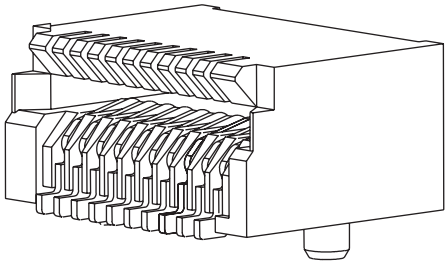
Jameco Part Number 1933902

0.80mm (.031") Pitch Small Form-Factor Pluggable (SFP) Receptacle

74441

Right Angle, SMT
20 Circuit



Features and Benefits

- Connector used in conjunction with pluggable transceiver modules allows you to mate copper cable or optical cable assemblies without changing host board
- Card entry slot to accept 1.00mm (.039") thick integrated circuit board (located inside pluggable module)
- Alignment posts provide stability for placement on the PCB
- Standoffs allow easy PCB cleaning after soldering
- SMT receptacle provides option for placement on either side of PCB
- Meets MSA standards

Reference Information

Packaging: Tape and reel
Mates With: 73929 Copper patch cable, 74720 Copper pluggable module and optical pluggable module
Use With: 73927 cage assembly
Designed In: Millimeters

Electrical

Voltage: 30V
Current: 0.5A
Contact Resistance: 10 milliohms max.
Dielectric Withstanding Voltage: 300V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 4.4N (1.0 lb)
Mating Force: 22N (5.0 lb)
Unmating Force: 8.8N (2.0 lb)
Normal Force: 0.8N (80g)
Durability: 200 cycles

Physical

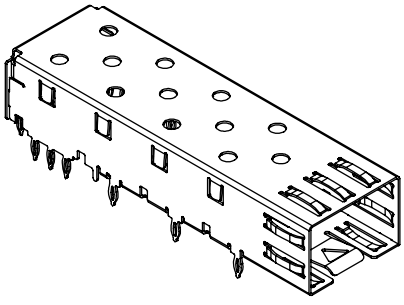
Housing: High-temperature thermoplastic
Contact: Copper Alloy
Plating: Contact Area—See table
Solder Tail Area—Gold flash or 2.54mm Tin
Underplating—2.54µm Nickel
PCB Thickness: 1.00mm (.039")
Operating Temperature: -55 to +105°C

Circuits	Order No.	Plating	Lead-free
20	74441-0001	0.38µm (25µ") Gold	Yes
	74441-0010	0.76µm (30µ") Gold	
30	74441-0007	0.38µm (25µ") Gold	
	74441-0017	0.76µm (30µ") Gold	
70	74441-0003	0.38µm (25µ") Gold	
	74441-0013	0.76µm (30µ") Gold	

www.molex.com/product/sfp_products.html

1X SFP (Small Form-factor Pluggable) EMI Cage

74737



Features and Benefits

- Press-fit, solder post and PCI pin styles enable use with various PCB thicknesses and assembly processes
- Two-point spring contacts offer optimal EMI grounding
- One-piece, stamped and formed cage is able to meet RoHS requirements by eliminating solder
- Built in tabs allow addition of lightpipe cover

Reference Information

Packaging: Tray
Mates With: 73929, 73930, 74742, 74743 and 74720
Use With: 74441
Designed In: Millimeters

Mechanical

Insertion Force to PCB: 3.25 lbF per press-fit pin
Retention Force to PCB: 1.6 lbF per press-fit pin
Durability: 1 cycle

Physical

Cage Housing: C770 Alloy
Plating: Nickel
PCB Thickness: 1.57mm (.062") min.
Operating Temperature: -55 to +105°C

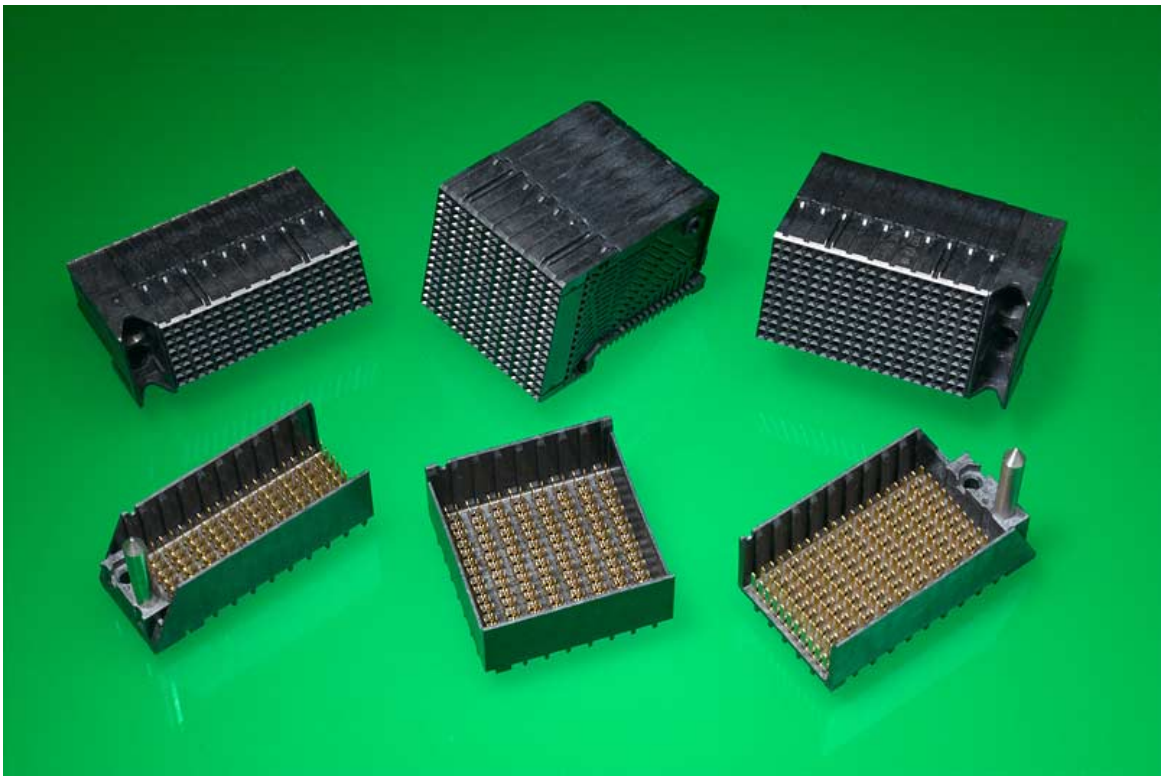
Order No.	Description	Cross Reference to 73927 Series	Lead-free
74737-0002	Press-fit (.090") legs	73927-0001 73927-0017 73927-0109	Yes
74737-0004	Press-fit (.090") legs, Belly-to-Belly	73927-0008 73927-0018 73927-0108	
74737-0009	Press-fit (.120") legs	73927-0009	
74737-0010	Solder post (0.133" legs), wave solder for 0.093" PCB	73927-0010	
74737-0014	Press-fit (0.120" legs) with Kapton tape	73927-0014	
74737-0016		73927-0016	

PRODUCT SPECIFICATION

PRODUCT SPECIFICATION FOR

I/O-Trac™

INTERCONNECT SYSTEMS



REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
B	EC No: **UCP2007-1192** DATE: **2007/07/23**	**PRODUCT SPECIFICATION FOR I/O-Trac™ INTERCONNECT SYSTEMS**	**1** of **10**

DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-75710-999	**B. PISZCZOR**	**R. PRICE**	**J. LAURX**

FILENAME: PS74031C.DOC

1.0 SCOPE

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

* 75705	I-Trac 11 Row Backplane Signal Module
* 75710	I-Trac 11 Row Daughtercard Signal Module
* 75991	I-Trac 11 Row Custom Backplane Signal Module
* 76274	I-Trac 11 Row Custom Daughtercard Signal Module
* 75910	I-Trac 11 Row Right Angle Male Signal Module
* 76015	I-Trac 7 Row Backplane Signal Module
* 76020	I-Trac 7 Row Daughtercard Signal Module
* 76029	I-Trac 7 Row Custom Backplane Signal Module
* 76275	I-Trac 7 Row Custom Daughtercard Signal Module
* 76011	I-Trac 7 Row Right Angle Male Signal Module
* 76035	I-Trac 15 Row Backplane Signal Module
* 76040	I-Trac 15 Row Daughtercard Signal Module
* 76030	I-Trac 15 Row Custom Backplane Signal Module
* 76276	I-Trac 15 Row Custom Daughtercard Signal Module

The I-Trac interconnect system consists of modular groupings of broadside coupled signals with optional integrated guidance. These connectors are two-piece devices, which connect two printed circuit boards. The right angle receptacle connectors (daughtercard), right angle male connectors (RAM), and header pin connectors (backplane) are through-hole devices with eye-of-the-needle compliant pin terminals.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAMES

I-Trac

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

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

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 AND TEMPERATURE RATING

Voltage:	120 VAC RMS/DC max
Signal Contact:	1 Amp per contact
Maximum operating temperature:	85°C
Non-operating temperature:	-55°C to 85°C

