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Part Number: **0781090001**
Status: **Active**
Overview: micro_sata
Description: 1.27mm (.050") Pitch Micro Serial ATA Device Receptacle for 1.8" HDD/SSD, Right Angle, SMT, Mid-Mount, 16 Circuits, Lead free

Documents:

[3D Model](#) [Product Specification PS-78109-001 \(PDF\)](#)
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)

General

Product Family	PCB Receptacles
Series	<u>78109</u>
Application	Board-to-Board
Overview	<u>micro_sata</u>
Product Name	Micro Serial ATA, Serial ATA

Physical

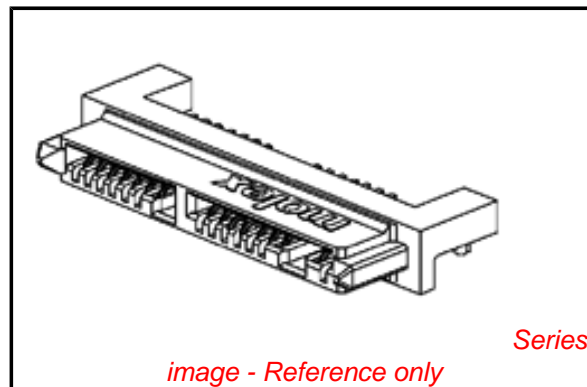
Circuits (Loaded)	16
Circuits (maximum)	16
Circuits Detail	With Optional Manufacturing Pins (S1 to S7, P1 to P9)
Color - Resin	Black
Durability (mating cycles max)	500
Glow-Wire Compliant	No
Guide to Mating Part	Yes
Keying to Mating Part	Yes
Lock to Mating Part	Yes
Material - Metal	Copper Alloy
Material - Plating Mating	Gold
Material - Plating Termination	Tin
Material - Resin	Nylon
Number of Rows	1
Orientation	Right Angle
PCB Locator	Yes
PCB Retention	Yes
Packaging Type	Tray
Pitch - Mating Interface (in)	0.050 In
Pitch - Mating Interface (mm)	1.27 mm
Plating min: Mating (µin)	30
Plating min: Mating (µm)	0.76
Plating min: Termination (µin)	100
Plating min: Termination (µm)	2.54
Polarized to Mating Part	Yes
Polarized to PCB	Yes
Stackable	No
Temperature Range - Operating	-40°C to +105°C
Termination Interface: Style	Surface Mount

Electrical

Current - Maximum per Contact	1.5A
Grounding to PCB	Yes
Voltage - Maximum	30V

Solder Process Data

Duration at Max. Process Temperature (seconds)	10
Lead-free Process Capability	Reflow Capable (SMT only)



EU RoHS

ELV and RoHS Compliant
REACH SVHC
 Not Reviewed
Halogen-Free Status

China RoHS



Need more information on product environmental compliance?

Email productcompliance@molex.com
 For a multiple part number RoHS Certificate of Compliance, [click here](#)

Please visit the [Contact Us](#) section for any non-product compliance questions.

Search Parts in this Series

[78109Series](#)

