

**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [0783200002](#)  
**Status:** **Active**  
**Overview:** [micro\\_sata](#)  
**Description:** 1.27mm (.050") Pitch High Speed Micro Serial ATA Device Receptacle for 1.8" HDD/SSD, SMT, Right Angle, Top Mount, with Support Rib, Tape on Reel, Lead free

**Documents:**

[3D Model](#) [Product Specification PS-78320-002 \(PDF\)](#)  
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)

**Agency Certification**

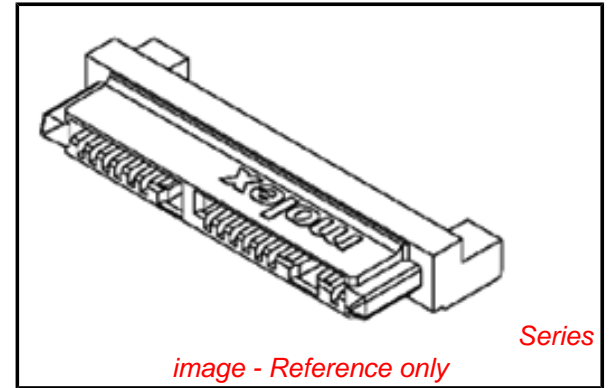
CSA LR19980  
 UL E29179

**General**

Product Family PCB Receptacles  
 Series [78320](#)  
 Application Board-to-Board  
 Comments With central support rib on underside of housing  
 Overview [micro\\_sata](#)  
 Product Name Micro Serial ATA, Serial ATA

**Physical**

Circuits (Loaded) 16  
 Circuits (maximum) 16  
 Circuits Detail With optional manufacturing pins (S1 to S7 and P1 to P9)  
 Color - Resin Black  
 Durability (mating cycles max) 500  
 Flammability 94V-0  
 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 Embossed Tape on Reel  
 Pitch - Mating Interface (in) 0.050 In, 0.200 In  
 Pitch - Mating Interface (mm) 1.27 mm, 5.08 mm  
 Pitch - Term. Interface (in) 0.050 In, 0.200 In  
 Pitch - Term. Interface (mm) 1.27 mm, 5.08 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



*image - Reference only*

**EU RoHS**

**ELV and RoHS Compliant**

**REACH SVHC**

Not Reviewed

**Halogen-Free**

**Status**

**Not Halogen-Free**

**China RoHS**



**Need more information on product environmental compliance?**

Email [productcompliance@molex.com](mailto: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**

[78320Series](#)

**Mates With**

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

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

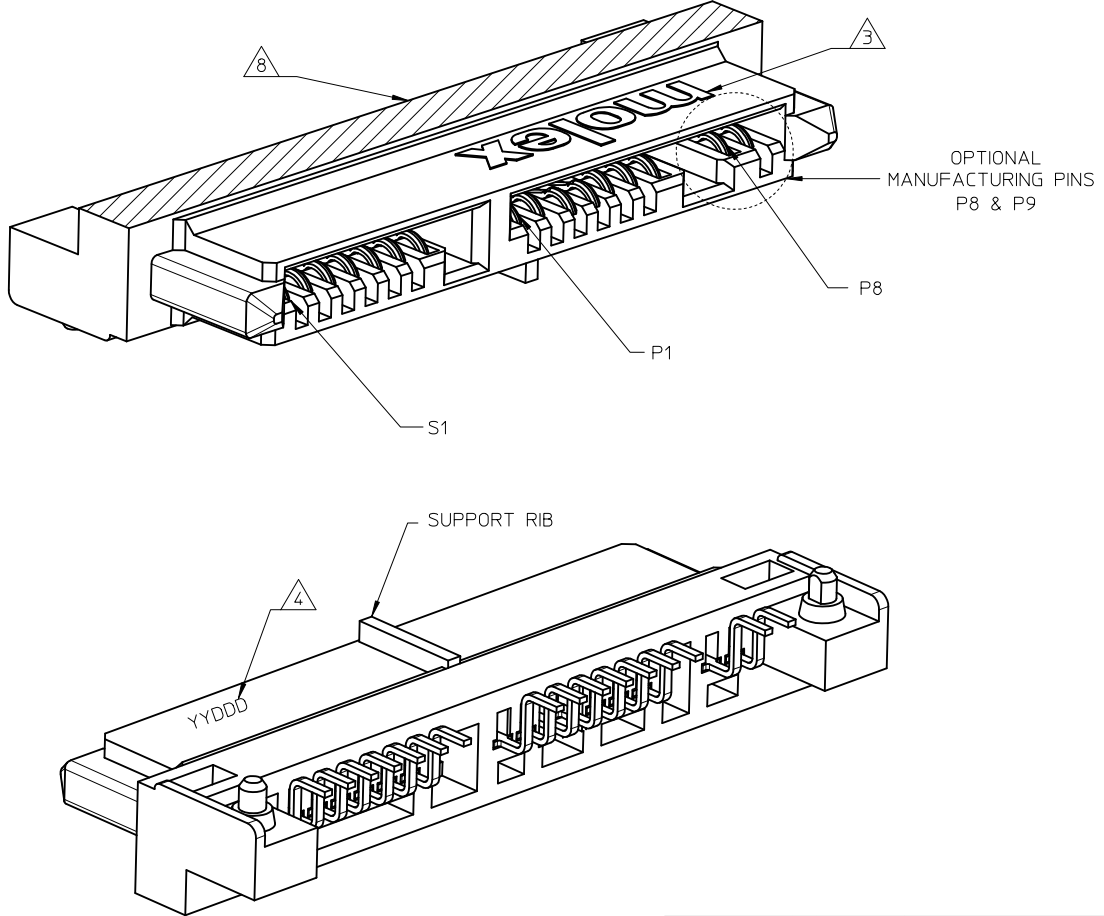
**Material Info****Reference - Drawing Numbers**