4.2 ELECTRICAL RATINGS

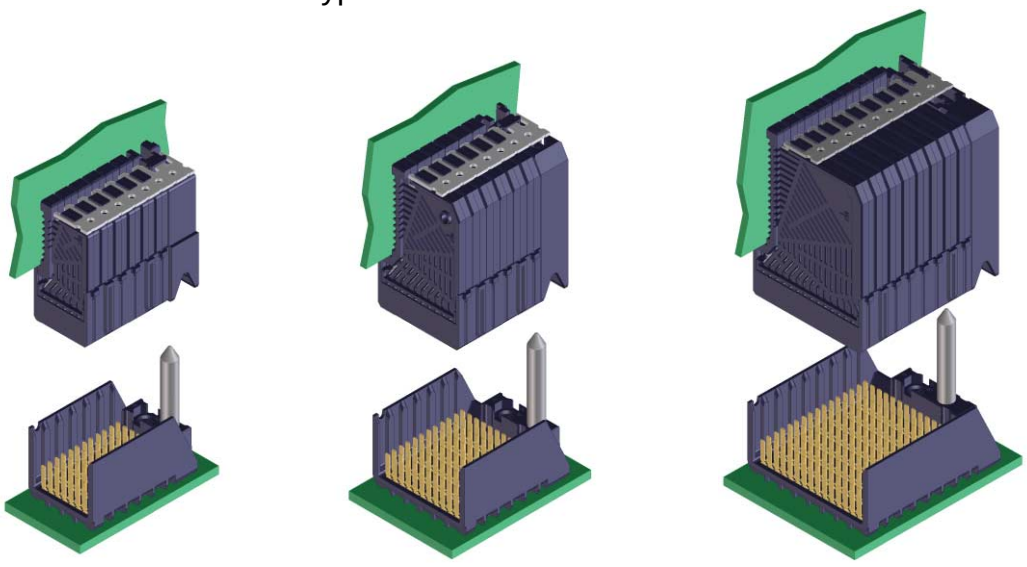
Description	Value
Mating interface contact resistance change	10mΩ maximum
Compliant pin to plated through hole resistance	1mΩ maximum
Insulation resistance	1000 MegaΩ
Dielectric Withstanding Voltage	750 Volts RMS

4.3 SIGNAL CONTACT MATED BULK RESISTANCE

ROW	7 ROW		11 ROW		15 ROW	
	Electrical Lengths [mm]	Bulk Resistance [mΩ]	Electrical Lengths [mm]	Bulk Resistance [mΩ]	Electrical Lengths [mm]	Bulk Resistance [mΩ]
A	21.6	8.2	22.1	8.6	22.1	8.6
B	23.7	8.9	24.3	9.2	24.3	9.2
C	25.9	9.6	26.5	9.7	26.5	9.7
D	28.1	10.5	28.7	10.6	28.7	10.6
E	30.3	10.8	30.9	11.2	30.9	11.2
F	32.6	11.6	33.1	11.7	33.1	11.7
G	34.8	12.1	35.4	12.1	35.4	12.1
H			37.6	12.6	37.6	12.6
J			39.8	12.7	39.8	12.7
K			42.0	13.8	42.0	13.8
L			44.2	14.6	44.2	14.6
M					46.7	15.1
N					49.2	15.4
O					51.7	16.1
P					54.2	16.5

NOTES:

1. Electrical lengths are measured from DC compliant to BP compliant.
2. The resistance values are typical measured values.

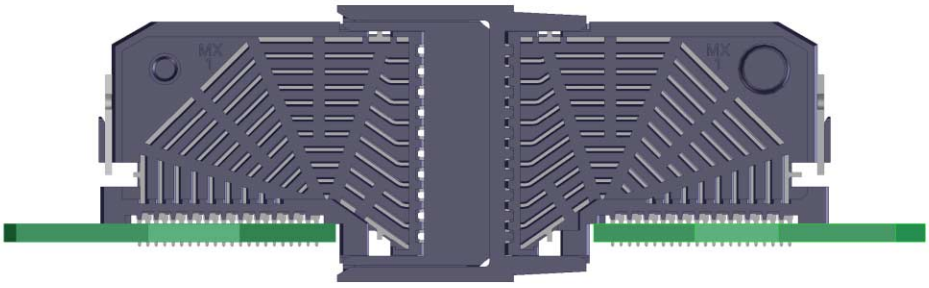


ROW	7 ROW – COPLANAR		11 ROW – COPLANAR	
	Electrical Lengths [mm]	Bulk Resistance [mΩ]	Electrical Lengths [mm]	Bulk Resistance [mΩ]
A	33.3	11.4	34.4	12.2
B	37.6	11.8	38.8	12.4
C	42.0	12.9	43.2	13.9
D	46.5	13.9	47.7	14.9
E	50.9	15.0	52.0	16.2
F	55.3	15.6	56.5	17.4
G	59.9	17.3	61.0	18.4
H			65.4	19.6
J			69.8	20.5
K			74.2	21.7
L			78.7	24.5

NOTES:

3. Electrical lengths are measured from DC (RAF) compliant to RAM compliant.
4. The resistance values are typical measured values

RIGHT ANGLE FEMALE-RIGHT ANGLE MALE COPLANAR:



5.0 PERFORMANCE

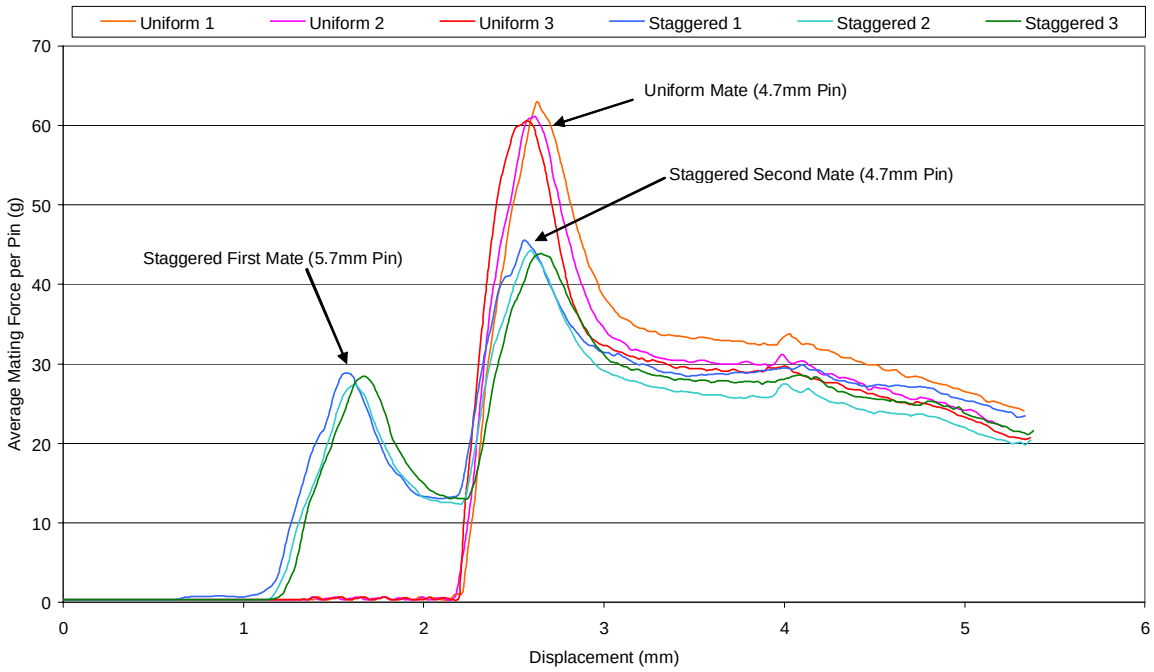
5.1 ELECTRICAL PERFORMANCE

ITEM	TEST CONDITION	REQUIREMENT
CONTACT RESISTANCE (LOW LEVEL)	Mated,100mA max, 20mV per EIA-364-TP23	10 milliohm maximum change
INSULATION RESISTANCE	Unmated, 500VDC per EIA-364-TP21	1000 megaohms minimum
DIELECTRIC WITHSTANDING VOLTAGE	Unmated, 750VAC per EIA-364-TP20	No breakdown or flashover
SIGNAL CONTINUITY	Mated per EIA-364-TP87	No interrupts greater than 10 nanoseconds
COMPLIANT PIN INTERFACE RESISTANCE	Contact inserted into PCB per EIA-364-TP23	1 milliohm maximum

5.2 MECHANICAL PERFORMANCE

ITEM	TEST CONDITION	REQUIREMENT
DURABILITY	200 Cycles minimum, mated and unmated per EIA-364-TP09	10 milliohm max change in LLCR
VIBRATION	Mated, 10-100Hz, 10g's, 24 hr, 3 axis per EIA-364-TP28	10 milliohm max change in LLCR
MECHANICAL SHOCK	Mated, 30g half-sine,11ms, 3 axis per EIA-364-TP27	10 milliohm max change in LLCR
NORMAL FORCE	Apply perpendicular force to terminal at rate of 25+/-6mm per minute	Signal: 45 g min (EOL)
MATING FORCE PER PIN	Mate daughtercard and backplane assembly per EIA-364-TP13	45 - 70 g