Mates With

[78103](#) , [78283](#) and [78285](#) Micro SATA Device Plugs

Max. Cycles at Max. Process Temperature	1
Process Temperature max. C	260

Material Info

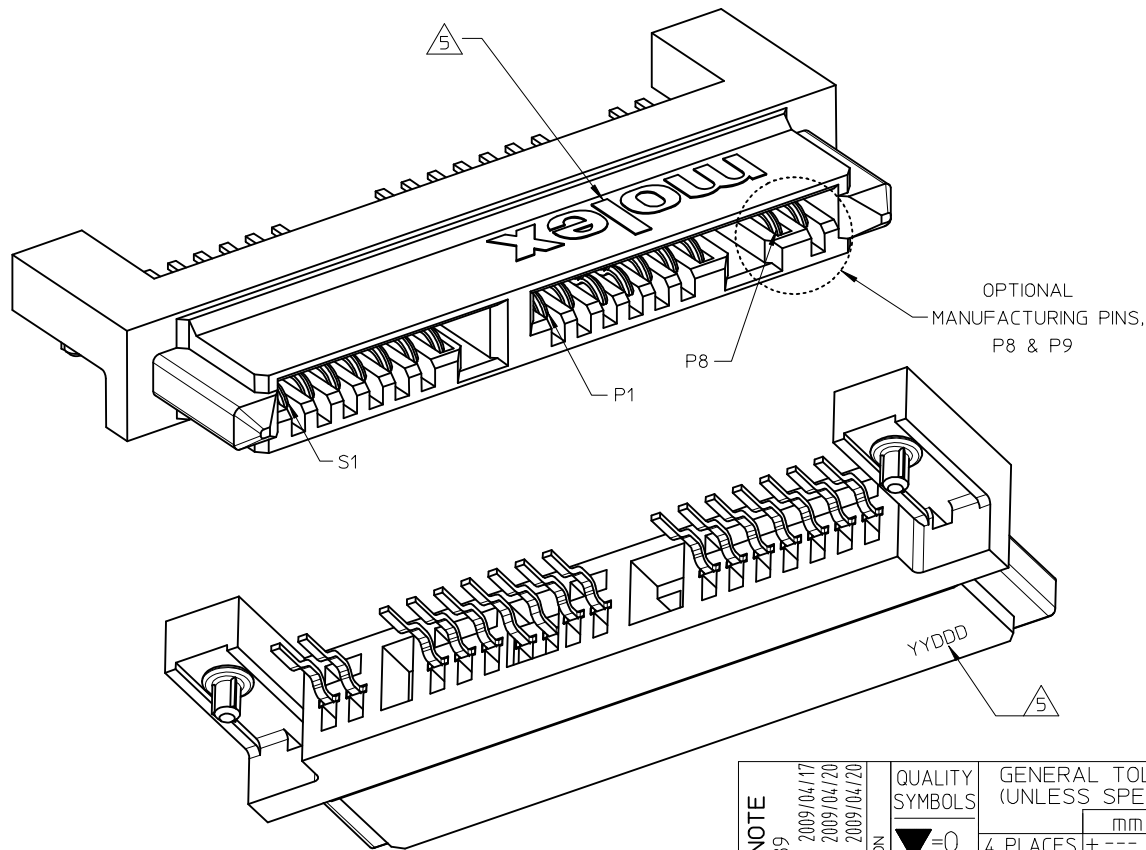
Reference - Drawing Numbers

Product Specification	PS-78109-001
Sales Drawing	SD-78109-001

This document was generated on 05/21/2010

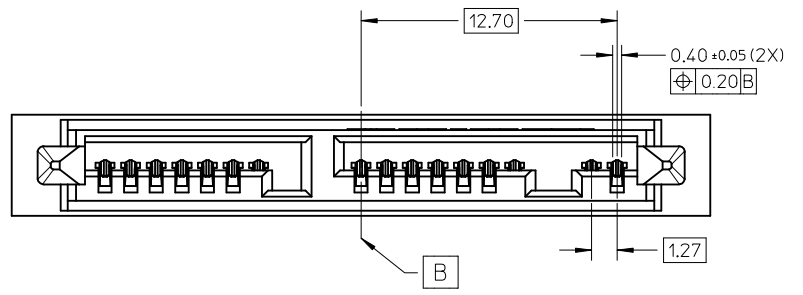
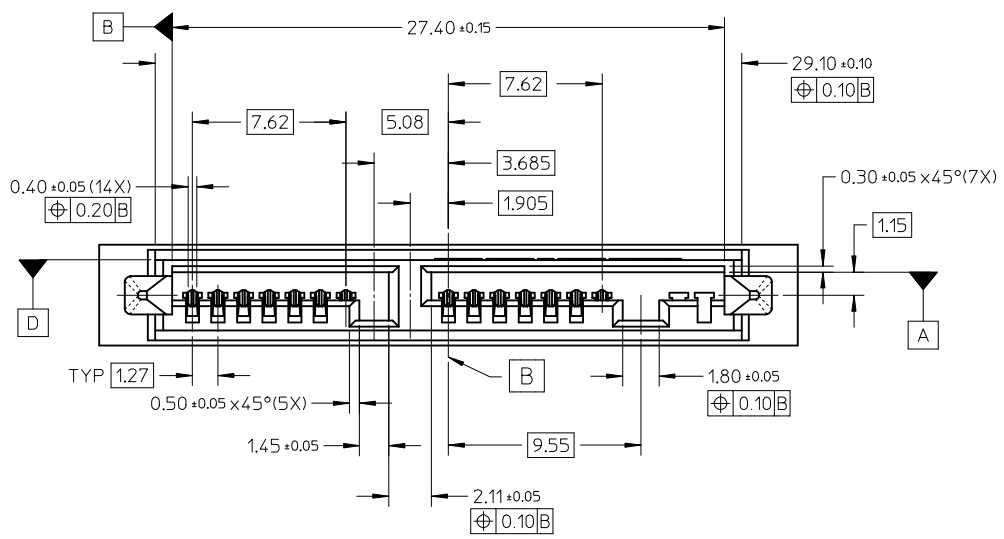
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10	9	8	7	6	5	4	3	2	1
PART NUMBER	TOTAL PINS	DESCRIPTION		HOUSING MATERIAL		PACKAGING		REMARKS	
78109-0001	16	WITH OPTIONAL MANUFACTURING PINS (S1 TO S7 & P1 TO P9)		NYLON (PA) 9T, GLASS FILLED, UL 94V-0, BLACK.		TRAY		WITHOUT CAP	
78109-0012						TAPE AND REEL		WITH CAP	
78109-1001	14	WITHOUT OPTIONAL MANUFACTURING PINS (S1 TO S7 & P1 TO P7)				TRAY		WITHOUT CAP	
78109-1012						TAPE AND REEL		WITH CAP	

