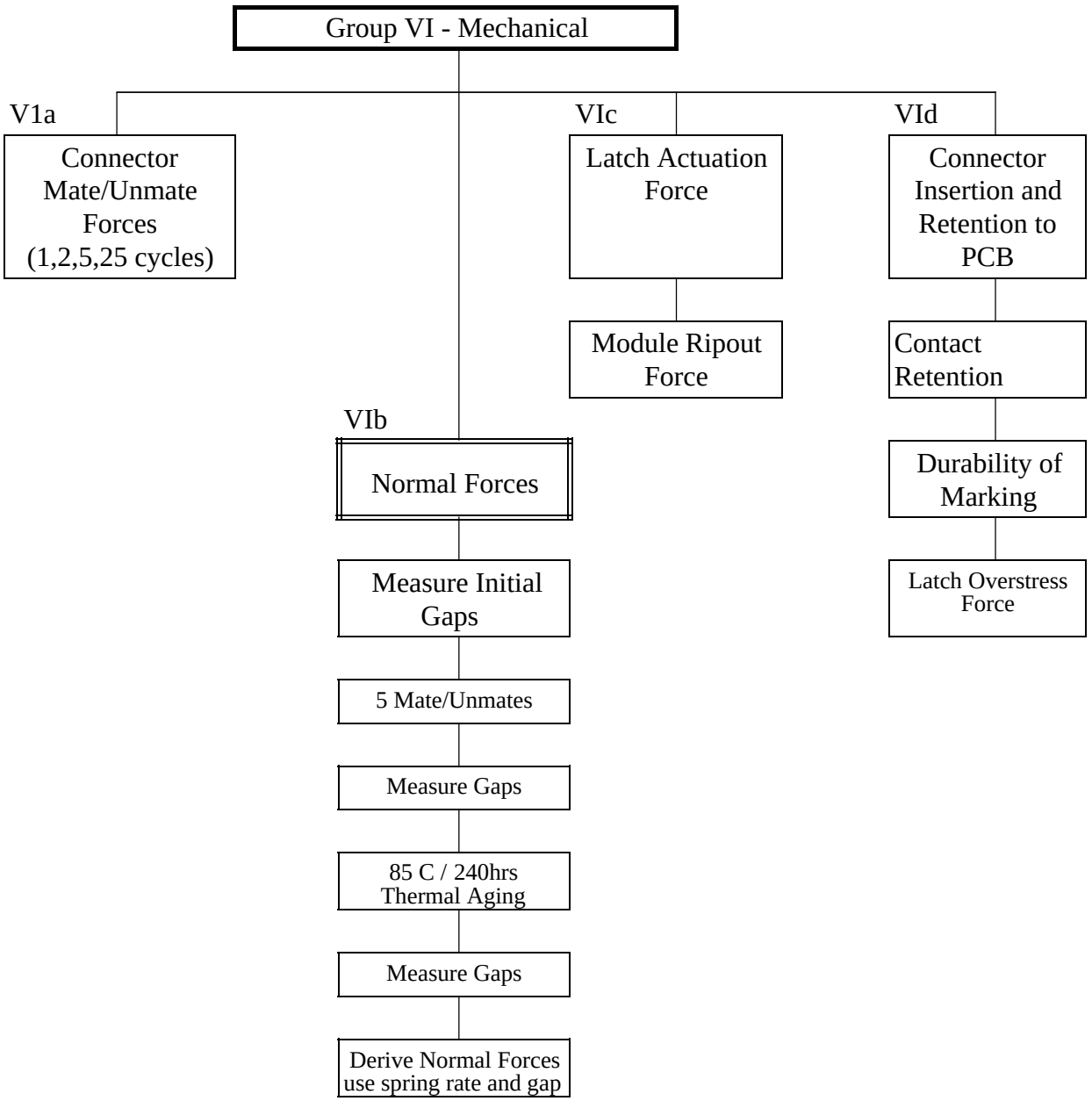
Note: Disturbance consists of a 10 degree rotation of the module in the connector.