Uniform (4.7mm) vs Staggered (4.7 & 5.7mm) Pin Mating Profiles
(Measured using 11 Row x 6 Column (132 pin) modules)



5.3 ENVIRONMENTAL PERFORMANCE

ITEM	TEST CONDITION	REQUIREMENT
THERMAL SHOCK	Mated, 5 cycles from -55°C to 85°C per EIA-364-TP32	10 milliohm max change in LLCR
TEMPERATURE LIFE	Mated, 85°C for 500 hours per EIA-364-TP17	10 milliohm max change in LLCR
HUMIDITY CYCLING	Relative humidity 90 to 95% for 500 hrs per EIA-364-TP31	10 milliohm max change in LLCR
DUST	Unmated per EIA-364-TP91	10 milliohm max change in LLCR
MIXED FLOWING GAS	Unmated per EIA-364-TP65	10 milliohm max change in LLCR

5.4 COMPLIANT PIN PERFORMANCE

5.4.1 Insertion Force for Various Plating Types

COMPONENT	MAX
I-Trac Backplane Signal Pin	8 lbs
I-Trac Daughtercard Signal Pin	8 lbs

Note: Data reflects maximum expected values for insertion forces when tested in plated through holes drilled and plated as described in Section 5.4.3. Plating surface finish and PCB materials will impact actual values. These max values are intended for press sizing only.

5.4.2 Retention Force for Various Plating Types

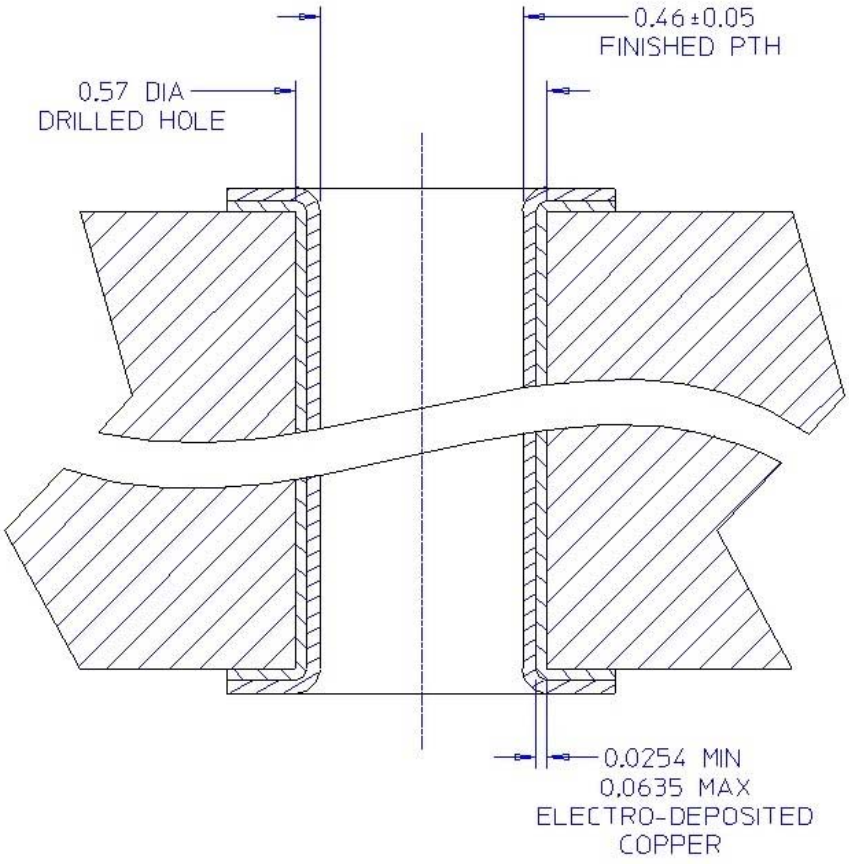
COMPONENT	MIN
I-Trac Backplane Signal Pin	1.0 lb
I-Trac Daughtercard Signal Pin	1.0 lb

Note: Data reflects minimum expected values for retention forces when tested in plated through holes drilled and plated as described in Section 5.4.3. Plating surface finish and PCB materials will impact actual values.

Radial hole deformation: 1.5 mils max Axial hole deformation: 1.0 mil max

5.4.3 Printed Circuit Board Specifications

Recommended Backplane PCB Thickness: 1.6mm minimum
Recommended Daughtercard PCB Thickness: 1.6mm minimum
Primary Drilled Hole Size: 0.57 mm (#74 Drill)



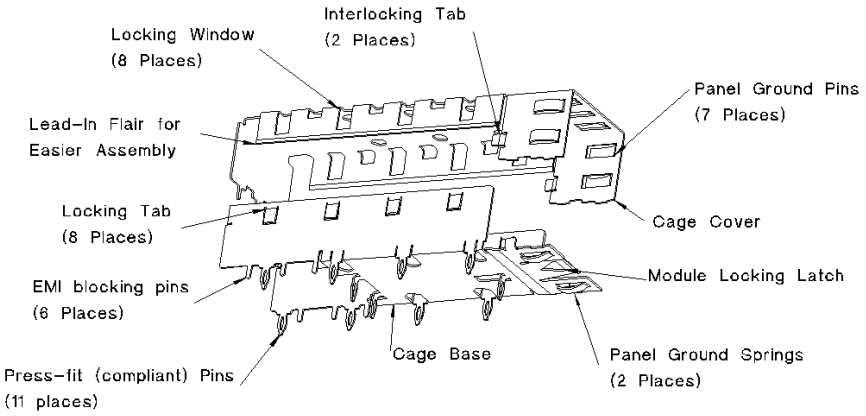
5.4.4 Torque Specification for Mounting Screws

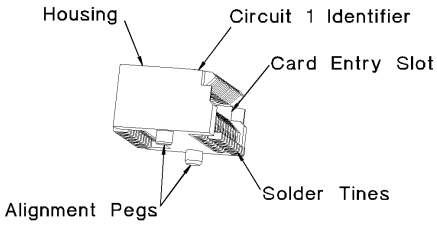
Backplane and Daughtercard Screws: 2.5 in-lbs.

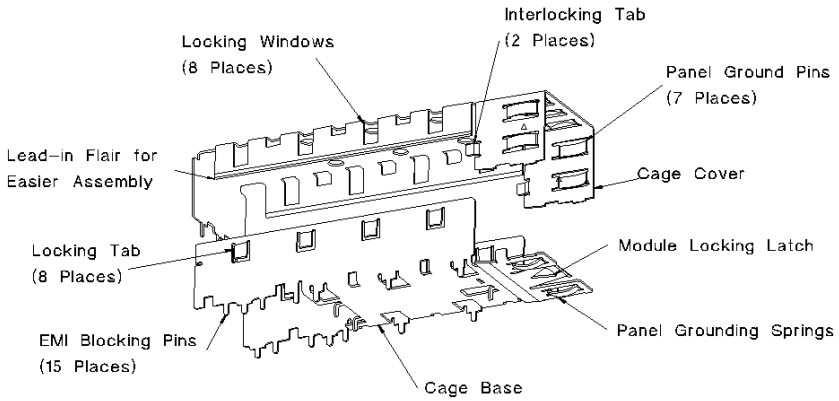
6.0 TEST SEQUENCE

Group 1 Temperature Life	Group 2 Thermal Shock	Group 3 Humidity w/ Thermal Shock	Group 4 Vibration & Mechanical Shock	Group 5 Mixed Flowing Gas
LLCR	LLCR	LLCR	LLCR	LLCR
T-Life (85°C for 500 hrs) (mated)	Thermal Shock -55°C to 85°C 5 cycles min	Prewear - 100 cycles	Prewear - 100 cycles	T-Life (85°C for 500 hrs) (mated)
LLCR	LLCR	Dust Application	LLCR	LLCR
		LLCR	Dust Application	Prewear - 100 cycles
		Thermal Cycle +25°C to +65°C 50 cycles, 500 hrs w/ humidity	LLCR	LLCR
		LLCR	repeated sine-wave sweep; 1g; 5 to 100Hz; 8 hours each axis w/LLCR	10 day MFG - Unmated, w/ LLCR every 5 days
		Postwear - 100 cycles	LLCR	10 day MFG - Mated, w/ LLCR every 5 days
		LLCR	shock: 3 shocks in each direction; 1/2 sine-wave, 15g, 11 ms duration (18 shocks total)	Disturb 0.1 mm w/ LLCR
			LLCR	Postwear - 100 cycles
			Postwear - 100 cycles	LLCR
			LLCR	

Supplemental	
Press Profile for each connector	Mate/Unmate Forces







REV	1	1	1	1	1	1																
SHT	1	2	3	4	5	6																

REVISE ON PC ONLY		TITLE	**Application Specification for Small Form-factor Pluggable (SFP) Connector and Cage Assembly**	
1	PROPOSAL ECN# UDT2001-0628 KAS 2001/01/02			
		THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		
REV	DESCRIPTION			
DESIGN CONTROL	STATUS	WRITTEN BY:	CHECKED BY:	APPROVED BY:	DATE: YR / MO / DAY
LISLE	M	KAS	KAS	MB	01 / 01 / 02

DOCUMENT NO.	DIMENSION CLASS:	FILE NAME	SHT NO.
AS-74441-001	C CRITICAL = 0 ▼ MAJOR = 0	AS74441.lwp	1 OF 6

1.0 SCOPE

This specification covers the **0.80** mm (**.031** inch) centerline Small Form-factor Pluggable (SFP) connector and cage assembly. The following specification covers the use and requirements for these components.

