

Distributed by:

JAMECO[®]
ELECTRONICS

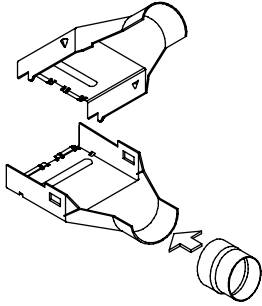
www.Jameco.com ♦ 1-800-831-4242

The content and copyrights of the attached
material are the property of its owner.

Jameco Part Number 1976654

1.27mm (.050") Pitch LFH™ Matrix 50 Hardware

71245 Overmold Can Kit



Overmold Can		
Order No.	Cable Sizes (max.)	Lead-free
71245-2000	11.18 (.440)	Yes
71245-3000	12.57 (.495)	

Features and Benefits

- Use with 60-circuit plug cable kit
- Each can kit includes top and bottom pieces
- Can pieces snap together to provide continuous electrical shielding with connector and cable
- Crimp ferrule 73772 sold separately

Reference Information

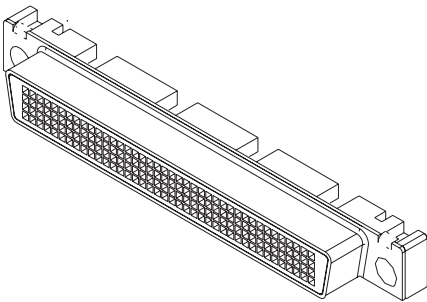
Application Specification: PS-70929
Packaging: Bag
Designed In: Inches

Physical

Plating: Bright Tin over Copper flash

1.27mm (.050") Pitch LFH™ Matrix 50 Shielded Receptacle

N 71626 160 Circuit, Vertical



Features and Benefits

- High-performance, Low Force Helix terminal with contact layout .050 by .050"
- High cycle life from controlled plating and contact surfaces
- Suitable for high-density and high-performance applications
- M3 threaded insert with optional board lock for attaching various hardware options
- Docking hardware 71628 and 71629
- Jackposts 70982
- Surface Mount Compatible

Reference Information

Product Specification: PS-71626
Packaging: Tube
UL File No.: E29179
CSA File No.: LR19980
Mates With: 71624
Designed In: Inches

Electrical

Voltage: 40V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Insertion Force: 60g max.
Mating Force: 50g nom.
Unmating Force: 20g min.
Durability: 5000 cycles

Physical

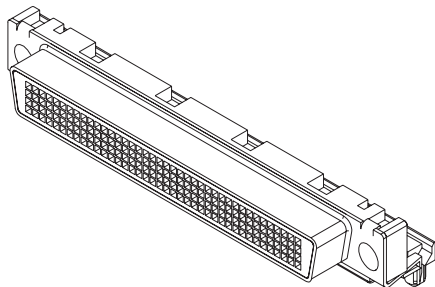
Housing: Glass-filled polymer, UL 94V-0
Contact: Beryllium Copper Alloy
Plating: Terminals—30µm min. Gold over Nickel in contact area, 100µm min. Tin over Nickel in PC tail area
Shields—150µm min. bright Tin over Nickel all over Copper flash
Operating Temperature: -20 to +80°C

Circuits	Order No.	Feature	PC Tail Length	Lead-free
160	71626-1001	M3 Threaded Insert with Board Lock	2.34 (.092)	Yes
	71626-1003	M3 Threaded Insert	3.18 (.125)	
	71626-1004	M3 Threaded Insert with Board Lock		
	71626-1006	M3 Threaded Insert	4.49 (.177)	
	71626-1007		5.33 (.210)	
	51-24-1030		2.34 (.092)	

1.27mm (.050") Pitch LFH™ Matrix 50 Shielded Receptacle

71626

160 Circuit, Right Angle



Features and Benefits

- High-performance, Low Force Helix terminal with contact layout .050 by .050"
- High cycle life from controlled plating and contact surfaces
- Suitable for high-density and high-performance applications
- M3 threaded insert for attaching various hardware options
- Docking hardware 71628 and 71629
- Jackposts 70982
- Surface Mount Compatible

Reference Information

Product Specification: PS-71626
Packaging: Tube
UL File No.: E29179
CSA File No.: LR19980
Mates With: 71624
Designed In: Inches

Electrical

Voltage: 40V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Insertion Force: 60g max.
Mating Force: 50g nom.
Unmating Force: 20g min.
Durability: 5000 cycles

Physical

Housing: Glass-filled polymer, UL 94V-0
Contact: Beryllium Copper Alloy
Plating: Terminals—30µ" min. Gold over Nickel in contact area, 100µ" min. Tin over Nickel in PC tail area
Shields—150µ" min. bright Tin over Nickel all over Copper flash
Operating Temperature: -20 to +80°C

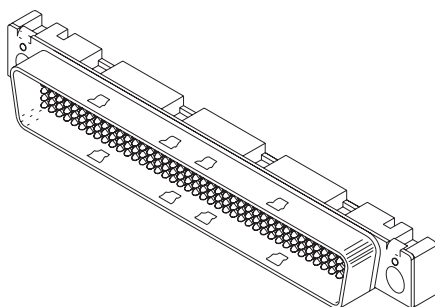
Circuits	Order No.	PC Tail Length	Lead-free
160	51-24-1040	2.34 (.092)	Yes
	51-24-1041	2.01 (.079)	
	71626-2002	3.18 (.125)	
	71626-4000*	2.34 (.092)	