Note: Disturbance consists of a 10 degree rotation of the module in the connector.



6.1 QUALIFICATION REQUIREMENTS

6.1.1 Samples shall be taken from approved production processes.

6.1.2 A minimum of 1000 contact points and 5 connectors per group shall be tested typically from the smallest and largest circuit size.

6.1.3 Acceptance criteria shall be as defined in the applicable test requirement in sections 5.1 - 5.3.

7.0 PACKAGING

7.1 METHOD

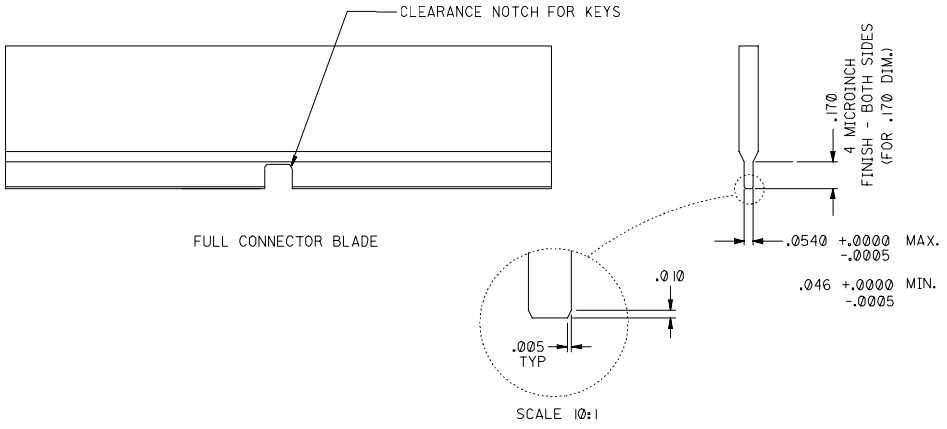
7.1.1 Product shall be packaged in trays per the packaging specification as called out on the applicable assembly print.