The SFP connector is a 20 circuit surface mount device, with a high temperature thermoplastic housing. It is used to connect SFP optical or copper pluggable transceivers to printed circuit boards (PCBs). Features of the connector include alignment pegs for mounting to the circuit board, and a Pin 1 identifier. The connector is packaged in tape-and-reel for high speed assembly.

The SFP cage is used with the SFP connector for guiding and securing SFP optical or copper pluggable transceivers to PCBs such as motherboards and host adapter cards.

The SFP cage assembly is available as a one-piece kit or as separate components to accommodate various board assembly processes. The cage assembly features EMI spring fingers which provide electrical contact to the card bezel. The cage cover and base incorporate positive mechanical locking latches. The cage base features a locking latch for positive latching of industry-compatible modules. The cage base is available in three versions: standard solder post,PCI solder post (for use with PCI cards), and press-fit post. The base also features three rear pins for EMI suppression to the PCB.

The cage cover is packaged in trays for hand assembly. The cage base is available in trays or tape-and reel.

2.0 GENERAL REQUIREMENTS

2.1 Part numbers

DESCRIPTION	PART NUMBER
Connector (20 circuit)	74441-0001
One-Piece Press Fit Cage	73927-0001
One-Piece Solder Post Cage	73927-0002
One-Piece PCI Cage	73927-0004
Cage Cover	73927-0020
Press-Fit Cage Base	73927-0030
Solder Post Cage Base	73927-0040
PCI Cage Base	73927-0060

2.2 Connector Documentation

DESCRIPTION	DOCUMENT NUMBER
Sales drawing	SD-74441-001
Packaging specification	PK-70873-1201
Product specification	PS-74441-001

2.3 Cage Assembly Documentation

DESCRIPTION	DOCUMENT NUMBER
Sales Drawings:	
SFP Cage Assembly	
Press-fit Version	SD-73927-001
SFP Cage Assembly	
Solder Post Version	SD-73927-002
SFP Cage Assembly	
PCI Version	SD-73927-004
Packaging Specification	Not Available
Product Specification	Not Available

2.4 Packaging

The Molex SFP connector is supplied on tape and reel packaging for high speed assembly. One piece cage kits are supplied in trays of 24 per tray. If ordered separately, the cage cover and base are supplied in trays of 24 or on tape-and-reel.

2.5 Board Thickness

There is no required board thickness for single-sided printed circuit boards mounting. For double-sided printed circuit board mounting, board thickness is a minimum of 3.0 mm (.118")

2.6 Board Layout

The board layout must conform to the Small Form-factor Pluggable (SFP)MSA agreement. See the aforementioned sales drawings for the required board layout.

3.0 ASSEMBLY

3.1 Board Layout

The Molex SFP connector shall be placed on the host printed circuit board using the aligning posts. The terminals shall be lined up on the circuit board in such a way that the solder feet shall be placed over the solder pads on the host board.

3.2 Cage Assembly

3.2.1 Registration

The cage base or one-piece cage kit mounting post and EMI suppression pins must be aligned with the matching printed circuit board hole locations

3.3.2 Solder Tail Seating

As the cage base solder posts are for clearance and fit only, the force required for seating the cage is minimal. The bottom of the cage must be seated and soldered so that there is no more than 0.05 mm (.002”) gap between the shoulder of the solder posts and the PCB. The gap between the front of the cage base and the PCB should be no more than 0.1 mm (.004”).

3.3.3 Press-Fit Seating

Insertion force is 30 to 35 pounds. Insert with top cage installed. Use standard flat rock insertion equipment.

4.0 SOLDERING REQUIREMENTS

4.1 Processing requirements

Peak reflow temperatures are not recommended to exceed 230 C.

4.2 Stencil Requirements

See Figure 1 for a recommended stencil layout.

A minimum solder paste of .005” is recommended.

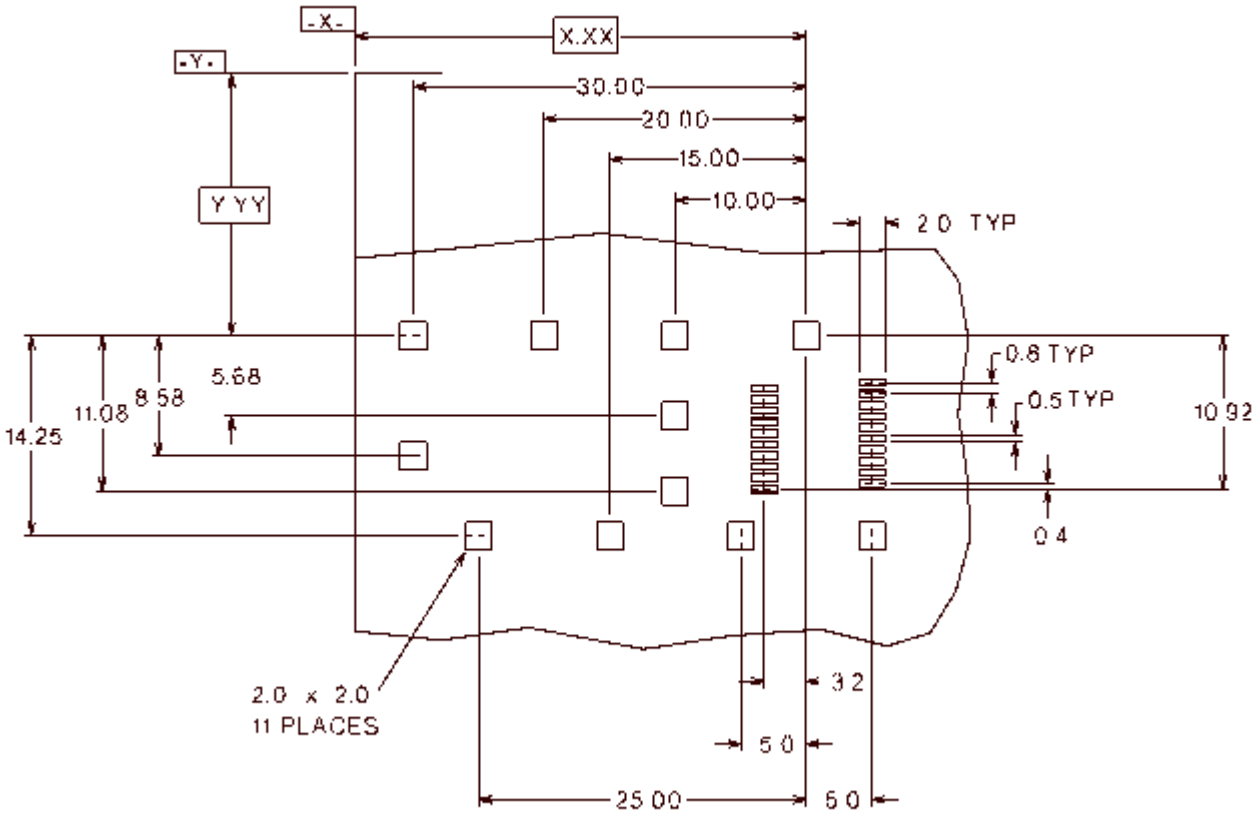


FIGURE 1: RECOMMENDED STENCIL LAYOUT

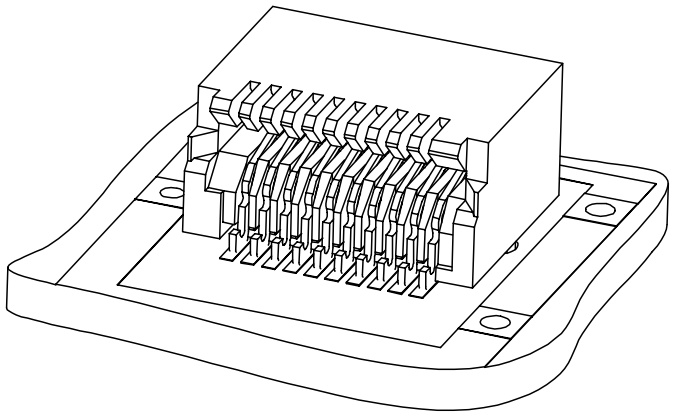
Note: All dimensions are reference only

Registration established by customer

All dimension in millimeters.