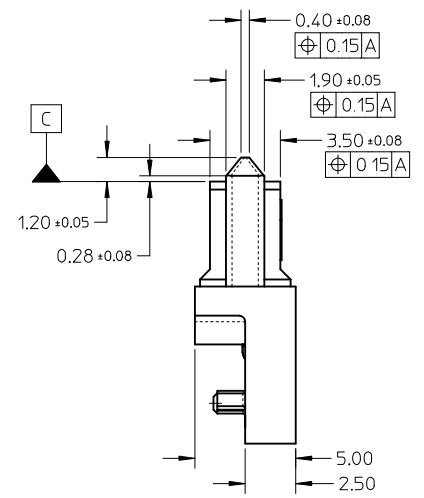
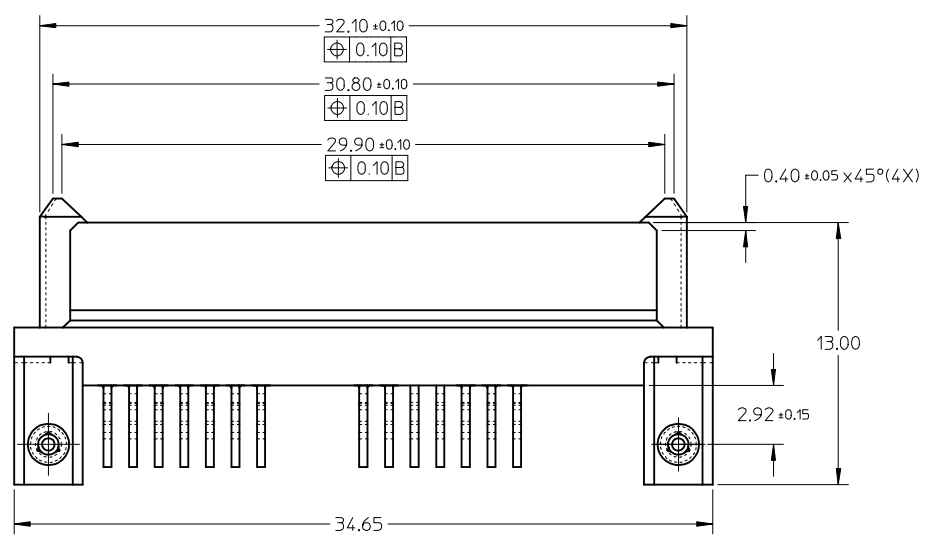


- NOTES:
- MATERIAL : SEE TABLE
TERMINAL/LOCATING PIN : COPPER ALLOY
 - PLATING :
TERMINAL : 0.764μm MIN. SELECTIVE GOLD OVER
1.274μm MIN. NICKEL UNDERPLATE
: 2.544μm MIN. TIN OVER
1.274μm MIN. NICKEL UNDERPLATE
LOCATING PIN : 3.814μm MIN. TIN OVER
2.004μm MIN. NICKEL UNDERPLATE
 - PRODUCT SPECIFICATION : PS-78109-001
 - MATES WITH MICRO SATA PLUG SERIES : 78283
 - MOLEX LOGO LOCATED APPROXIMATELY AS SHOWN
 - DATE CODE LOCATED APPROXIMATELY AS SHOWN
 - PACKAGING : SEE TABLE
 - THIS PRODUCT IS COMPLIANT TO RoHS DIRECTIVE WITH THE FOLLOWING BANNED SUBSTANCES - LEAD, MERCURY, CADMIUM, HEXAVALENT CHROMIUM, POLYBROMINATED BIPHENYLS AND POLYBROMINATED DIPHENYLS ETHERS.
 - NON FUNCTIONAL CORING MAY VARY.