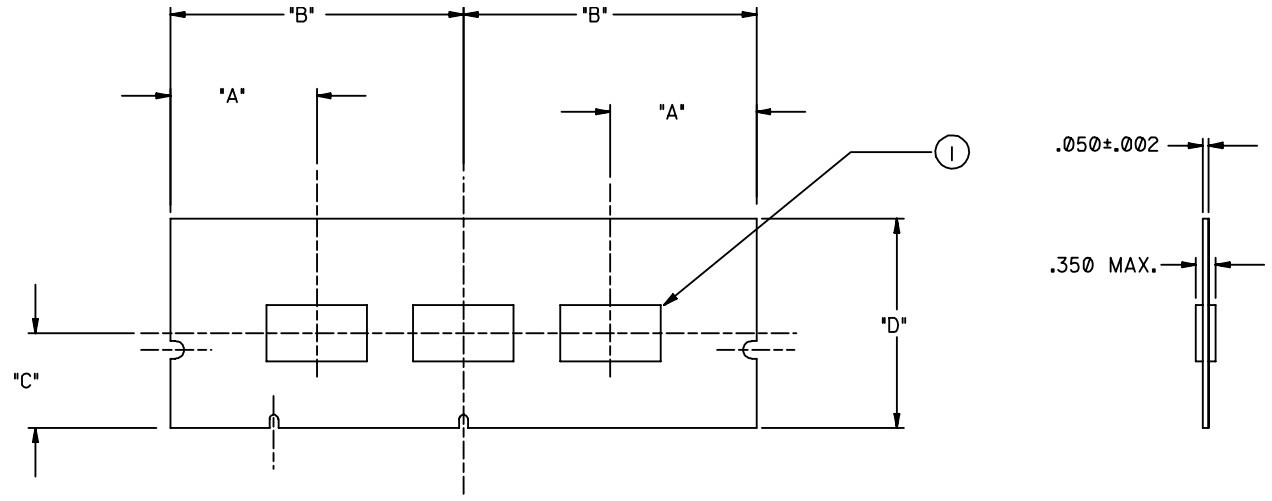
7.2 REQUIREMENTS

7.2.1 Packaging shall meet the requirements and be tested per Molex specification PK-70180-5001.

8.0 GAGES, FIXTURES AND SCHEMATICS

8.1 Contact Insertion and Withdrawal Blades





CIRCUIT SIZE	JEDEC MODULE OUTLINE	"A" mm(in.)	"B" mm(in.)	"C" mm(in.)	"D" mm(in.)	SOJ WEIGHT (gm+/-10%) SHOCK TEST (weighted)	SOJ WEIGHT (gm+/-10%) VIBRATION TEST (unweighted)
112	MO-172	21.91(.863)	48.89(1.925)	21.97(.865)	38.10(1.5)	18.00	10.10
128	MO-167	24.45(.963)	48.90(1.925)	21.97(.865)	25.40(1.0)	14.05	6.73
136	NA	25.72(1.013)	51.44(2.025)	21.97(.865)	25.40(1.0)	15.74	7.08
144	NA	26.99(1.063)	53.98(2.125)	21.97(.865)	25.40(1.0)	17.62	7.43
160	NA	29.53(2.325)	59.06(2.325)	21.97(.865)	25.40(1.0)	22.11	8.13
168	MO-161	30.80(1.213)	61.60(2.425)	21.97(.865)	38.10(1.5)	24.76	13.77
200	MO-172	35.88(1.413)	76.83(3.025)	21.97(.865)	38.10(1.5)	38.96	15.87