SALES ASSEMBLY DRAWINGS FOR SMALL FORM-FACTOR AND Z AXIS PLUGGABLE CONNECTORS

CKT SIZE	PART NUMBER	TOOLED	DESCRIPTION	"A"	"B"	"C"	"D"	MULTI-SOURCE AGREEMENT	CONNECTOR DRAWING	CIRCUIT BOARD DRAWING
20	74441-0001	YES	PLATED PER NOTE 2	1.10/.043	11.00/.433	9.40/.370	9.60/.378	SFP	PAGE 2	PAGE 3
	74441-0004	NO*	PLATED PER NOTE 2	0.76/.030						
	74441-0010	YES	PLATED PER NOTE 3	1.10/.043						
	74441-0014	NO*	PLATED PER NOTE 3	0.76/.030						
	74441-0021	YES	PLATED PER NOTE 4	1.10/.043						
	74441-0031	YES	PLATED PER NOTE 5	1.10/.043						
30	74441-0007	YES	PLATED PER NOTE 2	1.10/.043	15.00/.591	13.40/.528	13.60/.535	XFP	PAGE 2	PAGE 4
	74441-0017	YES	PLATED PER NOTE 3	1.10/.043						
	74441-0027	YES	PLATED PER NOTE 4	1.10/.043						
40	74441-0005	YES	PLATED PER NOTE 2	1.10/.043	19.00/.748	17.40/.685	17.60/.693		PAGE 2	PAGE 5
	74441-0015	YES	PLATED PER NOTE 3	1.10/.043						
	74441-0025	YES	PLATED PER NOTE 4	1.10/.043						
50	74441-0008	YES	PLATED PER NOTE 2	1.10/.043	23.00/.906	21.4/.843	21.6/.850		PAGE 2	PAGE 6
	74441-0018	YES	PLATED PER NOTE 3	1.10/.043						
70	74441-0028	YES	PLATED PER NOTE 4	1.10/.043	31.00/1.220	29.40/1.157	29.60/1.165	XENPAK XPAK X2	PAGE 2	PAGE 7
	74441-0038	YES	PLATED PER NOTE 5	1.10/.043						
	74441-0003	YES	PLATED PER NOTE 2	1.10/.043						
	74441-0013	YES	PLATED PER NOTE 3	1.10/.043						
	74441-0023	YES	PLATED PER NOTE 4	1.10/.043						
	74441-0033	YES	PLATED PER NOTE 5	1.10/.043						



NOTES

1. MATERIAL:
   HOUSING - HIGH TEMPERATURE THERMOPLASTIC GLASS FILLED, UL 94V-0, BLACK
   TERMINALS - COPPER ALLOY
2. PLATING:
   CONTACT AREA - 0.38 µm MIN GOLD OVER 2.54 µm MIN NICKEL
   SOLDER FOOT AREA - 2.54 - 5.09 µm TIN OVER 2.54 µm MIN NICKEL.
3. PLATING:
   CONTACT AREA - 0.76 µm MIN GOLD OVER 2.54 µm NICKEL
   SOLDER AREA - 2.54 -5.09 µm TIN OVER 2.54 µm MIN NICKEL
4. PLATING:
   CONTACT AREA - 0.76 µm MIN GOLD OVER 2.54 µm NICKEL, LUBRICATED
   SOLDER AREA: GOLD FLASH OVER 2.54 µm MIN NICKEL.
5. PLATING:
   CONTACT AREA - 0.76 µm MIN GOLD OVER 2.54 µm NICKEL,
   SOLDER AREA: GOLD FLASH OVER 2.54 µm MIN NICKEL.
6. TERMINAL SOLDER FEET TO BE COPLANAR WITHIN 0.10/.004 FOR 20, 30 AND 40 CIRCUIT CONNECTORS
   TERMINAL SOLDER FEET TO BE COPLANAR WITHIN 0.15/.006 FOR 70 CIRCUIT CONNECTOR
7. * CONTACT PLANT FOR MORE INFORMATION
8. DATE CODE: 4 DIGIT (3 DIGIT DATE, 1 DIGIT YEAR)
9. CIRCUIT 1 IDENTIFIER LOCATED ON ALL PART NUMBERS

UCP2007-0792
EC NO: UCP2007-0792 2006/10/12
DRWN: JLSWENSON 2006/10/12
CHKD:
APPR: MBANAKIS 2006/10/12
DESCRIPTION
REV
R

QUALITY SYMBOLS
▼ = 0
▽ = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.13	± .005
1 PLACE	± 0.25	± .010
ANGULAR ±1/2°		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

SCALE 1:1 | DESIGN UNITS METRIC | THIRD ANGLE PROJECTION | REVISE ON CAD ONLY
DIMENSION STYLE MM/IN
DRAWN BY HAVERY DATE 00/04/06
CHECKED BY KSWEENEY DATE 00/04/06
APPROVED BY MBANAKIS DATE 00/04/06