* Guide hardware attached (71629-4000)

1.27mm (.050") Pitch LFH™ Matrix 50 Shielded Plug

71624

160 Circuit, Vertical



Features and Benefits

- High-performance, Low Force Helix terminal with contact layout .050 by .050"
- High cycle life from controlled plating and contact surfaces
- Suitable for high-density and high-performance applications
- M3 threaded insert with optional board lock for attaching various hardware options
- Docking hardware 71628 and 71629
- Jackposts 70982
- Surface Mount Compatible

Reference Information:

Product Specification: PS-71626
Packaging: Tube
UL File No.: E29179
CSA File No.: LR19980
Mates With: 71626
Designed In: Inches

Electrical

Voltage: 40V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Insertion Force: 60g max.
Mating Force: 50g nom.
Unmating Force: 20g min.
Durability: 5000 cycles

Physical

Housing: Glass-filled polymer, UL 94V-0
Contact: Phosphor Bronze Alloy
Plating: Terminals—30µ" min. Gold over Nickel in contact area, 100µ" min. Tin over Nickel in PC tail area
Shields—150µ" min. bright Tin over Nickel all over Copper flash
Operating Temperature: -20 to +80°C

Circuits	Order No.	Feature	PC Tail Length	Lead-free
160	51-25-1030	M3 Threaded Insert	2.34 (.092)	Yes
	71624-1001	M3 Threaded Insert with Board Lock		
	71624-1003	M3 Threaded Insert	3.18 (.125)	
	71624-1004	M3 Threaded Insert with Board Lock		
	71624-1013	M3 Threaded Insert	4.50 (.177)	



PRODUCT SPECIFICATION

1.0 SCOPE

This specification covers the Molex 160 circuit LFH .050" pitch right angle and vertical shielded plug and receptacle connectors.

This represents a board-to-board and cable I/O connector system specific to the requirements set forth by Molex

1.1 Reference Documents:

For application tooling and assembly requirements refer to Molex Specification AS-71624

2.0 PRODUCT DESCRIPTION

2.1 The connectors covered in this specification are:

<u>Description</u>	<u>Applicable Document</u>
<u>Plug Connector</u>	
Right Angle	SDA-71624-200*
Vertical	SDA-71624-****
<u>Receptacle Connector</u>	
Right Angle	SDA-71626-200* SDA-71626-400* SDA-71626-500*
Vertical	SDA-71626-100* SDA-71626-800*
<u>Cable Connector – Plug</u>	
Hsg./Shield Sub-assembly	SDA-71624-3000
Insert	SDA-70984-4***
<u>Guide Hardware</u>	
Guide Sleeve	SDA-71629-****
Guide Pin	SDA-71628-****

2.2 This LFH (Low Force Helix) connector system is designed to meet the industry's demand for a cost effective , high density, and low insertion force connector. The connectors utilize a gold-to-gold contact system to provide long-term reliability. The operating Temperature for these connectors is -20 degrees C to 80 degrees C.

2.3 The receptacle connector is an I/O style connector designed to be wave soldered on a PCB using conventional industry methods. The receptacle connector tail pattern is on a .050" x .050" grid.

2.4 The plug connector is an I/O style connector designed to be wave soldered to a PCB using conventional industry methods. The plug connector tail pattern is on a .050" x .050" grid.