ADD P/NO. & NOTE EC NO: S2009-0789 DRWN:JTAN02 CHKD:KHLIM APPR:BOKOK	DESCRIPTION 2009/04/17 2009/04/20 2009/04/20	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION			
				mm	INCH	DRAWN BY YKOH	DATE 2006/06/27	TITLE SERIAL ATA RECEPTACLE 1.8 INCH HDD RIGHT-ANGLE, SMT				
			4 PLACES	± ---	± ---	CHECKED BY SHONG	DATE 2006/07/28	MOLEX INCORPORATED				
			3 PLACES	± ---	± ---	APPROVED BY KCLING	DATE 2006/07/28	MATERIAL NO. SEE TABLE	DOCUMENT NO. SD-78109-001	SHEET NO. 1 OF 6		
2 PLACES	± 0.20	± ---	ANGULAR ± 3 °		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION							
1 PLACE	± ---	± ---	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS									



78109-0001

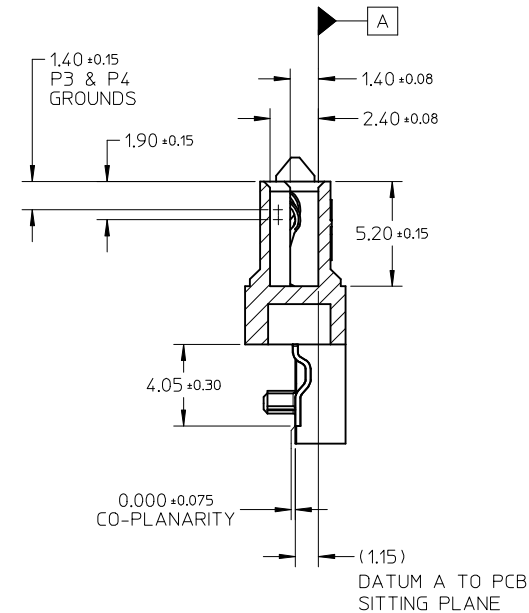
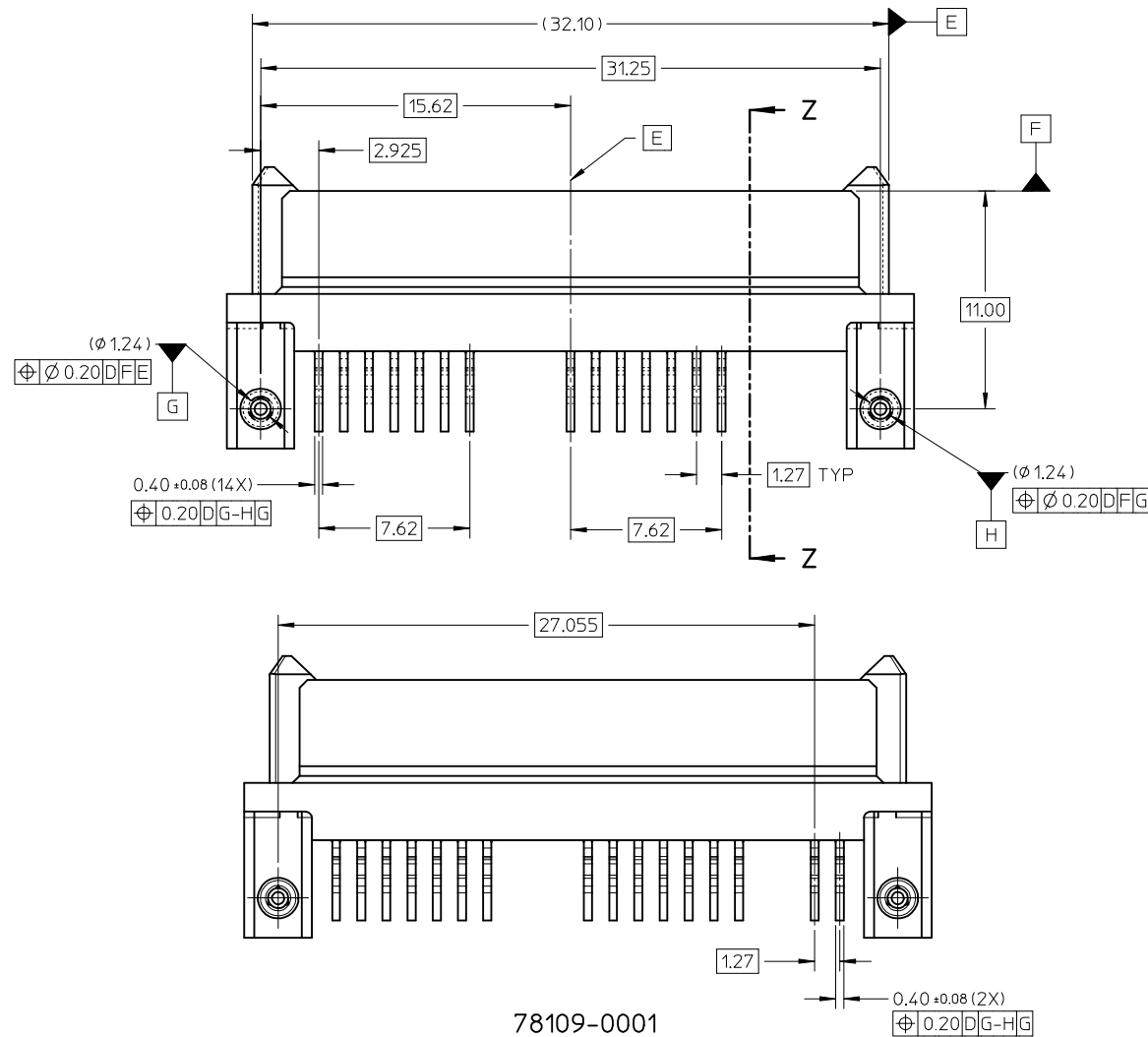