Product Specification	PS-78320-002
Sales Drawing	SD-78320-002

This document was generated on 05/21/2010

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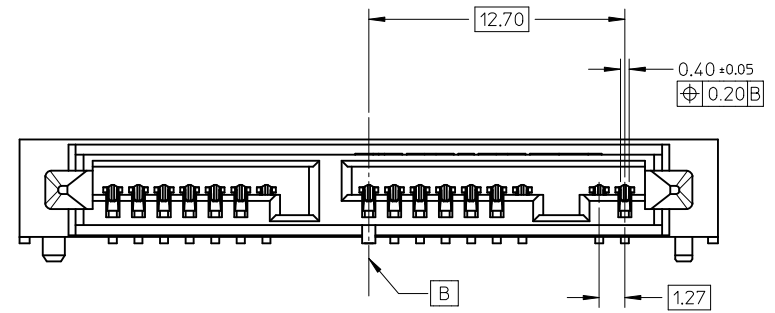
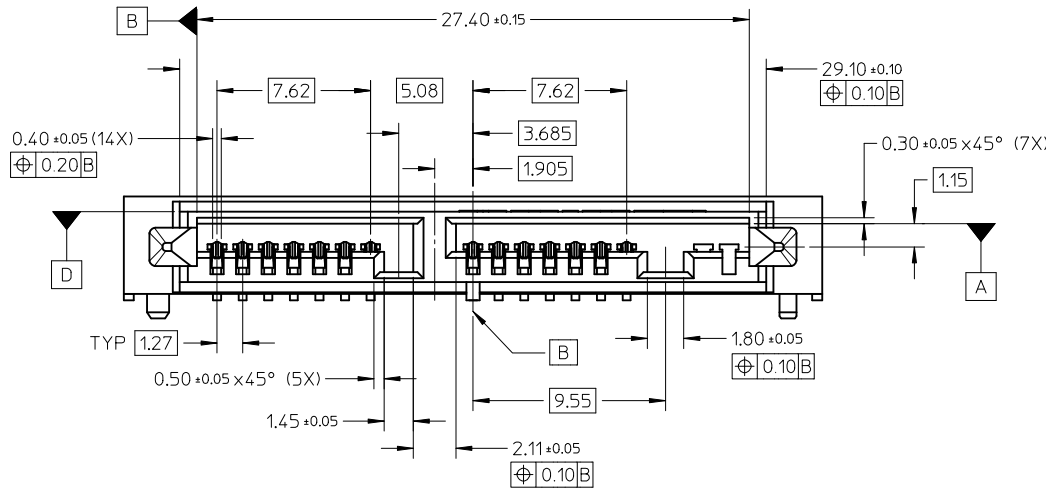
5	4	3	2	1
PART NUMBER	TOTAL PINS	DESCRIPTION		
78320-0002	16	WITH OPTIONAL MANUFACTURING PINS (S1 TO S7 & P1 TO P9)		
78320-1002	14	WITHOUT OPTIONAL MANUFACTURING PINS (S1 TO S7 & P1 TO P7)		



