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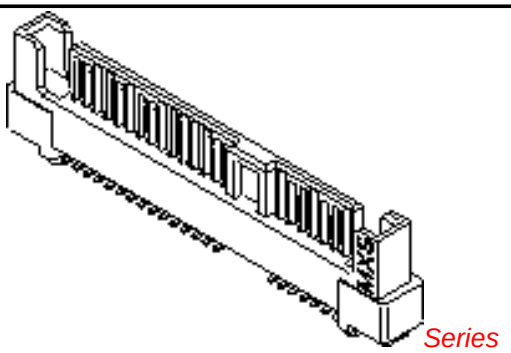
This document was generated on 04/02/2010

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

**Part Number:** 0780120011

**Status:** Active

**Description:** 1.27mm (.050") Pitch, Serial Attached SCSI Combo Device Plug, Vertical, Surface Mount, 29 Circuits, Plastic Locating Pegs, Pick-and-Place Cap, Embossed Tape on Reel, Lead-free



Series

*image - Reference only*

**Documents:**

3D Model
Drawing (PDF)
Product Specification PS-78012-002 (PDF)
RoHS Certificate of Compliance (PDF)

## Agency Certification

| | |
|---|---|
| CSA | LR 19980 |
| UL | E29179 |

## General

| | |
|---|---|
| Product Family | I/O Connectors |
| Series | 78012 |
| Application | Wire-to-Board |
| Comments | <LI>With Cap |
| Component Type | Plug |
| Product Name | SAS |
| Type | N/A |

## Physical

| | |
|---|---|
| Boot Color | N/A |
| Circuits (Loaded) | 29 |
| Circuits (maximum) | 29 |
| Color - Resin | Black |
| Durability (mating cycles max) | 500 |
| Flammability | 94V-0 |
| Gender | Plug |
| Lock to Mating Part | None |
| Material - Metal | Brass |
| Material - Plating Mating | Gold |
| Material - Plating Termination | Tin |
| Material - Resin | High Temperature Thermoplastic |
| Number of Rows | 2 |
| Orientation | Vertical |
| PC Tail Length (in) | 0.000 In |
| PC Tail Length (mm) | 0.00 mm |
| PCB Locator | Yes |
| PCB Retention | Yes |
| PCB Thickness Recommended (in) | 0.062 In |
| PCB Thickness Recommended (mm) | 1.57 mm |
| Packaging Type | Embossed Tape on Reel |
| Panel Mount | Yes |
| Pitch - Mating Interface (in) | 0.031 In, 0.050 In |
| Pitch - Mating Interface (mm) | 0.80 mm, 1.27 mm |
| Pitch - Term. Interface (in) | 0.050 In |
| Pitch - Term. Interface (mm) | 1.27 mm |
| Plating min: Mating (µin) | 30 |
| Plating min: Mating (µm) | 0.76 |
| Plating min: Termination (µin) | 76.400 |
| Plating min: Termination (µm) | 1.91 |
| Polarized to Mating Part | Yes |
| Polarized to PCB | Yes |

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

**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**
78012Series

**Mates With**
78011 SATA Receptacle, SFF 8482 Unshielded Dual Port Serial Attachment Connector

| | |
|---|---|
| Ports | 1 |
| Surface Mount Compatible (SMC) | Yes |
| Temperature Range - Operating | -40°C to +85°C |
| Termination Interface: Style | Surface Mount |
| Waterproof / Dustproof | No |
| Wire Size AWG | N/A |

## Electrical

| | |
|---|---|
| Current - Maximum per Contact | 1.5A |
| Shielded | No |
| Voltage - Maximum | 30V |