ADD P/NO. & NOTE EC NO: S2009-0789 DRWN: JTAN02 CHKD: KHLIM APPR: BOKOK	2009/04/17	DESCRIPTION	QUALITY SYMBOLS
	2009/04/20		▽=0
	2009/04/20		∠=0
	REV		

GENERAL TOLERANCES (UNLESS SPECIFIED)	mm	INCH	
	4 PLACES	± ---	± ---
	3 PLACES	± ---	± ---
	2 PLACES	± 0.20	± ---
	1 PLACE	± ---	± ---
ANGULAR ± 3 °			
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			

DIMENSION STYLE		SCALE	DESIGN UNITS
MM ONLY		NTS	METRIC
DRAWN BY	DATE	TITLE	
YKOH	2006/06/27	SERIAL ATA RECEPTACLE	
CHECKED BY	DATE	1.8 INCH HDD	
SHONG	2006/07/28	RIGHT-ANGLE, SMT	
APPROVED BY	DATE	MOLEX INCORPORATED	
KCLING	2006/07/28	MOLEX INCORPORATED	
MATERIAL NO.	DOCUMENT NO.	SHEET NO.	
SEE TABLE	SD-78109-001	2 OF 6	

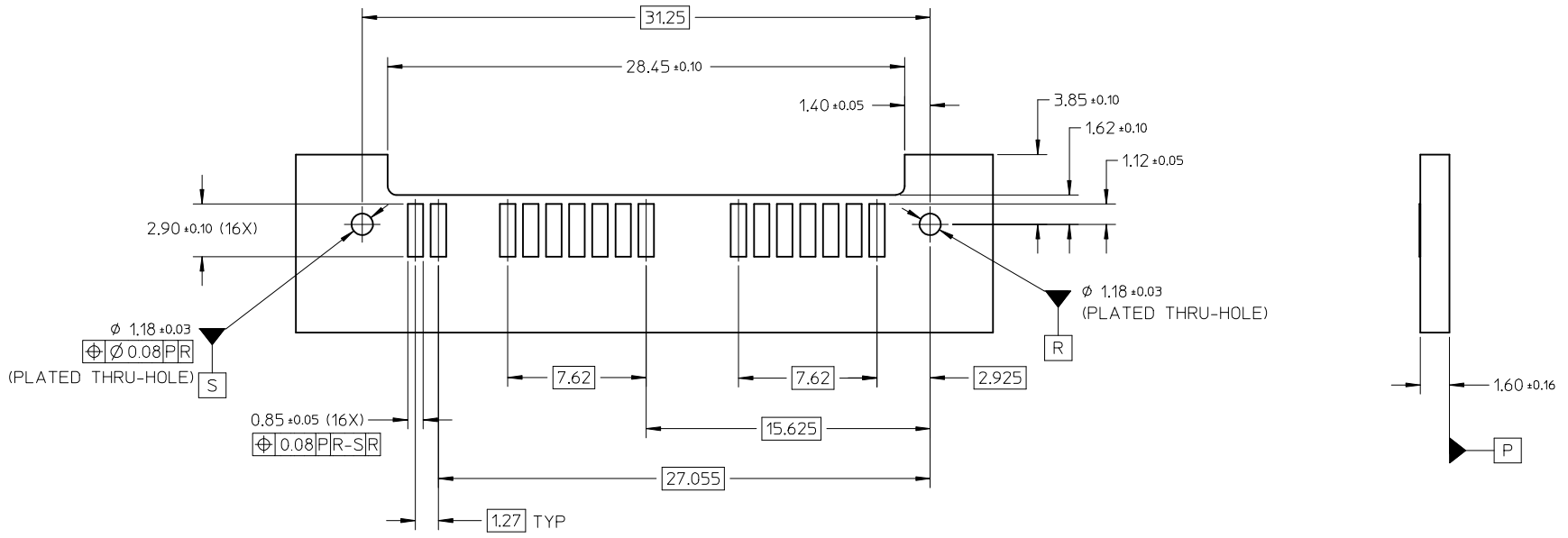
THIRD ANGLE PROJECTION



SECTION Z-Z