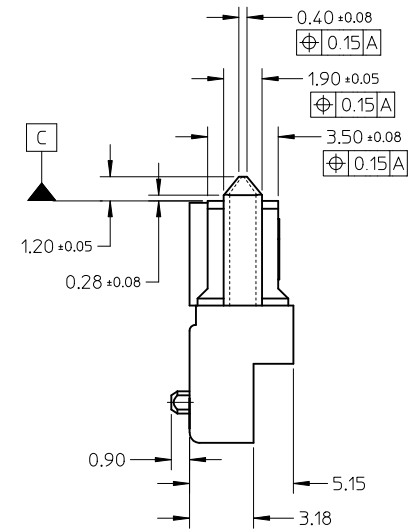
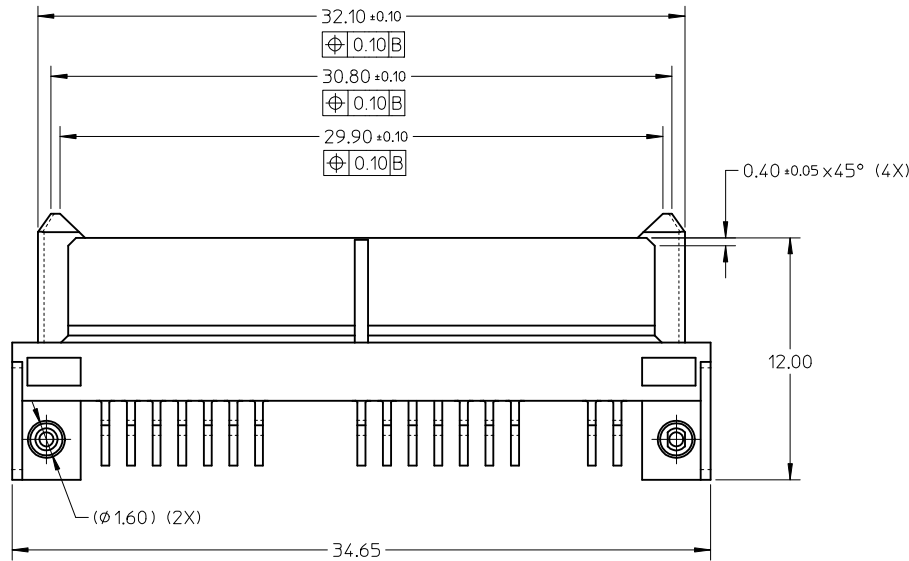
- NOTES:
- MATERIAL : NYLON (PA) 9T, GLASS FILLED, UL 94V-0, BLACK  
TERMINAL : COPPER ALLOY
  - PLATING :  
TERMINAL : 0.76µm MIN. SELECTIVE GOLD OVER  
1.27µm MIN. NICKEL UNDERPLATE  
2.54µm MIN. TIN OVER  
1.27µm MIN. NICKEL UNDERPLATE
  - MOLEX LOGO LOCATED APPROXIMATELY AS SHOWN
  - DATE CODE LOCATED APPROXIMATELY AS SHOWN
  - PACKAGING : TAPE AND REEL
  - 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.
  - PROPOSED PICK & PLACE SURFACE.
  - PRODUCT SPECIFICATION: PS-78320-002

<b>UPDATE VIEWS</b> EC NO: S2010-0590 DRWN:GMENARLY 2010/01/12 CHKD:CGOH 2010/01/25 APPR:BOKOK 2010/01/28	<b>DESCRIPTION</b> A2	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
		$F_A=0$ $F_G=0$ $F_P=0$	mm    INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.20 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3 °	MM ONLY	NTS	METRIC	<input checked="" type="checkbox"/> THIRD ANGLE PROJECTION
		DRAWN BY: GMENARLY CHECKED BY: YKOH APPROVED BY: BOKOK	DATE: 2007/10/08 DATE: 2007/11/21 DATE: 2010/01/26	MATERIAL NO. <b>SEE TABLE</b>	TITLE SERIAL ATA RECEPTACLE 1.8 INCH HDD/SSD R/A, SMT, 3.80MM HEIGHT MOLEX INCORPORATED	DOCUMENT NO. SD-78320-002	SHEET NO. 1 OF 5
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS					