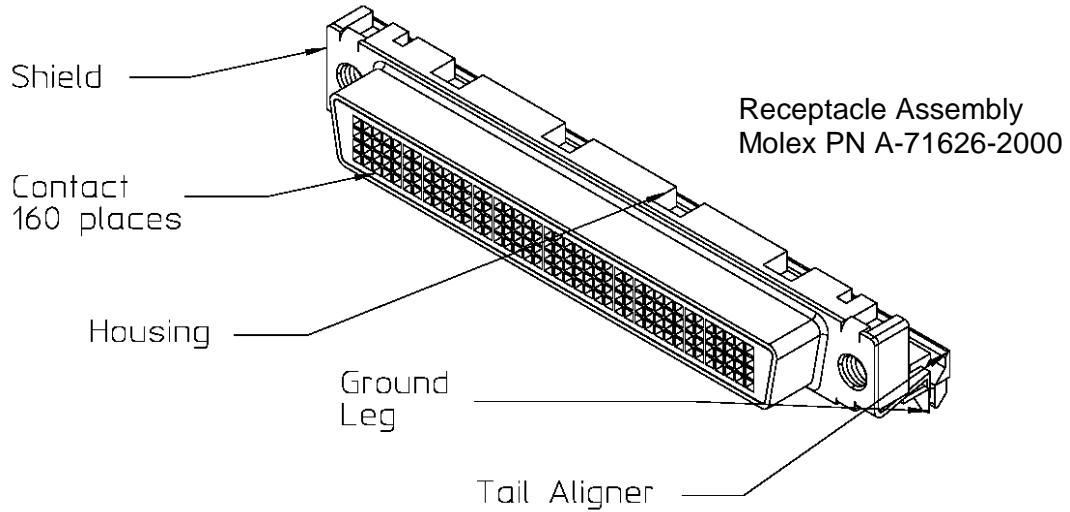
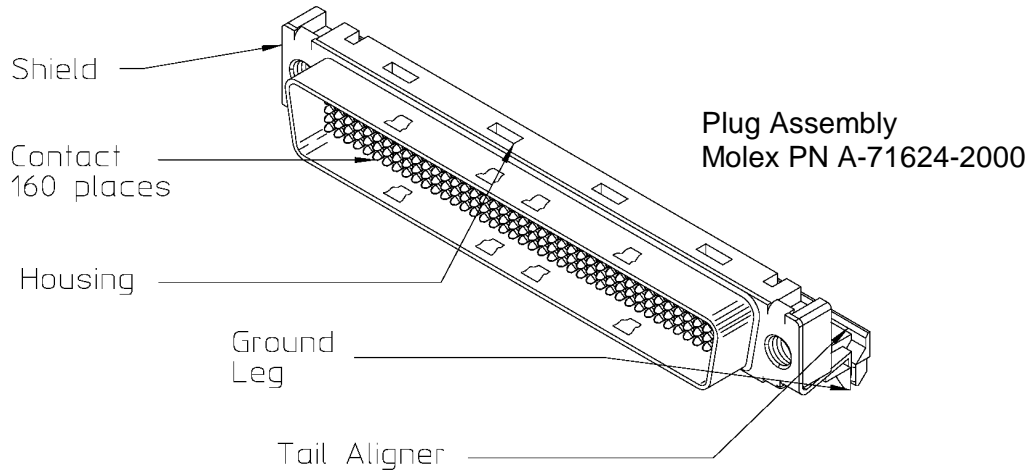
REVISION: I	EGR/ECN INFORMATION: EC No: UCP2005-2088 DATE: 2005 / 03 / 23	TITLE: PRODUCT SPECIFICATION .050" PITCH LFH PLUG AND RECEPTACLE I/O CONNECTORS	SHEET No. 1 of 8
DOCUMENT NUMBER: PS-71626	CREATED / REVISED BY: MIBARRA	CHECKED BY: BSMART	APPROVED BY: SMILLER



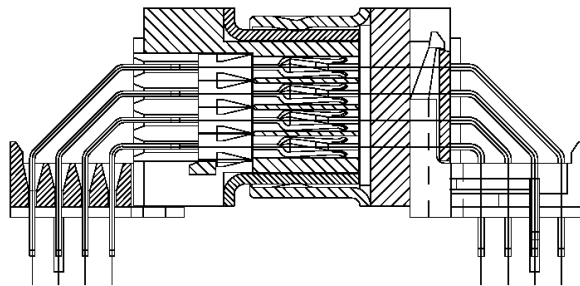
PRODUCT SPECIFICATION

2.0 PRODUCT DESCRIPTION (CONTINUED) – RIGHT ANGLE

2.5 Nomenclature:



2.6 Mated Cross-Section:



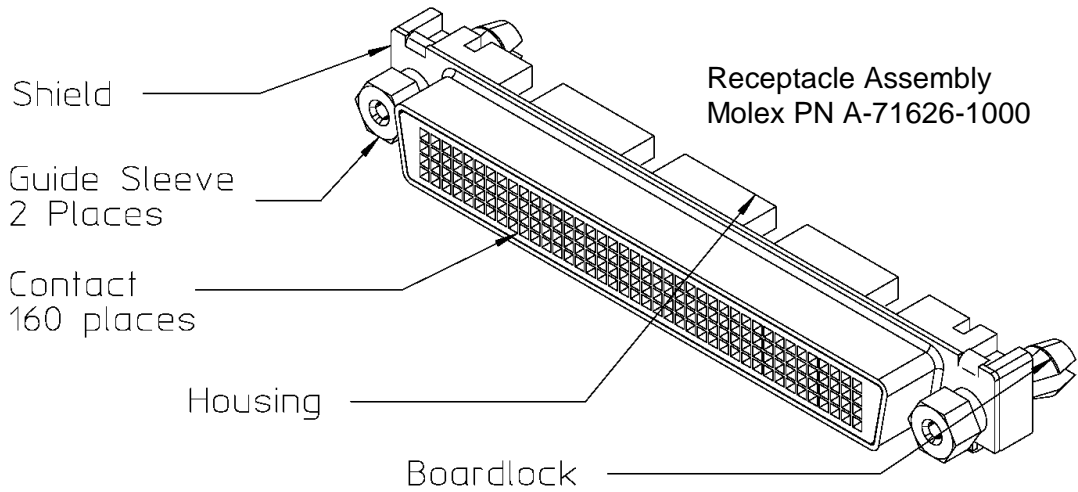
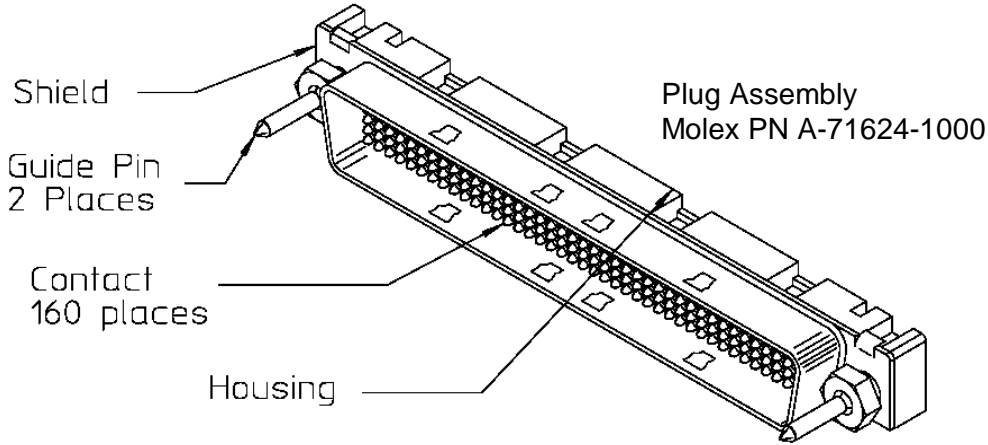
REVISION: I	EGR/ECN INFORMATION: EC No: UCP2005-2088 DATE: 2005 / 03 / 23	TITLE: PRODUCT SPECIFICATION .050" PITCH LFH PLUG AND RECEPTACLE I/O CONNECTORS	SHEET No. 2 of 8
DOCUMENT NUMBER: PS-71626	CREATED / REVISED BY: MIBARRA	CHECKED BY: BSMART	APPROVED BY: SMILLER