78109-0001

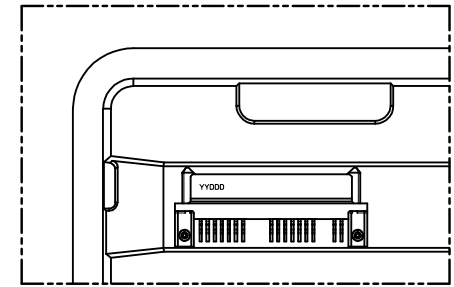
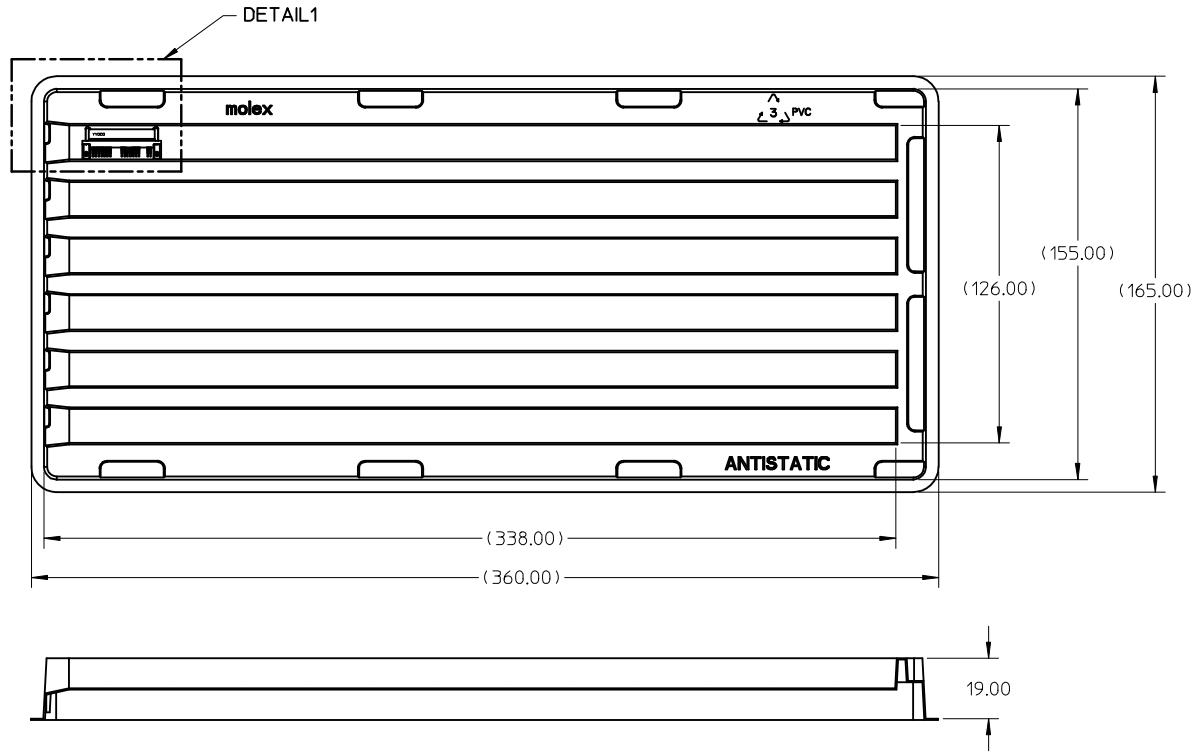
ADD P/NO. & NOTE EC NO: S2009-0789 DRWN: JIAN02 CHKD: KHLIM APPR: BOKOK	2009/04/17 2009/04/20 2009/04/20	DESCRIPTION REV	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
			$\nabla=0$ $\text{C}=0$	mm INCH 4 PLACES \pm --- \pm --- 3 PLACES \pm --- \pm --- 2 PLACES ± 0.20 \pm --- 1 PLACE \pm --- \pm --- ANGULAR $\pm 3^\circ$	MM ONLY	NTS	METRIC	
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWN BY: YKOH CHECKED BY: SHONG APPROVED BY: KCLING	DATE: 2006/06/27 DATE: 2006/07/28 DATE: 2006/07/28	TITLE	SERIAL ATA RECEPTACLE 1.8 INCH HDD RIGHT-ANGLE, SMT	
			MATERIAL NO.	SEE TABLE	DATE: 2006/07/28	MOLEX INCORPORATED	DOCUMENT NO. SD-78109-001	SHEET NO. 3 OF 6