10 9 8 7 6 5 4 3 2 1



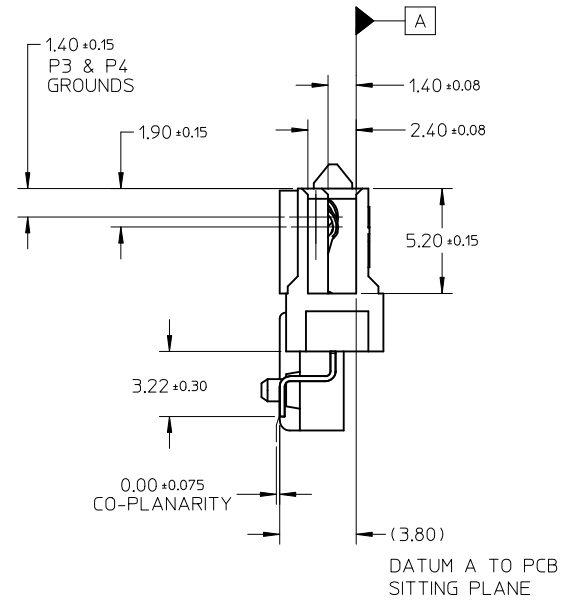
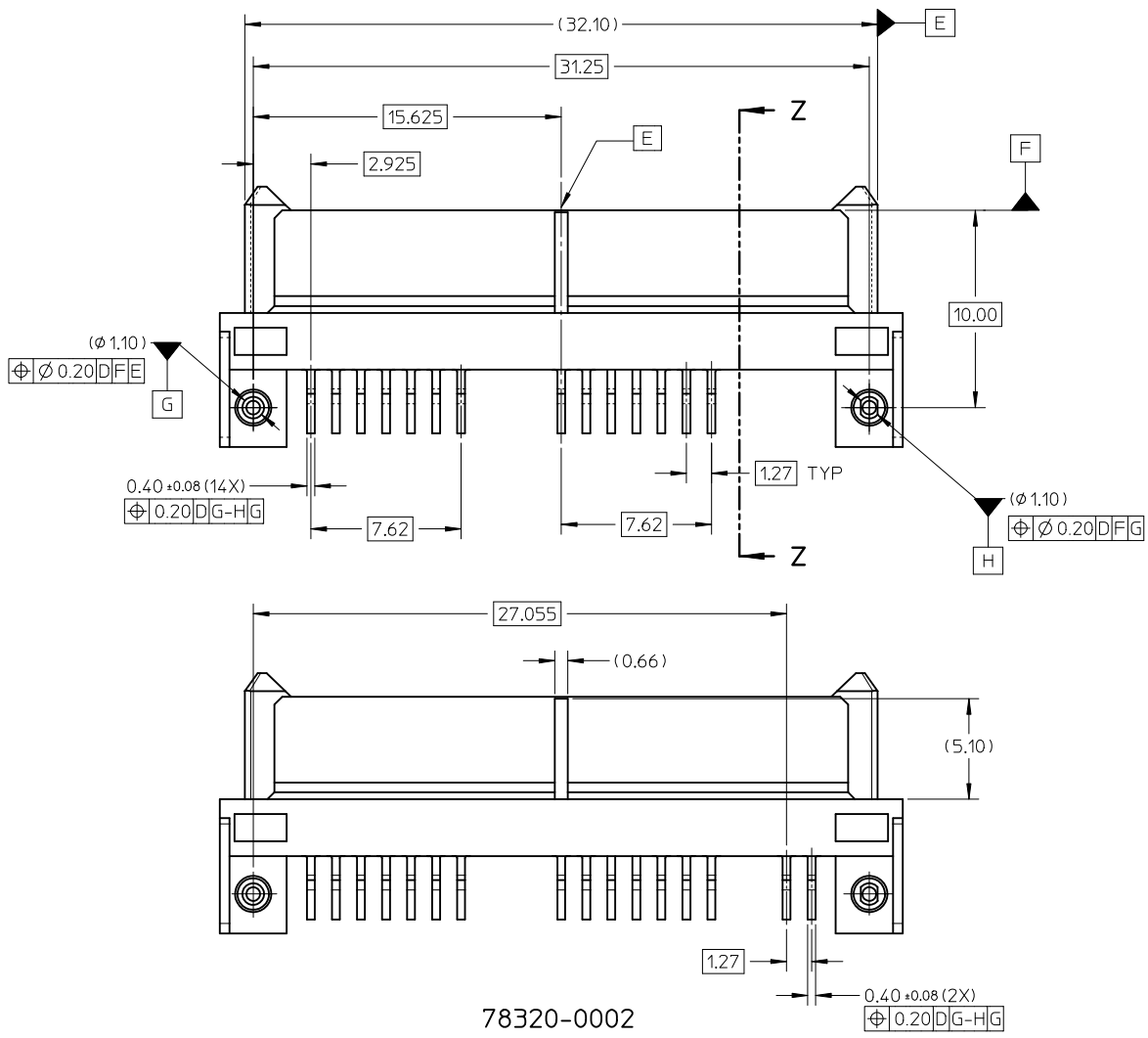
78320-0002