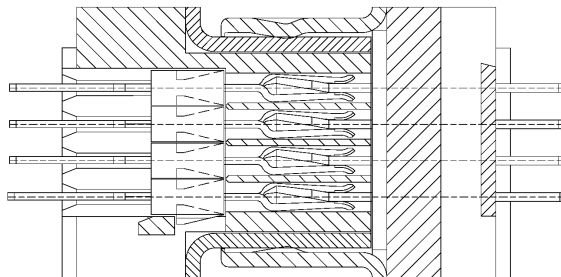
PRODUCT SPECIFICATION

2.0 PRODUCT DESCRIPTION (CONTINUED) – VERTICAL

2.7 Nomenclature:



2.8 Mated Cross-Section:



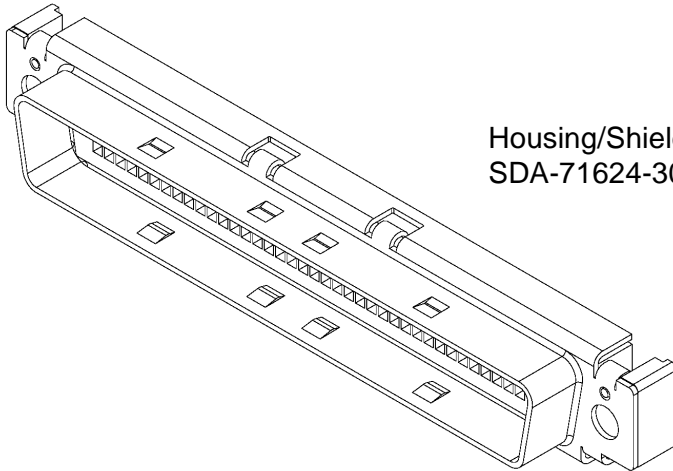
REVISION: I	EGR/ECN INFORMATION: EC No: UCP2005-2088 DATE: 2005 / 03 / 23	TITLE: PRODUCT SPECIFICATION .050" PITCH LFH PLUG AND RECEPTACLE I/O CONNECTORS	SHEET No. 3 of 8
DOCUMENT NUMBER: PS-71626	CREATED / REVISED BY: MIBARRA	CHECKED BY: BSMART	APPROVED BY: SMILLER



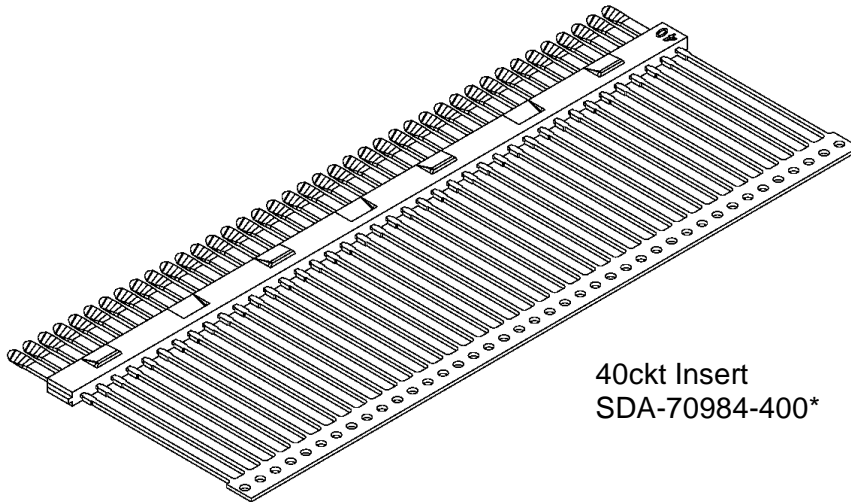
PRODUCT SPECIFICATION

2.0 PRODUCT DESCRIPTION (CONTINUED) – CABLE

2.9 Nomenclature:



Housing/Shield Sub-assembly
SDA-71624-3000



40ckt Insert
SDA-70984-400*

REVISION: I	EGR/ECN INFORMATION: EC No: UCP2005-2088 DATE: 2005 / 03 / 23	TITLE: PRODUCT SPECIFICATION .050" PITCH LFH PLUG AND RECEPTACLE I/O CONNECTORS	SHEET No. 4 of 8
DOCUMENT NUMBER: PS-71626	CREATED / REVISED BY: MIBARRA	CHECKED BY: BSMART	APPROVED BY: SMILLER