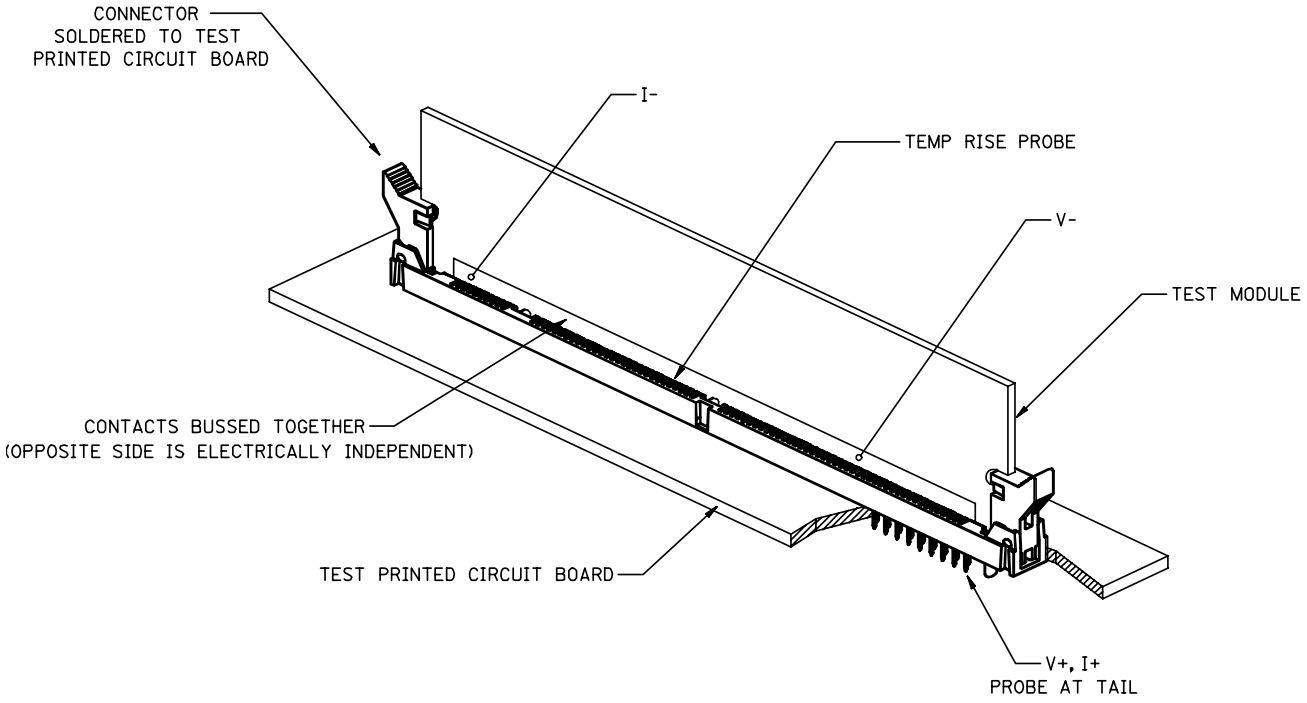
8.2 Shock and Vibration Test Modules

Notes

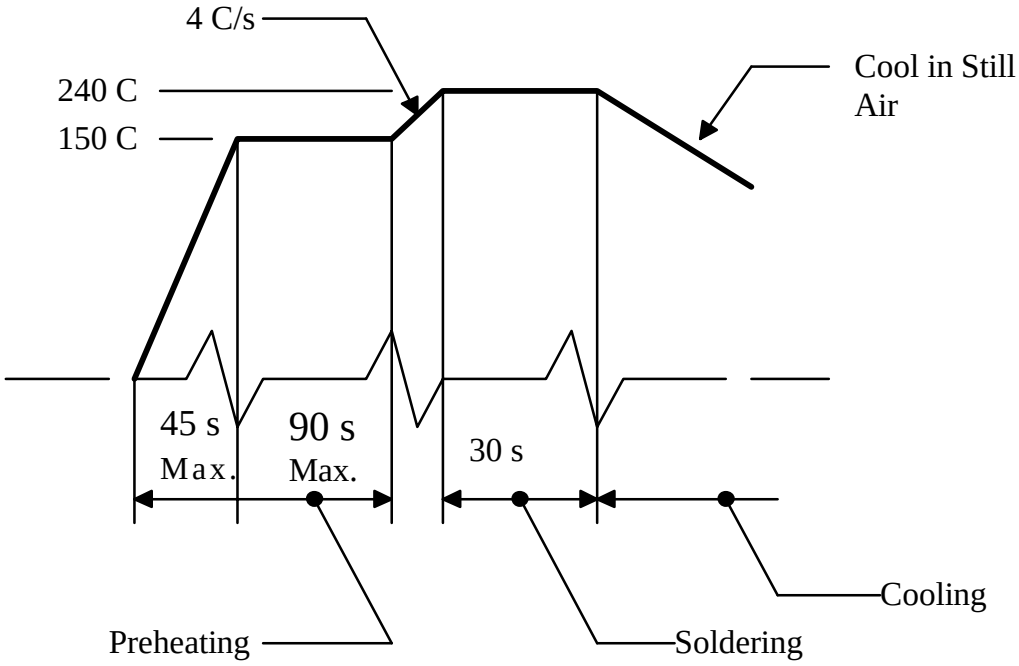
1. Item 1 (weights) shall beepoxiedto recommended module test board. Material shall be aluminum.
2. Total weight of finished test module shall be per the table.

8.3 Contact Reistance and Temperature RiseSet-up.

CONTACT RESISTANCE TEST ARRANGEMENT
AND TEMP RISE MEASUREMENT LOCATION



8.4 Reflow Solder Profile



NOTES:

1. Reflow solder Preheat at 3 C/s to 150 C.
2. Reflow at 240 C using 60/40 solder for 30 s per figure.
3. Component must withstand (2)reflow solder cycles with a cool down between.