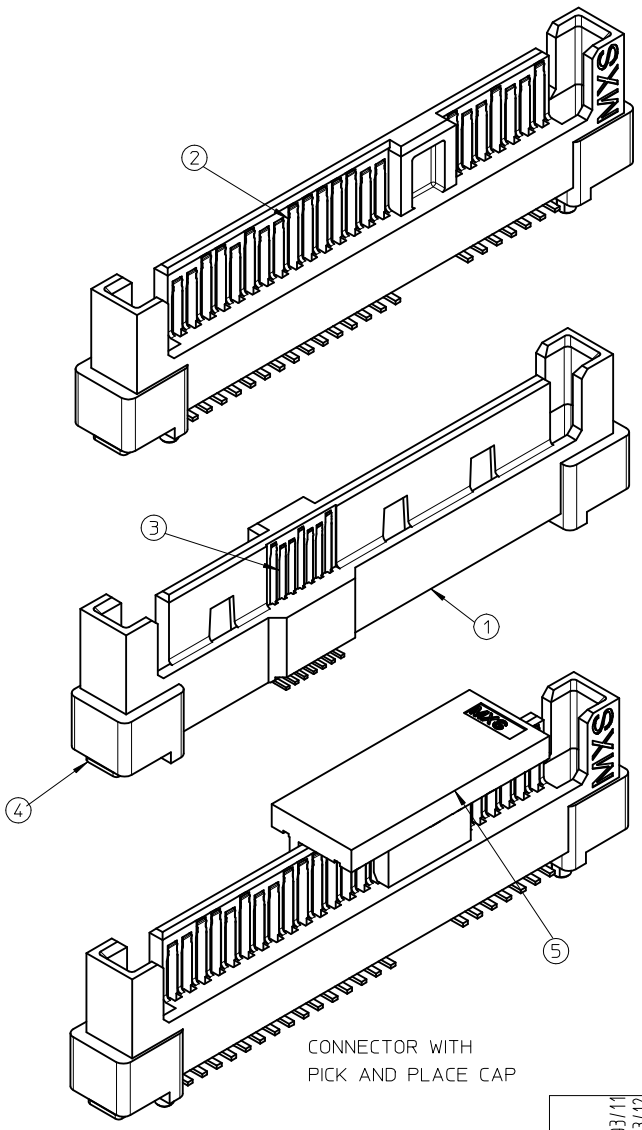
## Solder Process Data

| | |
|---|---|
| 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-78012-002 |
| Sales Drawing | SD-78012-101 |




CONNECTOR WITH
PICK AND PLACE CAP

| NO. | PART NAME | QTY. | MATERIAL |
|---|---|---|---|
| 1 | HOUSING | 1 | NYLON(PA), UL 94V-0, COLOR: BLACK |
| 2 | CONTACT A | 22 | COPPER ALLOY |
| 3 | CONTACT B | 7 | COPPER ALLOY |
| 4 | FITTING-NAIL | 2 | COPPER ALLOY |
| 5 | PICK & PLACE CAP | 1 | PA46, UL 94V-0, COLOR: BLACK |

NOTES:

1. MATERIAL: REFER TO THE ABOVE PART-LIST.
2. PLATING SPECIFICATION: REFER TO TABLE-1.
3. APPLICABLE INDUSTRY SPECIFICATION :
   SFF-8482 UNSHIELDED DUAL PORT SERIAL ATTACHMENT CONNECTOR.
4. PRODUCT SPECIFICATION: PS-78012-002.
5. PACKING: REFER TO PACKING INFORMATION (SHEET 6/6).
6. DATE CODE FORMAT: YEAR & DAY OF MANUFACTURE.
7. MOLEX LOGO IS LOCATED APPROXIMATELY AS SHOW.
8. MAXIMUM WARPAGE OF 0.13mm OVER THE LENGTH OF THE CONNECTOR
   IN ANY DIRECTION BEFORE AND AFTER EXPOSURE TO MAX. 260°C
   FOR 10 SECONDS.

TABLE-1: ( CONTACT AND FITTING-NAIL PLATING SPECIFICATION )

| PART NAME | MATING AREA | TERMINAL AREA | OTHERS AREA |
|---|---|---|---|
| CONTACT | GOLD (0.76μm MIN.) | TIN (1.91μm MIN.) | NICKEL PLATING |
| | OVER 1.27μm MIN. NICKEL UNDERPLATE | | |
| FITTING-NAIL | TIN OVER NICKEL UNDERPLATE | | |

SEE SHEET 6
EC NO: S2009-0661
DRWN:GMENARLY 2009/03/11
CH'KD:CGOH 2009/03/12
APPR:BOKOK 2009/03/13
DESCRIPTION
REV
A2

QUALITY SYMBOLS
▼=0
Ⓒ=0

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: MM ONLY
SCALE: NTS
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