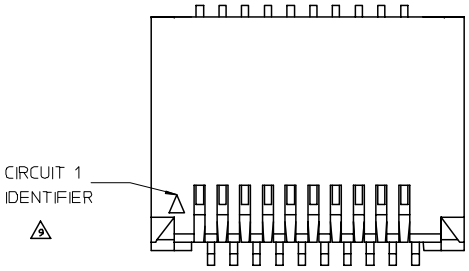
TITLE
SALES ASSEMBLY
Z AXIS PLUGGABLE
PCB CONNECTOR

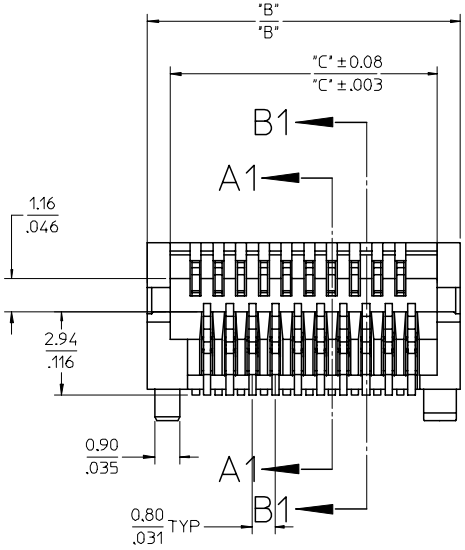
molex MOLEX INCORPORATED

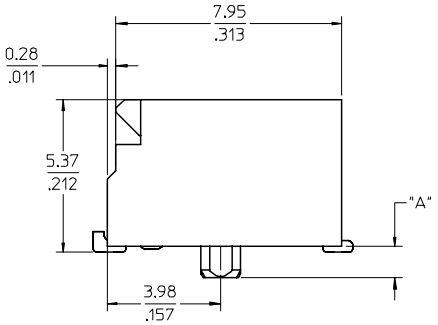
MATERIAL NO. SEE CHART | DOCUMENT NO. SD-74441-001 | SHEET NO. 1 OF 7

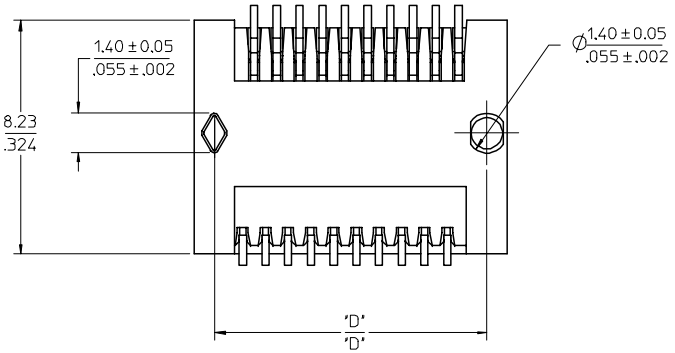
C

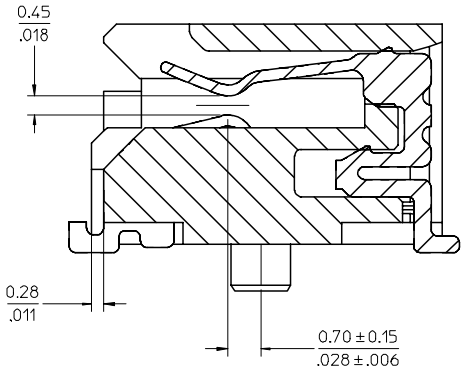
74441



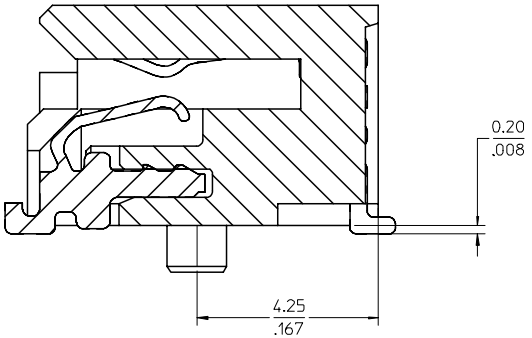








SECTION A1-A1
SCALE 12:1



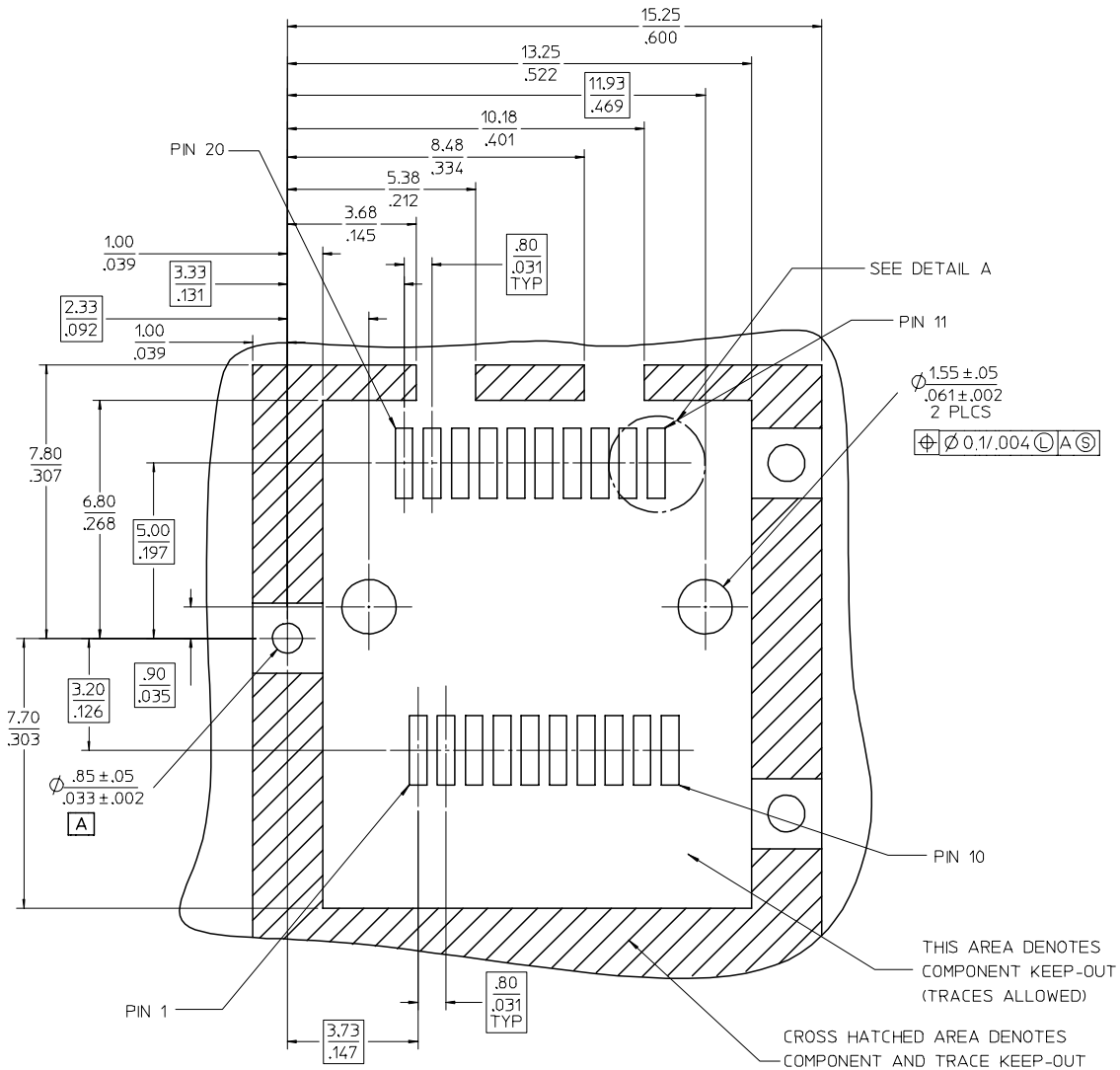
SECTION B1-B1
SCALE 12:1

EC NO: UCP2007-0792	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		SCALE 6:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	REVISE ON CAD ONLY
DRWN: JLSWENSON 2006/10/02	▼ = 0		mm / INCH	DIMENSION STYLE MM/IN		SALES ASSEMBLY Z AXIS PLUGGABLE PCB CONNECTOR	
CHK: MBANAKIS 2006/10/12	▽C = 0	4 PLACES	± --- / ± ---	DRAWN BY HAVERY	DATE 00/04/06		
APPR: BVEAZIE 2006/10/12		3 PLACES	± --- / ± ---	CHECKED BY KSWEENEY	DATE 00/04/06	MOLEX INCORPORATED	
DESCRIPTION		2 PLACES	± 0.13 / ± .005	APPROVED BY MBANAKIS	DATE 00/04/06	MATERIAL NO. SEE CHART	DOCUMENT NO. SD-74441-001
REV R	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	1 PLACE	± 0.25 / ± .010				SHEET NO. 2 OF 7
		ANGULAR ± 1/2 °					

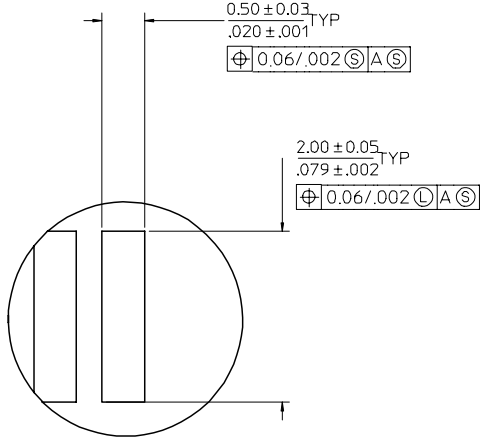
C

tb_frame_C
rev. A 11/01/98

74441



SCALE 10:1



DETAIL A
SCALE 24:1

20 CIRCUIT MOTHER BOARD
RECOMMENDED PCB LAYOUT

EC NO: UCP2007-0792	REV	DESCRIPTION	
DRWN: JLSWENSON 2006/10/02	R		
CHK: MBANAKIS 2006/10/12			
APPR: BVEAZIE 2006/10/12			

QUALITY SYMBOLS
▼ = 0
▽ = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.13	± .005
1 PLACE	± 0.25	± .010
ANGULAR ± 1/2 °		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

SCALE	8:1
DESIGN UNITS	METRIC
DIMENSION STYLE	MM/IN
DRAWN BY / DATE	HAVERY 00/04/06
CHECKED BY / DATE	KSWEENEY 00/04/06
APPROVED BY / DATE	MBANAKIS 00/04/06
MATERIAL NO.	SEE SHT 1
DOCUMENT NO.	SD-74441-001
SHEET NO.	3 OF 7