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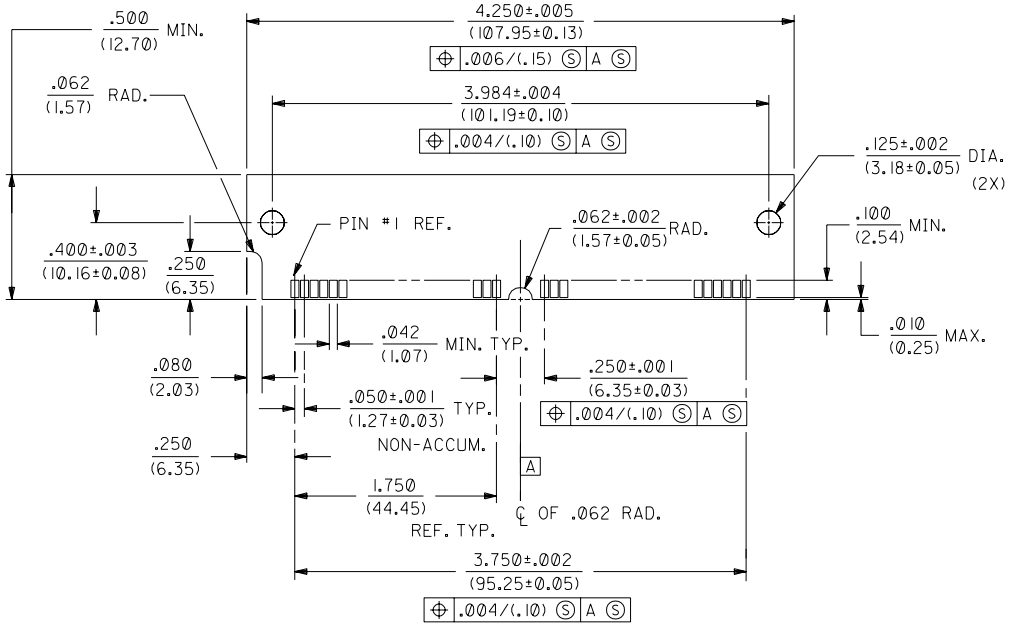
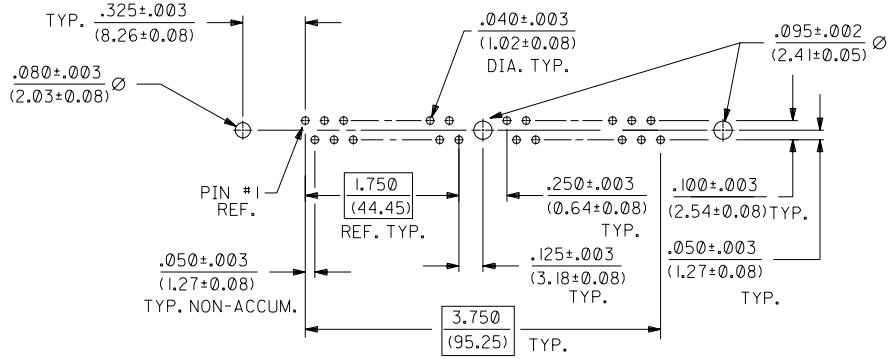