<b>UPDATE VIEWS</b> EC NO: S2010-0590 DRWN:GMENARLY 2010/01/12 CHKD:CGOH 2010/01/25 APPR:BOKOK 2010/01/28	QUALITY SYMBOLS $F_A=0$ $F_C=0$ $F_P=0$	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION		
				MM ONLY		NTS	METRIC			
			mm	INCH	DRAWN BY	DATE	TITLE			
		4 PLACES	± ---	± ---	GMENARLY	2007/10/08	SERIAL ATA RECEPTACLE			
3 PLACES	± ---	± ---	CHECKED BY	DATE	1.8 INCH HDD/SSD					
2 PLACES	± 0.20	± ---	YKOH	2007/11/21	R/A, SMT, 3.80MM HEIGHT					
1 PLACE	± ---	± ---	APPROVED BY	DATE	MOLEX INCORPORATED					
ANGULAR ± 3 °		MATERIAL NO.		DOCUMENT NO.		SHEET NO.				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		SD-78320-002		2 OF 5				
SIZE		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION								
A2		A3								

9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1



SECTION Z-Z

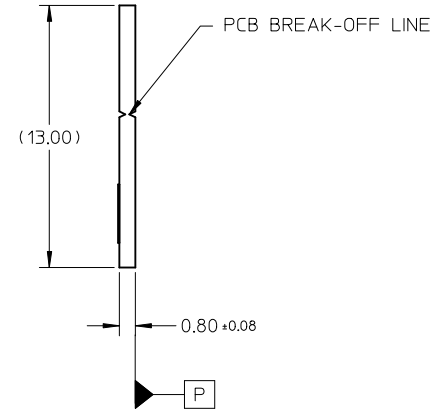
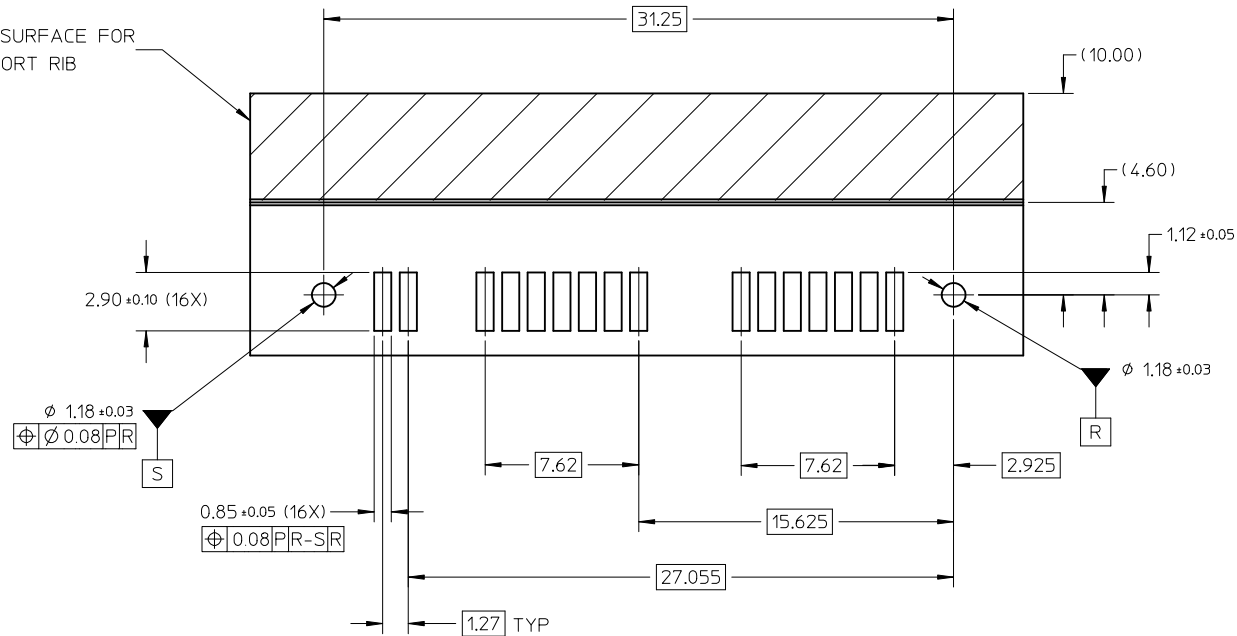
78320-0002