THIRD ANGLE PROJECTION

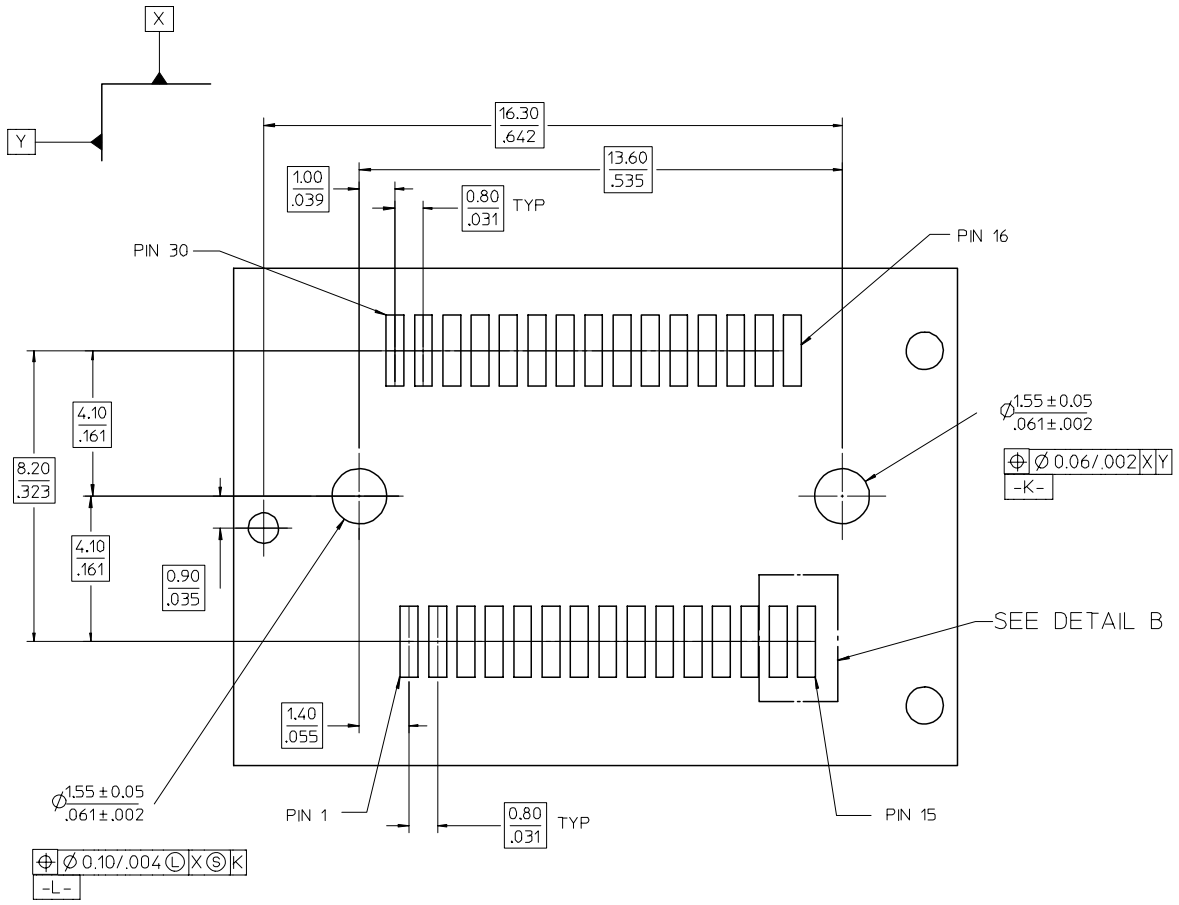
REVISE ON CAD ONLY

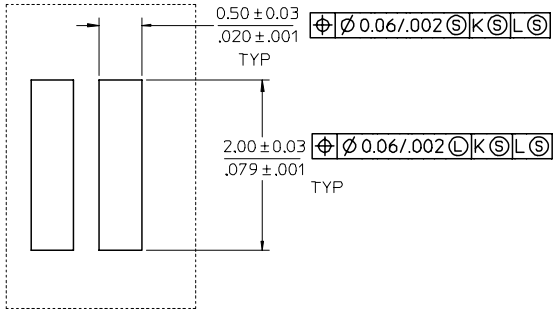
SALES ASSEMBLY
Z AXIS PLUGGABLE
PCB CONNECTOR

MOLEX INCORPORATED

C

74441





DETAIL B
SCALE 24:1

30 CIRCUIT MOTHER BOARD
RECOMMENDED PCB LAYOUT

EC NO: UCP2007-0792 2006/10/02
DRWN: JLSWENSON 2006/10/12
CHKD:
APPR: MBANAKIS 2006/10/12
DESCRIPTION
R
REV

QUALITY SYMBOLS
▼ = 0
▽ = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.13	± .005
1 PLACE	± 0.25	± .010
ANGULAR ±1/2°		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

SCALE	6:1
DESIGN UNITS	METRIC
DIMENSION STYLE	MM/IN
DRAWN BY	HAVERY
DATE	00/04/06
CHECKED BY	KSWEENEY
DATE	00/04/06
APPROVED BY	MBANAKIS
DATE	00/04/06

THIRD ANGLE PROJECTION
REVISE ON CAD ONLY

TITLE
SALES ASSEMBLY
Z AXIS PLUGGABLE
PCB CONNECTOR

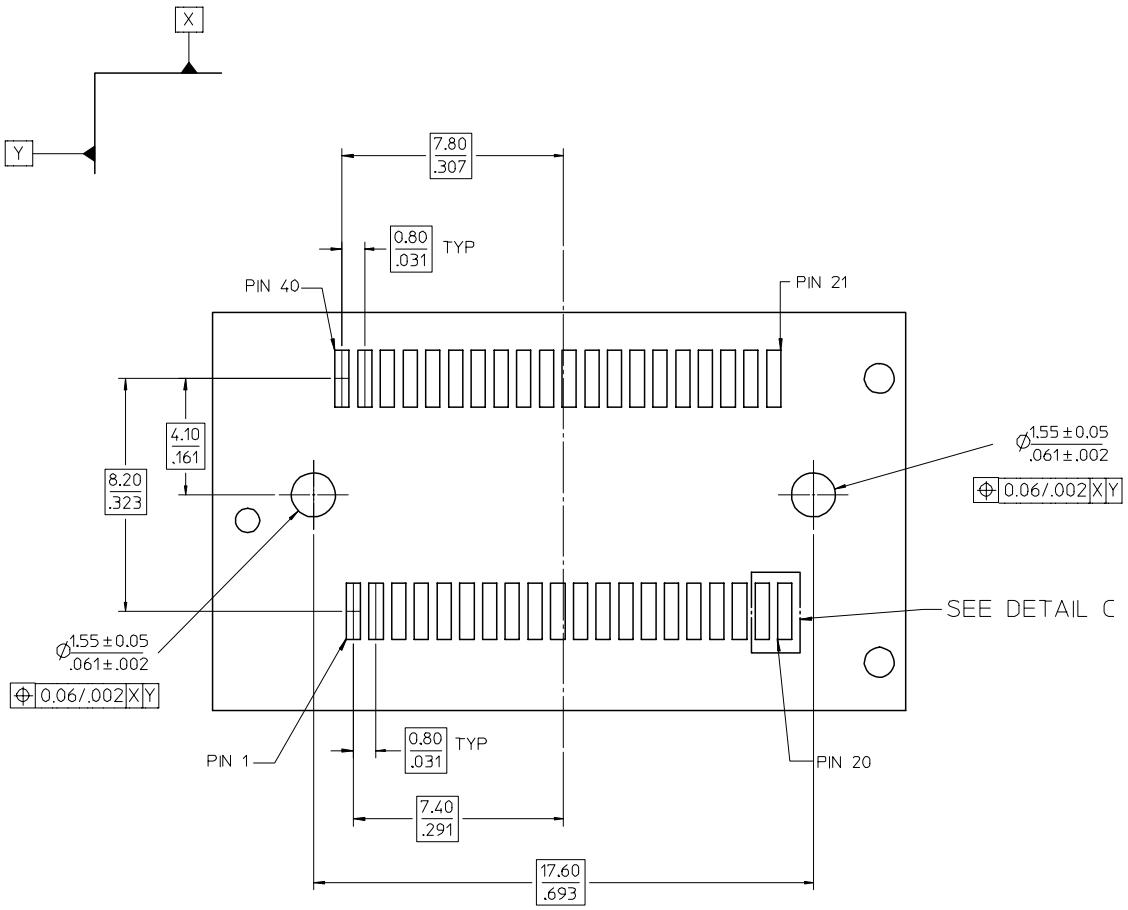
MOLEX INCORPORATED

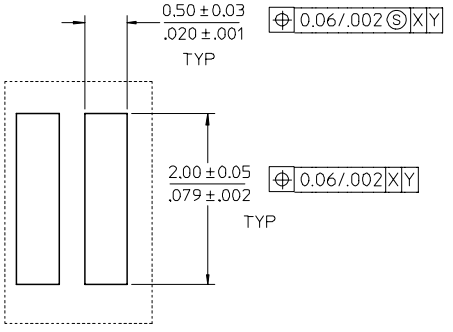
MATERIAL NO.	DOCUMENT NO.	SHEET NO.
SEE CHART	SD-74441-001	4 OF 7

C

tb_frame_C-B1
rev. B1 2000/08/01

74441





DETAIL C
SCALE 24:1

40 CIRCUIT MOTHER BOARD
RECOMMENDED PCB LAYOUT

EC NO: UCP2007-0792
DRWN: JLSWENSON 2006/10/02
CHKD:
APPR: MBANAKIS 2006/10/12
DESCRIPTION
REV
R

QUALITY SYMBOLS
▼ = 0
▽ = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.13	± .005
1 PLACE	± 0.25	± .010
ANGULAR ±1/2°		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

SCALE 6:1
DESIGN UNITS METRIC
THIRD ANGLE PROJECTION
REVISE ON CAD ONLY
DIMENSION STYLE MM/IN
DRAWN BY HAVERY DATE 00/04/06
CHECKED BY KSWEENEY DATE 00/04/06
APPROVED BY MBANAKIS DATE 00/04/06