PRODUCT SPECIFICATION

3.0 RECOGIZED AGENCY APPROVAL

3.1 U.L. Recognition: File E29179, Volume 10.

3.2 C.S.A. Certification: LR19880.

4.0 MECHANICAL SPECIFICATIONS

4.1 Materials:

4.1.1 Housings are molded of liquid crystal polymer (LCP), glass filled, black, and 94V-0 rated.

4.1.2 Contact Sticks are molded of liquid crystal polymer (LCP), glass filled, black, and 94V-0 rated.

4.1.3 Receptacle Terminals are beryllium copper alloy.

4.1.4 Plug Contacts are phosphor bronze alloy.

4.2 Plating:

4.2.1 Contacts are plated with .000030”(0.00076mm) minimum gold plate in contact area over nickel under plate overall.

4.2.2 Contacts are plated with .00010”(0.00254mm) minimum tin in solder tail area over nickel under plate overall.

4.3 Insertion/Withdrawal forces:

4.3.1 Maximum Contact Insertion Force:
60 grams per contact.

4.3.2 Minimum Contact Withdrawal Force:
40 grams per contact.

4.4 Durability: 500 cycles

Connectors must meet the requirements set forth by this specification following durability test.

Mechanical Durability: 5000 cycles

Contact resistance not to exceed 50 milliohms following this test. Mechanical damage acceptable if it does not interfere with future connector performance.

5.0 ELECTRICAL SPECIFICATIONS

5.1 Voltage: 40 VAC RMS.

5.2 Current: 1.0 Amps at 30°C temperature rise.

5.3 Initial Contact Interface resistance; 10 milliohms max.

5.4 Dielectric Strength: 500 VRMS for 1 minute.

<u>REVISION:</u> I	<u>EGR/ECN INFORMATION:</u> <u>EC No:</u> UCP2005-2088 <u>DATE:</u> 2005 / 03 / 23	<u>TITLE:</u> PRODUCT SPECIFICATION .050” PITCH LFH PLUG AND RECEPTACLE I/O CONNECTORS	<u>SHEET No.</u> 5 of 8
<u>DOCUMENT NUMBER:</u> PS-71626	<u>CREATED / REVISED BY:</u> MIBARRA	<u>CHECKED BY:</u> BSMART	<u>APPROVED BY:</u> SMILLER



PRODUCT SPECIFICATION

5.0 ELECTRICAL SPECIFICATIONS (CONTINUED)

5.5 Insulation Resistance: 100 Mohms minimum after 500 VDC for 1 minute.

6.0 ENVIRONMENTAL SPECIFICATIONS:

6.1 Group I Sequence: Mated Environment

<u>Test/Specification</u>	<u>Test Severity/Duration</u>
6.1.1 Thermal Shock	-40°C to 105°C, 30 minute dwell at each temp., 10 cycles
6.1.2 Thermal Aging	105°C for 240 hours
6.1.3 Cyclic Humidity	Temperature cycles between 25°C to 65°C at 96% R.H. for 240 hrs.
6.1.4 Following Group I test sequence the contact resistance shall not change more than 10 milliohms from initial readings.	

6.2 Group III Sequence: Mated Environment/Mechanical

<u>Test/Specification</u>	<u>Test Severity/Duration</u>
6.2.1 Steady State Humidity Mil-Std-202 Method 103	40°C @ 90-95% R.H. for 240 hours
6.2.2 Vibration Mil-Std-202 Method 201	10-55-10 Hz, 1 minute cycles for 2 hours in each axis. .03 inch excursion, 10 G.
6.2.3 Following Group III test sequence the contact resistance shall not change more than 10 milliohms from initial readings.	

6.3 Group V Sequence: Mechanical – Connector Forces

<u>Test/Specification</u>	<u>Test Severity/Duration</u>
6.3.1 Thermal Aged	½ samples 105°C for 240hours
6.3.2 Mate/Unmate Cycling	500 mate /umate cycles Rate: 1"/min.
6.3.3 Following this test sequence the forces shall be: Mating Force: 25 pounds maximum. Unmating Force: 5.0 pounds maximum.	

REVISION: I	EGR/ECN INFORMATION: EC No: UCP2005-2088 DATE: 2005 / 03 / 23	TITLE: PRODUCT SPECIFICATION .050" PITCH LFH PLUG AND RECEPTACLE I/O CONNECTORS	SHEET No. 6 of 8
DOCUMENT NUMBER: PS-71626	CREATED / REVISED BY: MIBARRA	CHECKED BY: BSMART	APPROVED BY: SMILLER



PRODUCT SPECIFICATION

6.0 ENVIRONMENTAL SPECIFICATION (CONTINUED)

6.4 Group V Sequence: Mechanical – Individual Contact Forces

<u>Test/Specification</u>	<u>Test Severity/Duration</u>
6.4.1 Mate/Unmate Cycling	500 mate/unmate cycles
6.4.2 Following this test sequence the forces shall be:	
Contact Insertion Force: 60 grams max.	
Contact Withdrawal force: 15 grams min.	
6.4.3 At the conclusion of the test, the change in contact resistance shall not increase by more than 5 milliohms over their initial values.	