<b>UPDATE VIEWS</b> EC NO: S2010-0590 DRWING: GMENARLY 2010/01/12 CHKD: CGOH 2010/01/25 APPR: BOKOK 2010/01/28	QUALITY SYMBOLS $F_A=0$ $F_G=0$ $F_P=0$	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE <b>MM ONLY</b>		SCALE <b>NTS</b>	DESIGN UNITS <b>METRIC</b>	THIRD ANGLE PROJECTION		
			mm	INCH	DRAWN BY	DATE	TITLE			
		4 PLACES	± ---	± ---	GMENARLY	2007/10/08	<b>SERIAL ATA RECEPTACLE            1.8 INCH HDD/SSD            R/A, SMT, 3.80MM HEIGHT</b>			
		3 PLACES	± ---	± ---	CHECKED BY	DATE				
	ANGULAR ± 3 °		APPROVED BY	DATE	<b>MOLEX INCORPORATED</b>					
2 PLACES	± 0.20	± ---	BOKOK	2010/01/26						
1 PLACE	± ---	± ---	MATERIAL NO.		DOCUMENT NO.					
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			SEE TABLE		SD-78320-002				SHEET NO.	
			SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				3 OF 5	

9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

RESTING SURFACE FOR  
SUPPORT RIB

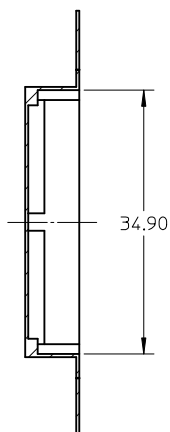


RECOMMENDED PCB LAYOUT

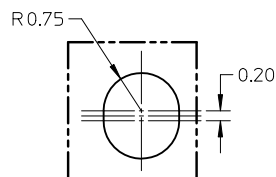
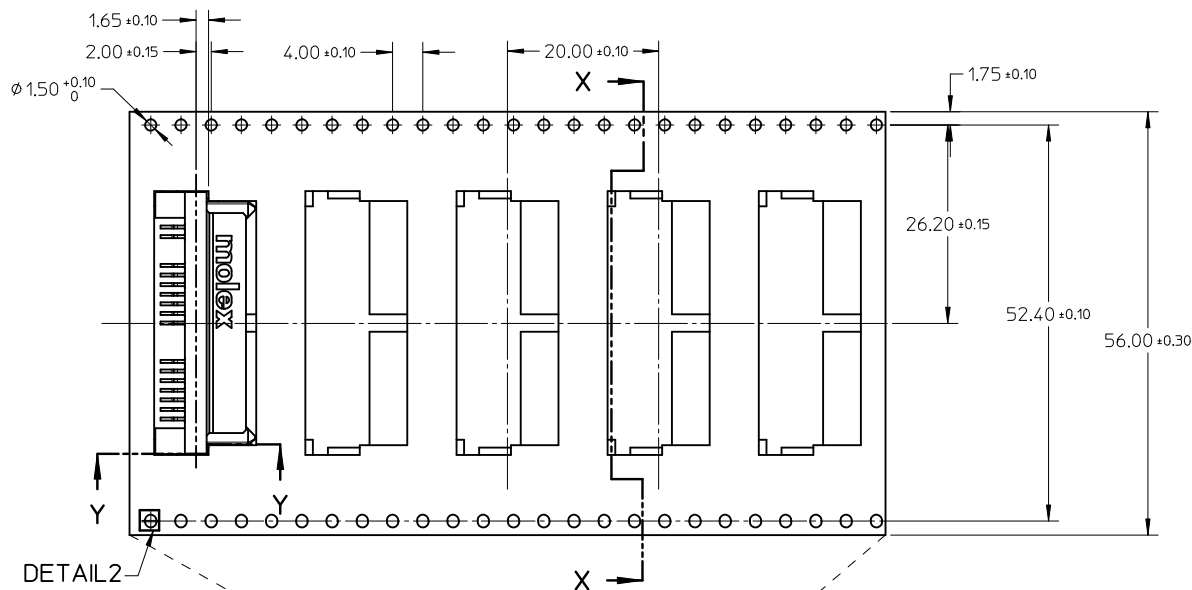
<b>UPDATE VIEWS</b> EC NO: S2010-0590 DRWN:GMENARLY 2010/01/12 CHKD:CGOH 2010/01/25 APPR:BOKOK 2010/01/28	QUALITY SYMBOLS $F_A=0$ $F_C=0$ $F_P=0$	GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.20 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3 °	DIMENSION STYLE <b>MM ONLY</b> DRAWN BY: GMENARLY DATE: 2007/10/08 CHECKED BY: YKOH DATE: 2007/11/21 APPROVED BY: BOKOK DATE: 2010/01/26	SCALE: NTS DESIGN UNITS: METRIC THIRD ANGLE PROJECTION	TITLE: SERIAL ATA RECEPTACLE 1.8 INCH HDD/SSD R/A, SMT, 3.80MM HEIGHT MOLEX INCORPORATED
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	MATERIAL NO.: SEE TABLE	DOCUMENT NO.: SD-78320-002	SHEET NO.: 4 OF 5	
	SIZE: A3	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			
	REV: A2				