RECOMMENDED PCB LAYOUT

ADD P/NO. & NOTE EC NO: S2009-0789 DRWN: JTAN02 2009/04/17 CHKD: KHLIM 2009/04/20 APPR: BOKOK 2009/04/20	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.20 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3 °	DIMENSION STYLE MM ONLY DRAWN BY: YKOH DATE: 2006/06/27 CHECKED BY: SHONG DATE: 2006/07/28 APPROVED BY: KCLING DATE: 2006/07/28 MATERIAL NO.	SCALE: NTS DESIGN UNITS: METRIC THIRD ANGLE PROJECTION	TITLE: SERIAL ATA RECEPTACLE 1.8 INCH HDD RIGHT-ANGLE, SMT MOLEX INCORPORATED DOCUMENT NO. SD-78109-001	SHEET NO. 4 OF 6	
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	SEE TABLE	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				
	REV: A	DESCRIPTION:					

PACKAGING INFORMATION : TRAY



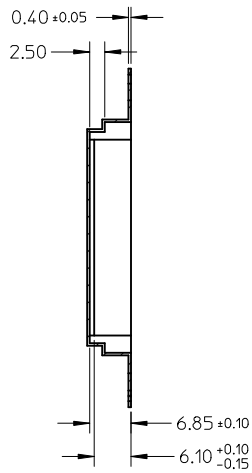
DETAIL1

NOTES:

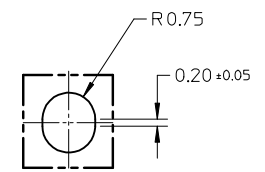
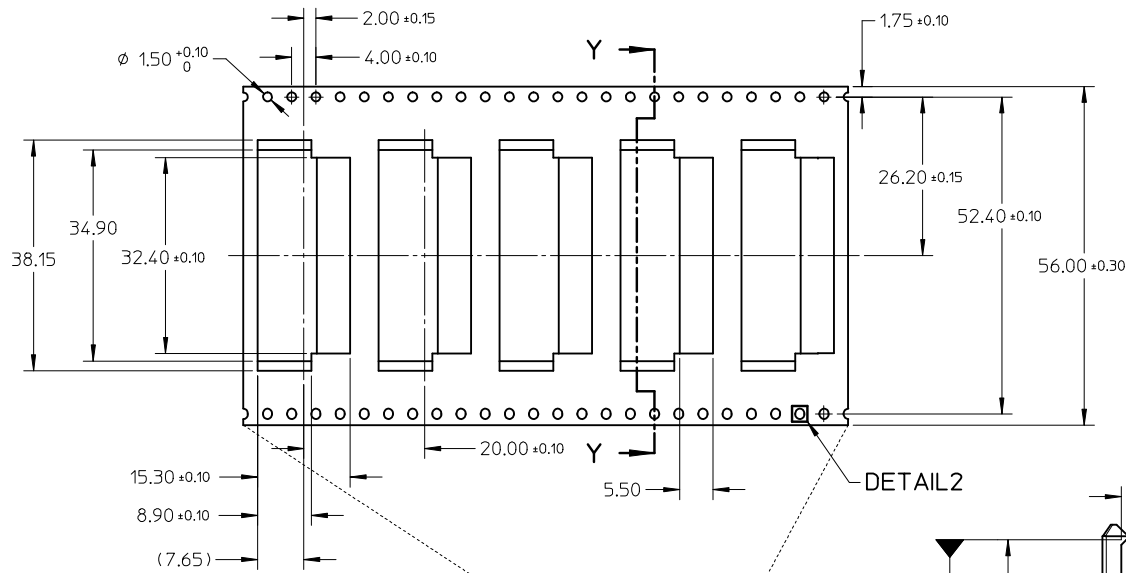
1. PACKAGING QUANTITY : 54 PCS PER TRAY
2. MATERIAL : PVC - CLEAR, ANTISTATIC
0.70MM THICK (PRE-FORMED)