6.5 Group V Sequence: Mechanical – Normal Forces

<u>Test/Specification</u>	<u>Test Severity/Duration</u>
6.5.1 Thermal Aged w/Stress	1/3 of samples 105°C for 240 hours
6.5.2 Mate/Unmate Cycling	1/3 of samples 500 cycles
6.5.3 Following this test sequence the contacts of the three different test groups shall have a minimum normal force of 50 grams.	

7.0 TEST REQUIREMENTS AND SEQUENCE

7.1 Tests shall be performed per the test matrix on page 8 of this specification.

<u>REVISION:</u> I	<u>EGR/ECN INFORMATION:</u> EC No: UCP2005-2088 DATE: 2005 / 03 / 23	<u>TITLE:</u> PRODUCT SPECIFICATION .050" PITCH LFH PLUG AND RECEPTACLE I/O CONNECTORS	<u>SHEET No.</u> 7 of 8
<u>DOCUMENT NUMBER:</u> PS-71626		<u>CREATED / REVISED BY:</u> MIBARRA	<u>CHECKED BY:</u> BSMART
		<u>APPROVED BY:</u> SMILLER	

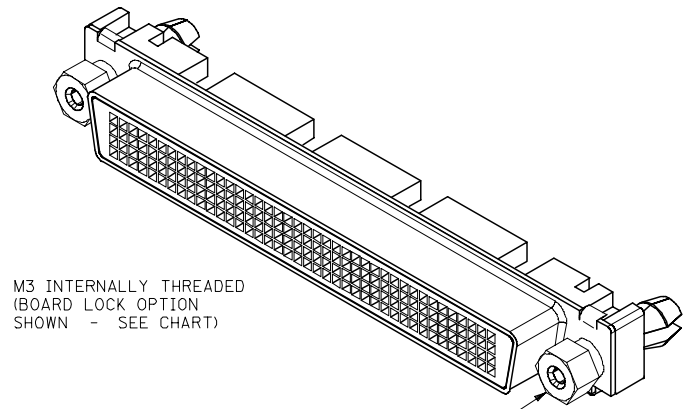
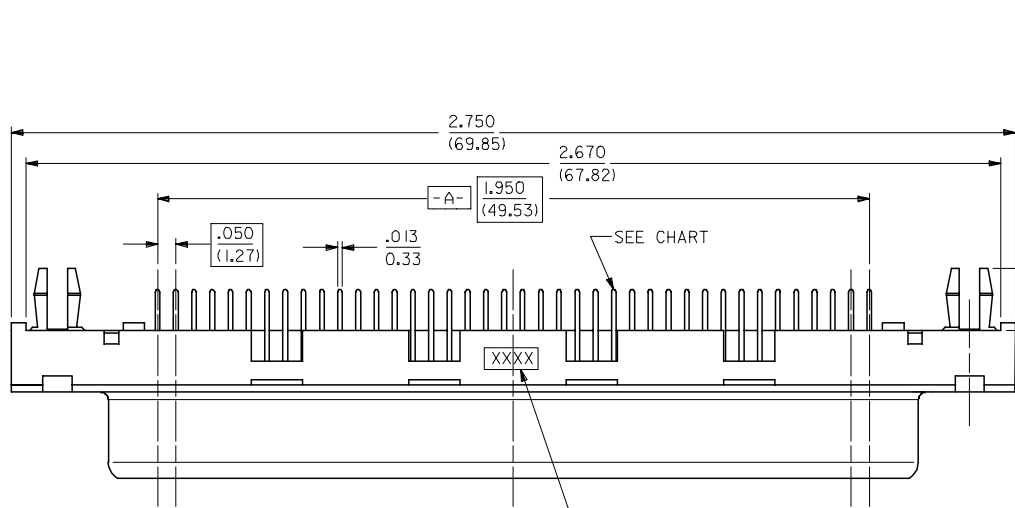


PRODUCT SPECIFICATION

TEST OR EXAMINATION	TEST SEQUENCE								
	1	2	3	4	5	6	7	8	9
EXAMINATION OF PRODUCT	1,9	1,12	1,7	1,9	1	1	1	1	1
MEASURE CONTACT RESISTANCE	2,4,6,8	2,4,6,8,10	2,4,6	2,4,6,8					
THERMAL SHOCK (105C TO -40C; 10 CYC.)	3	5							
MATE/UNMATE CYCLING (DURABILITY: 500 CYCLES)		3		3					2
THERMAL AGING (105C; 240 HOURS)	5	7				3			
CYCLIC HUMIDITY (MIL-STD-202; METHOD 106)	7	9							
STEADY STATE HUMIDITY (MIL-STD-202; METHOD 103)			3	5					
VIBRATION (MIL-STD-202; METHOD 201)			5	7					
CONNECTOR MATING FORCE					2	2			
CONNECTOR UNMATING FORCE					3	4			
MULTIPLE MATING/ UNMATING FORCES					4	5			
THERMAL AGED W/STRESS (105C; 240 HOURS)							2		
MEASURE TERMINAL NORMAL FORCES		11					3	2	3