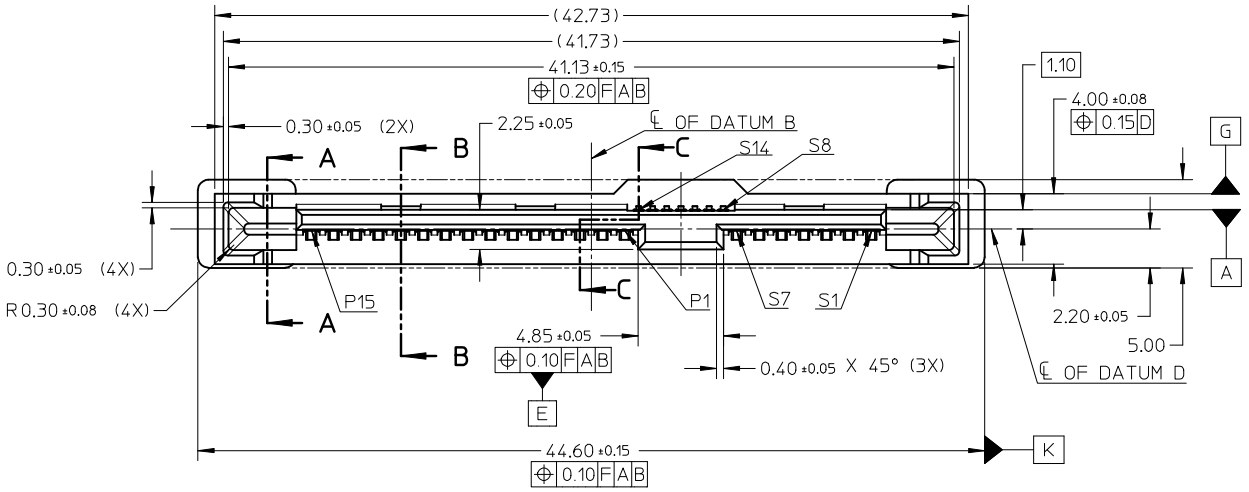
| | | DATE |
|---|---|---|
| DRAWN BY | CGTAN | 2005/11/10 |
| CHECKED BY | SHONG | 2005/11/24 |
| APPROVED BY | KCLING | 2005/11/24 |

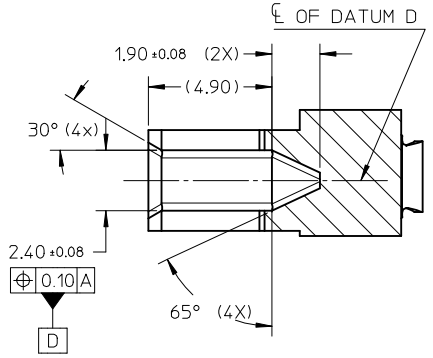
TITLE: SERIAL ATTACH SCSI (SAS) PLUG, VERTICAL MOUNT SMT

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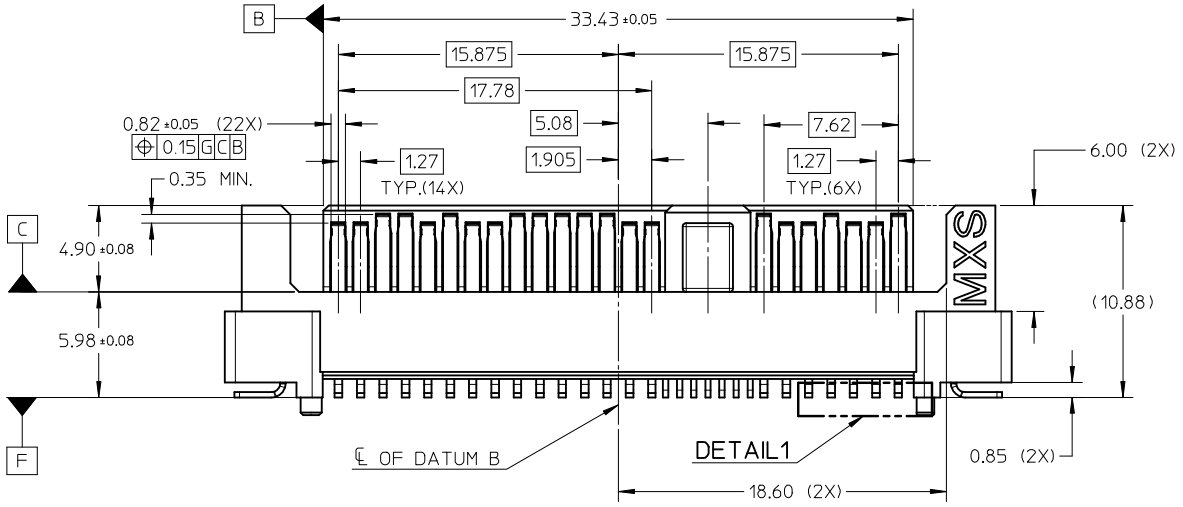
MATERIAL NO. 78012-0011
DOCUMENT NO. SD-78012-101
SHEET NO. 1 OF 6
SIZE A3