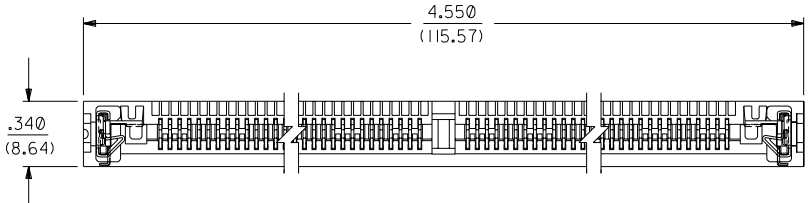
"SIMM" P.C. BOARD LAYOUT

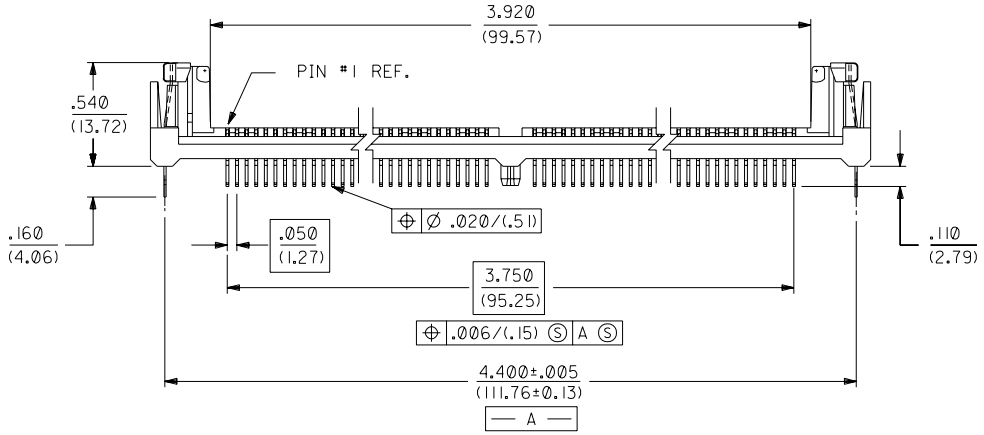
NOTES:
1. CARD SLOT ACCEPTS .050 +.004/-.003 P.C. BOARDS(MEASURED OVER P.C. PADS).
2. PRODUCT SPEC PS-78954 APPLIES
3. CENTER PEG IS AN INTERFERENCE FIT TO PCB UNLESS NOTED ON THE DWG. (APPLICABLE ONLY IF PART HAS A CENTER PEG FEATURE)

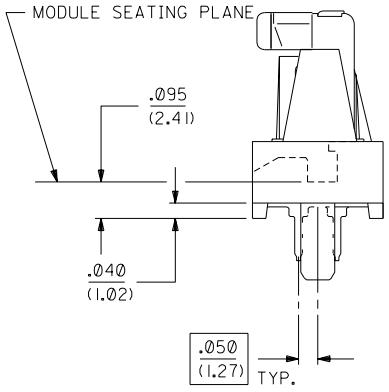
MATERIALS:
HOUSING- LCP, GLASS FILLED, 94V-0, COLOR: BLACK
TERMINAL- PHOSPHOR BRONZE
PLATING- POST PLATED 30 μin/(0.76 μm) MINIMUM GOLD IN CONTACT AREA AND 150 μin/(3.81μm) MINIMUM TIN IN TAIL AREA OVER 75 μin/(1.91μm) MINIMUM NICKEL OVERALL.
* REFERENCE NOTE IN LOWER LEFT CORNER OF DRAWING.
METAL LATCH- STAINLESS STEEL



RECOMMENDED SOCKET
P.C. BOARD HOLE PATTERN







END VIEW
SCALE 4:1

*THE PRIMARY SHIPPING CARTON WILL BE LABELED "COMPLIANT TO RoHS DIRECTIVE 2002/95/EC AND ELV ANNEX II OF DIRECTIVE 2000/53/EC" CARTONS WITHOUT THIS LABEL MAY CONTAIN PRODUCT WITH LEAD.

MFG.	SH.	REV.	LTR.	REVISIONS
			F	LEAD FREE UCP2004-1582 RWHITE 04/02/24
			E	REVISED PER ECN# U51309 GMY 8-18-95
			D	REDRAWN PER ECR U20649 AMD 6-10-92
			C	REVISED/UPDATED PER ECR U0 0647 SEC 9-18-90
			B	CORRECTED/REVISED PER ECR U0 0324 SEC 4-17-90
			A	RELEASE FOR MFG. PER ERO 29297 SEC 12-05-89

DIMENSIONS SHOWN (METRIC) INCH
UNLESS OTHERWISE SPECIFIED TOLERANCES: ANGULAR ± 1/2°

	INCH	METRIC
3 PLACE	± .010	---
2 PLACE	± .014	± 0.25
1 PLACE	---	± .035

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

▽ = Ø ▼ = Ø REVISE ONLY ON CAD SYSTEM

TITLE: SALES ASSEMBLY 72 CIRCUIT METAL LATCH VERTICAL SIMM SOCKET

molex MOLEX INCORPORATED LISLE,ILL. 60532 U.S.A.

SHEET NO. 1 | DATE 12/05/89

PART NO. 15-82-0762 | DRWG. NO. SDA-78962-7232

DRWG. BY SEC | CHK'D. BY | APP'D. BY | SCALE 2 : 1

FILE NAME S78962X34 DGN

DIV. DA | SIZE C

78962