9 8 7 6 5 4 3 2 1

PACKAGING INFORMATION



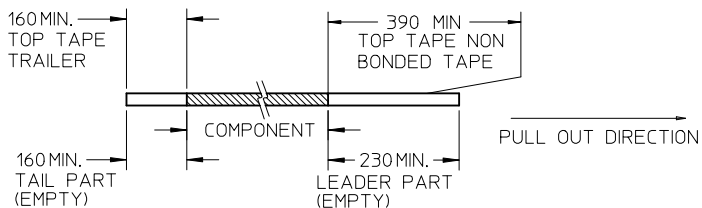
SECTION X-X



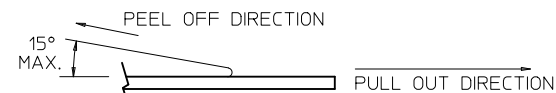
DETAIL2

NOTES:

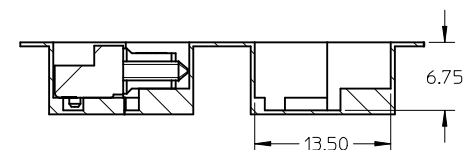
1. LEADER AND TRAILER TAPE



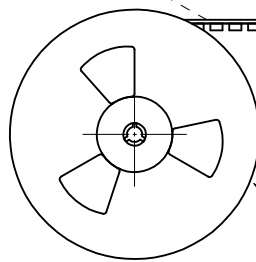
2. PEELING OFF FORCE OF THE TOP TAPE: 20 - 80gf.  
(PEELING DIRECTION AS SHOWN IN FOLLOWING FIGURE)



- 3. TAPE AND REEL SPECIFICATION IS AS PER EIA-481.
- 4. TAPE AND REEL QUANTITY : SPQ=500PCS/REEL, MDQ=100PCS/CARTON  
: QTY/REEL=500PCS, REELS/CARTON=2
- 5. THE TAPE IS TREATED FOR ANTI-STATIC.



PARTIAL1 OF SECTION Y-Y



PULL OUT DIRECTION



REEL

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		4 PLACES ± --- ± ---	3 PLACES ± --- ± ---	2 PLACES ± 0.20 ± ---	1 PLACE ± --- ± ---	DRAWN BY GMENARLY	DATE 2007/10/08	TITLE SERIAL ATA RECEPTACLE 1.8 INCH HDD/SSD R/A, SMT, 3.80MM HEIGHT	
		ANGULAR ± 3 °				CHECKED BY YKOH	DATE 2007/11/21	MOLEX INCORPORATED	
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				APPROVED BY BOKOK	DATE 2010/01/26	MATERIAL NO. SEE TABLE	DOCUMENT NO. SD-78320-002
A2	REV	SIZE A3	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					SHEET NO. 5 OF 5	