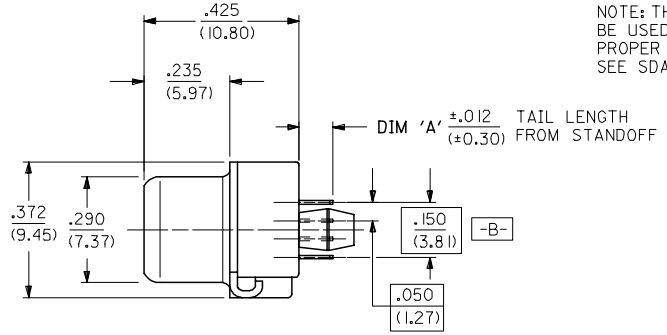
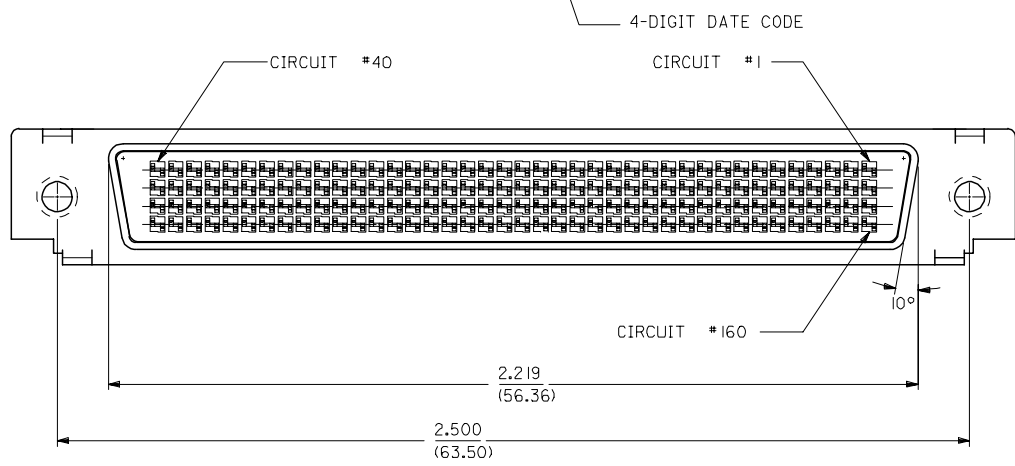
REVISION: I	EGR/ECN INFORMATION: EC No: UCP2005-2088 DATE: 2005 / 03 / 23	TITLE: PRODUCT SPECIFICATION .050" PITCH LFH PLUG AND RECEPTACLE I/O CONNECTORS	SHEET No. 8 of 8
DOCUMENT NUMBER: PS-71626	CREATED / REVISED BY: MIBARRA	CHECKED BY: BSMART	APPROVED BY: SMILLER

20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



.150 (3.81)
.020 (0.51) STANDOFF HEIGHT

NOTE: THIS HARDWARE MUST BE USED TO ENSURE PROPER GROUNDING. SEE SDA-71629-****.



OPTIONS

ENG. NUMBER	ITEM NUMBER	DIM 'A'	M3 INSERT	BOARDLOCK	PACKAGING SPEC.	TRUE-POSITION
A-71626-1000	051-24-1030	.092/(2.34)	YES	NO	PK-70873-297	⊕ .005/(0.13) (M) A B
A-71626-1001	71626-1001	.092/(2.34)	YES	YES	PK-70873-297	⊕ .005/(0.13) (M) A B
A-71626-1002	71626-1002	.092/(2.34)	NO	NO	PK-70873-297	⊕ .005/(0.13) (M) A B
A-71626-1003	71626-1003	.125/(3.18)	YES	NO	PK-70873-297	⊕ .005/(0.13) (M) A B
A-71626-1004	71626-1004	.125/(3.18)	YES	YES	PK-70873-297	⊕ .005/(0.13) (M) A B
A-71626-1005	71626-1005	.125/(3.18)	NO	NO	PK-70873-297	⊕ .005/(0.13) (M) A B
A-71626-1006	71626-1006	.177/(4.49)	YES	NO	PK-70873-1005	⊕ .020/(0.51) (M) A B
A-71626-1007	71626-1007	.210/(5.33)	YES	NO	PK-70873-1005	⊕ .020/(0.51) (M) A B

MODIFY PACKAGING EC NO: UCP2007-0315 THORNTON BARRA 2006/09/18 CHICKMORGAN 2006/09/26 APPR: SHILLER 2006/09/27	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE IN/MM	SCALE 6:1	DESIGN UNITS INCH	THIRD ANGLE PROJECTION	
	▽=0 ▽=0	4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± --- ± --- 1 PLACE ± --- ± --- ANGULAR ±1/2°	mm INCH	DRAWN BY MOS DATE 1994/08/29 CHECKED BY DATE 1994/08/29 APPROVED BY DATE 1994/08/29			
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	SEE TABLE	MATERIAL NO. SIZE D	DOCUMENT NO. SDA-71626-1***	MOLEX INCORPORATED	SHEET NO. 1 OF 2	
	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION						

19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

NOTES:

1) MATERIALS:

HOUSING: GLASS FILLED LCP (LIQUID CRYSTAL POLYMER), UL 94V-0, BLACK.
 MOLDED STICK: GLASS FILLED LCP (LIQUID CRYSTAL POLYMER), UL 94V-0, BLACK.
 FEMALE CONTACT: BERYLLIUM COPPER .0100±.0005 THICK.
 OUTER SHELL: LOW CARBON STEEL.
 THREADED BOARD LOCK: BRASS.