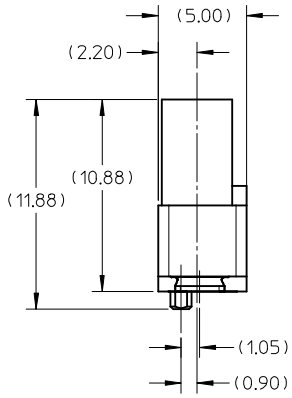
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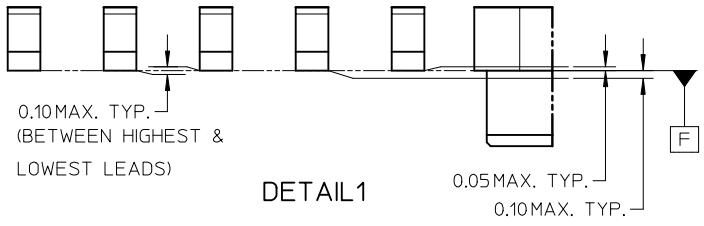



SECTION A-A




DETAIL1

SEE SHEET 6
EC NO: S2009-0661
DRWN:GMENARLY 2009/03/11
CH'KD:CGOH 2009/03/12
APPR:BOKOK 2009/03/13
DESCRIPTION
REV
A2

QUALITY SYMBOLS
▼=0
Ⓒ=0

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: MM ONLY
SCALE: NTS
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

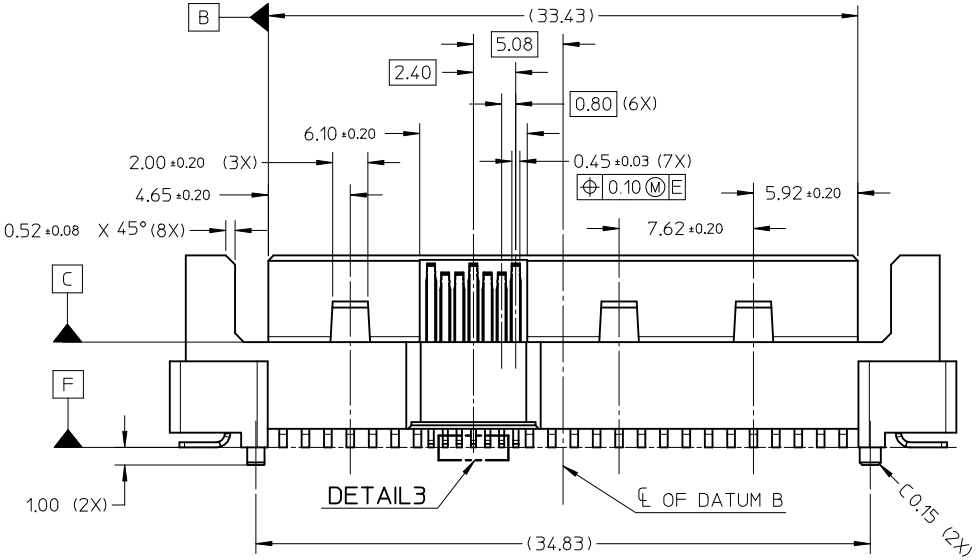
DRAWN BY: CGTAN DATE: 2005/11/10
CHECKED BY: SHONG DATE: 2005/11/24
APPROVED BY: KCLING DATE: 2005/11/24