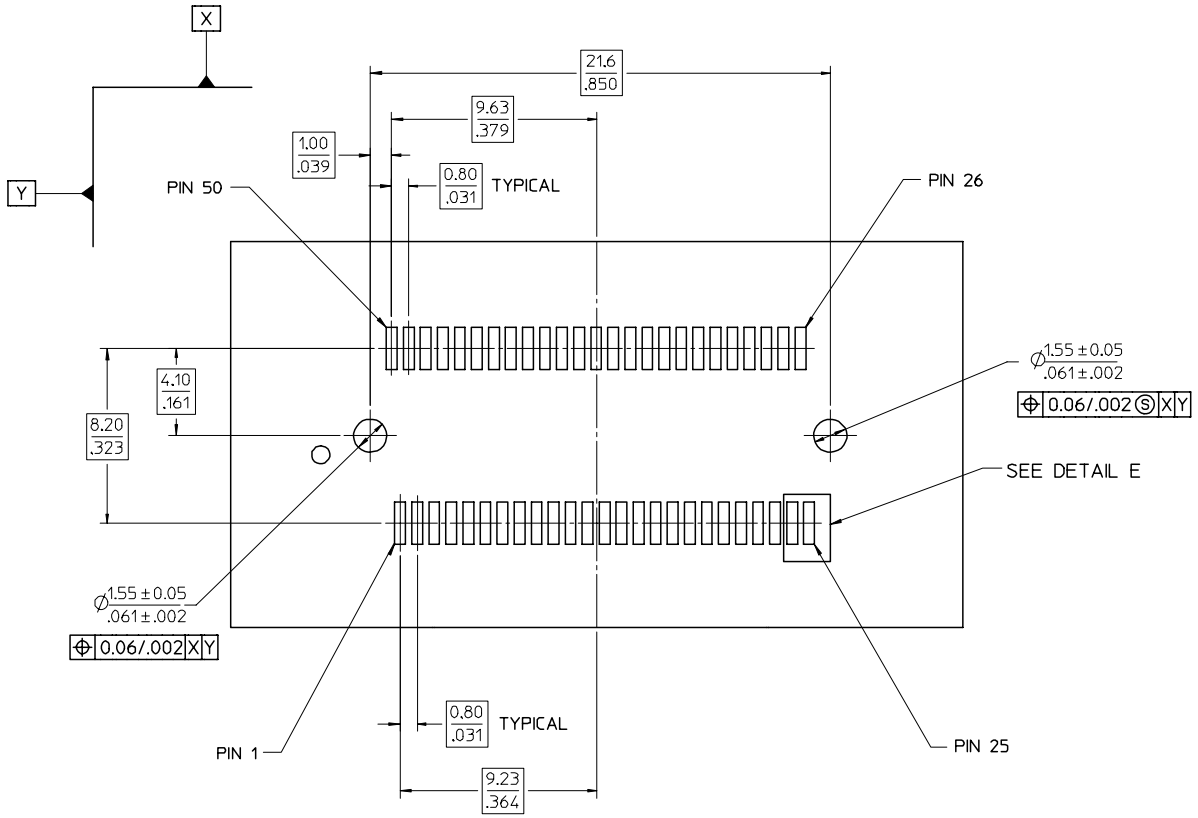
TITLE
SALES ASSEMBLY
Z AXIS PLUGGABLE
PCB CONNECTOR

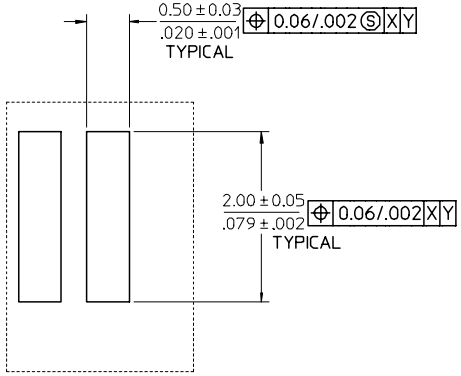
molex MOLEX INCORPORATED

MATERIAL NO. SEE CHART
DOCUMENT NO. SD-74441-001
SHEET NO. 5 OF 7

C

tb_frame_C-B1
rev. B1 2000/08/01





DETAIL E
SCALE 24:1

50 CIRCUIT MOTHER BOARD
RECOMMENDED PCB LAYOUT

EC NO: UCP2007-0792
DRWN: JLSWENSON 2006/10/02
CHKD: 2006/10/12
APPR: MBANAKIS 2006/10/12
DESCRIPTION
R
REV

QUALITY SYMBOLS
▼ = 0
▽ = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.13	± .005
1 PLACE	± 0.25	± .010
ANGULAR ±1/2°		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

SCALE	6:1
DESIGN UNITS	METRIC
DIMENSION STYLE	MM/IN
DRAWN BY	HAVERY
DATE	00/04/06
CHECKED BY	KSWEENEY
DATE	00/04/06
APPROVED BY	MBANAKIS
DATE	00/04/06

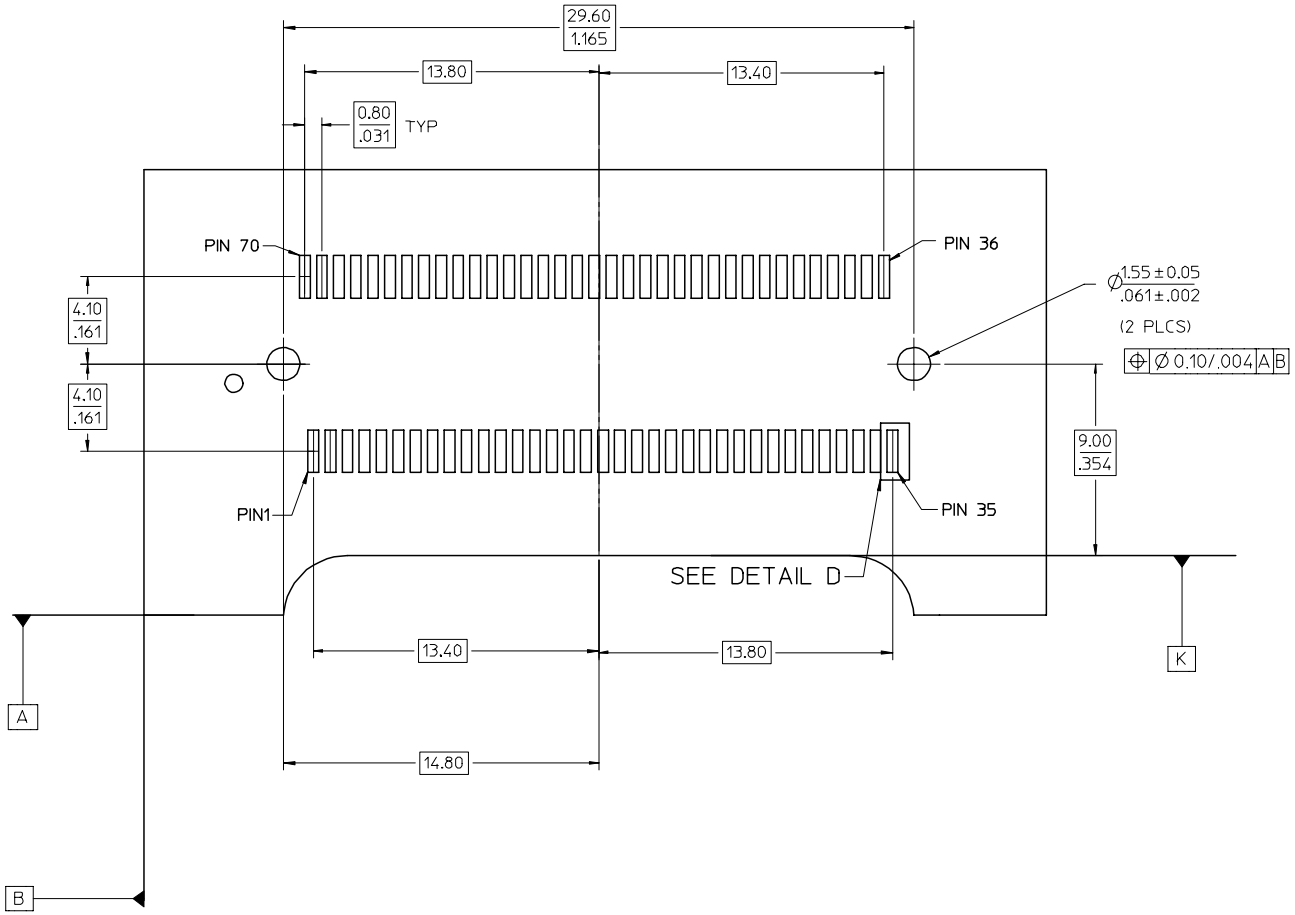
THIRD ANGLE PROJECTION
REVISE ON CAD ONLY

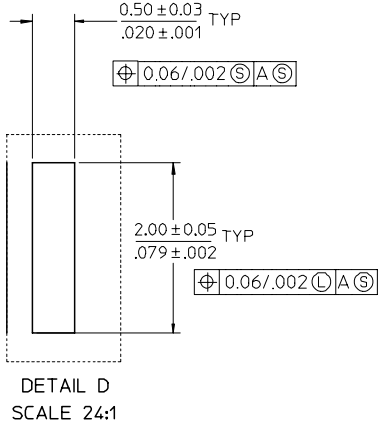
TITLE
SALES ASSEMBLY
Z AXIS PLUGGABLE
PCB CONNECTOR

MOLEX INCORPORATED

MATERIAL NO.	DOCUMENT NO.	SHEET NO.
SEE CHART	SD-74441-001	6 OF 7

C





DETAIL D
SCALE 24:1

70 CIRCUIT MOTHER BOARD
RECOMMENDED PCB LAYOUT

EC NO: UCP2007-0792
DRWN: JLSWENSON 2006/10/02
CHKD: 2006/10/12
APPR: MBANAKIS 2006/10/12
DESCRIPTION
R
REV

QUALITY SYMBOLS
▼ = 0
▽ = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.13	± .005
1 PLACE	± 0.25	± .010
ANGULAR ±1/2°		

DRAFT WHERE APPLICABLE
MUST REMAIN
WITHIN DIMENSIONS

SCALE	6:1
DESIGN UNITS	METRIC
DIMENSION STYLE	MM/IN
DRAWN BY	HAVERY
DATE	00/04/06
CHECKED BY	KSWEENEY
DATE	00/04/06
APPROVED BY	MBANAKIS
DATE	00/04/06

THIRD ANGLE PROJECTION
REVISE ON CAD ONLY

TITLE
SALES ASSEMBLY
Z AXIS PLUGGABLE
PCB CONNECTOR

MOLEX INCORPORATED

MATERIAL NO.	DOCUMENT NO.	SHEET NO.
SEE CHART	SD-74441-001	7 OF 7

C