2) PLATING :

CONTACT: .000030/(.00076) MINIMUM GOLD IN SELECTIVE AREA;
 .000100/(0.00254) MINIMUM TIN IN SELECTIVE AREA;
 OVER NICKEL UNDERPLATE OVERALL.

OUTER SHELL: .000100/(0.00254) MINIMUM BRIGHT NICKEL;
 OVER COPPER FLASH (OPTIONAL).

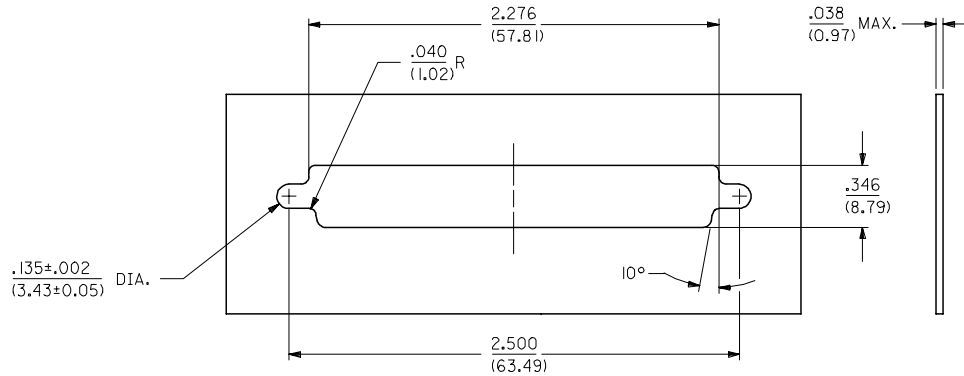
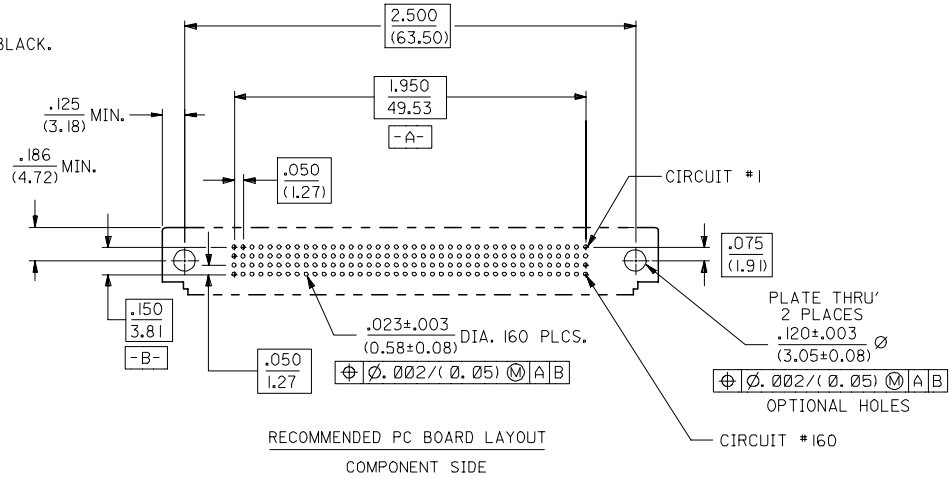
BOARDLOCK: .000150-.000200/(0.00381-0.00508) BRIGHT TIN;
 OVER .000050/(0.00127) MINIMUM NICKEL.

3) THIS PART CONFORMS TO MOLEX PRODUCT SPECIFICATION PS-71626.

4) PART COMPLIES WITH CLASS B OF COSMETIC SPECIFICATION PS-45499-002

NOTE FOR LEAD FREE CONVERSION:

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.



PANEL CUT-OUT DIMENSIONS

ALL TOLERANCES ±.003/(0.08)
 UNLESS OTHERWISE STATED.

ADD NOTE 4 EC NO: UCP2006-3051 2006/07/10 DRAWN BY: BARRA 2006/07/10 CHKD: MORGAN 2006/07/10 APPR: MILLER 2006/07/11	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE IN/MM		SCALE 2:1	DESIGN UNITS INCH	THIRD ANGLE PROJECTION		
		4 PLACES ± --- ± ---	3 PLACES ± --- ± ---	2 PLACES ± --- ± ---	1 PLACE ± --- ± ---	DRAWN BY MOS	DATE 1994/08/24	TITLE .050 PITCH LFH 160 CKT VERTICAL I/O FEMALE SALES ASSEMBLY		
		ANGULAR ±1/2°				CHECKED BY GF	DATE 1994/08/29	MOLEX INCORPORATED		
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				APPROVED BY GF	DATE 1994/08/29	MATERIAL NO. SEE TABLE	DOCUMENT NO. SDA-71626-1***	SHEET NO. 2 OF 2