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					mm	INCH	DRAWN BY	DATE	TITLE					
				4 PLACES	± ---	± ---	YKOH	2006/06/27	SERIAL ATA RECEPTACLE 1.8 INCH HDD RIGHT-ANGLE, SMT					
				3 PLACES	± ---	± ---	CHECKED BY	DATE						
2 PLACES	± 0.20	± ---	SHONG	2006/07/28	MOLEX INCORPORATED									
1 PLACE	± ---	± ---	APPROVED BY	DATE										
ANGULAR ± 3 °				KCLING	2006/07/28	MATERIAL NO.		DOCUMENT NO.			SHEET NO.			
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				SEE TABLE		SD-78109-001		5 OF 6						
				SIZE	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION									

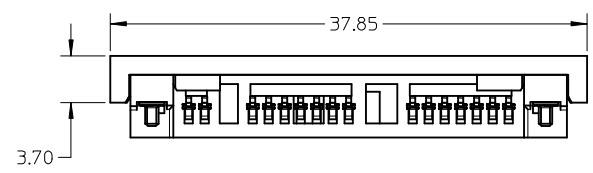
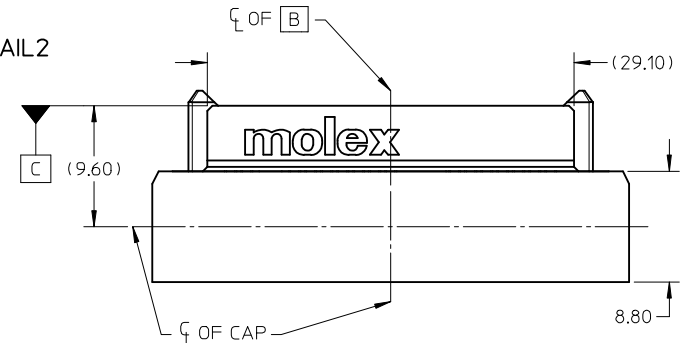
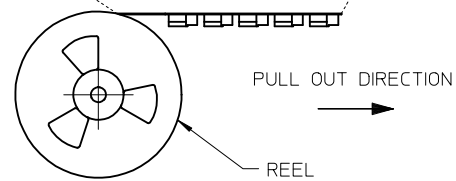
PACKAGING INFORMATION : TAPE & REEL



SECTION Y-Y

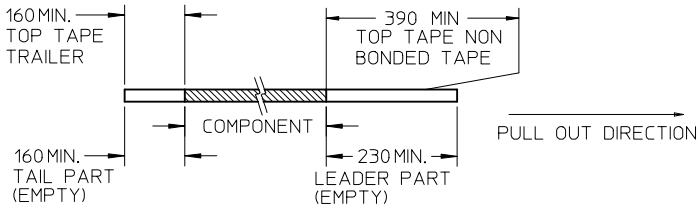


DETAIL2

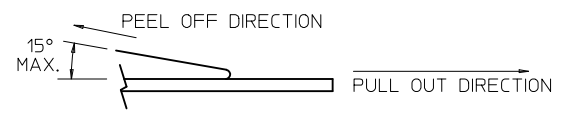


NOTES:

1. LEADER AND TRAILER TAPE



2. PEELING OFF FORCE OF THE TOP TAPE: 20 - 80gf. (PEELING DIRECTION AS SHOWN IN FOLLOWING FIGURE)



- 3. TAPE AND REEL SPECIFICATION IS AS PER EIA-481.
- 4. TAPE AND REEL QUANTITY : 480 PCS/ REEL.
- 5. THE TAPE IS TREATED FOR ANTI-STATIC.

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			▼=0 ◻=0	mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.20 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3 °	MM ONLY	NTS	METRIC			
					DRAWN BY	DATE	TITLE			
					CHECKED BY	DATE				
				APPROVED BY	DATE	SERIAL ATA RECEPTACLE 1.8 INCH HDD RIGHT-ANGLE, SMT MOLEX INCORPORATED				
				MATERIAL NO.	DATE			DOCUMENT NO.	SHEET NO.	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				SIZE	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					
				A3	SEE TABLE				SD-78109-001	6 OF 6