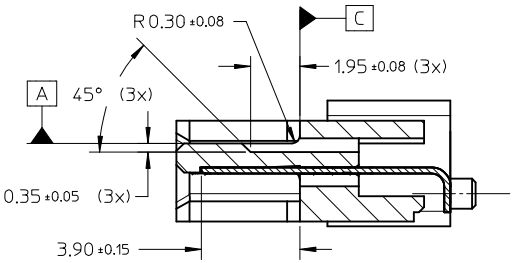
TITLE: SERIAL ATTACH SCSI (SAS) PLUG, VERTICAL MOUNT SMT

MOLEX INCORPORATED

MATERIAL NO.: 78012-0011
DOCUMENT NO.: SD-78012-101
SHEET NO.: 2 OF 6
SIZE: A3

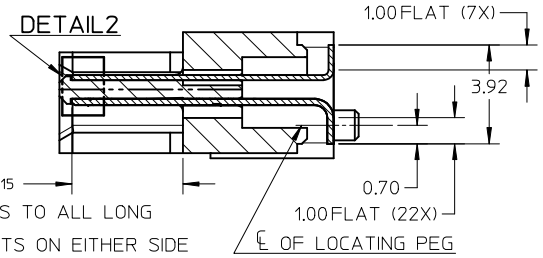
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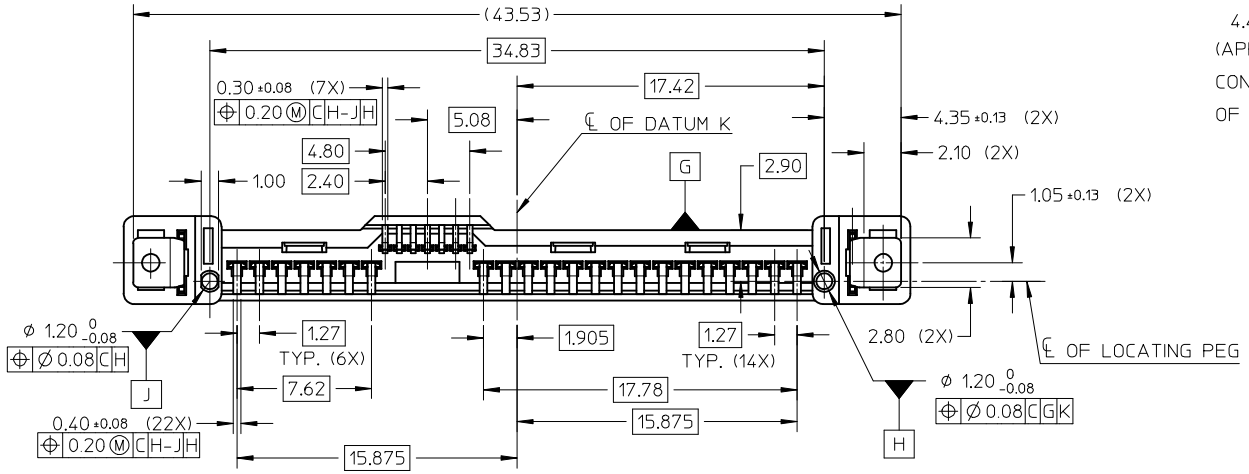

(APPLIES TO ALL SHORT CONTACTS ON EITHER SIDE OF THE NOTED BLADE)

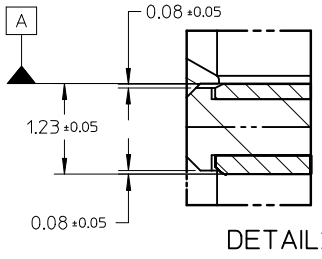
SECTION B-B




(APPLIES TO ALL LONG CONTACTS ON EITHER SIDE OF THE NOTED BLADE)

SECTION C-C




DETAIL2




DETAIL3

SEE SHEET 6
EC NO: S2009-0661 2009/03/11
DRWN:GMENARLY 2009/03/12
CH'KD:CGOH 2009/03/13
APPR:BOKOK
DESCRIPTION
REV
A2

QUALITY SYMBOLS
▼=0
Ⓒ=0

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

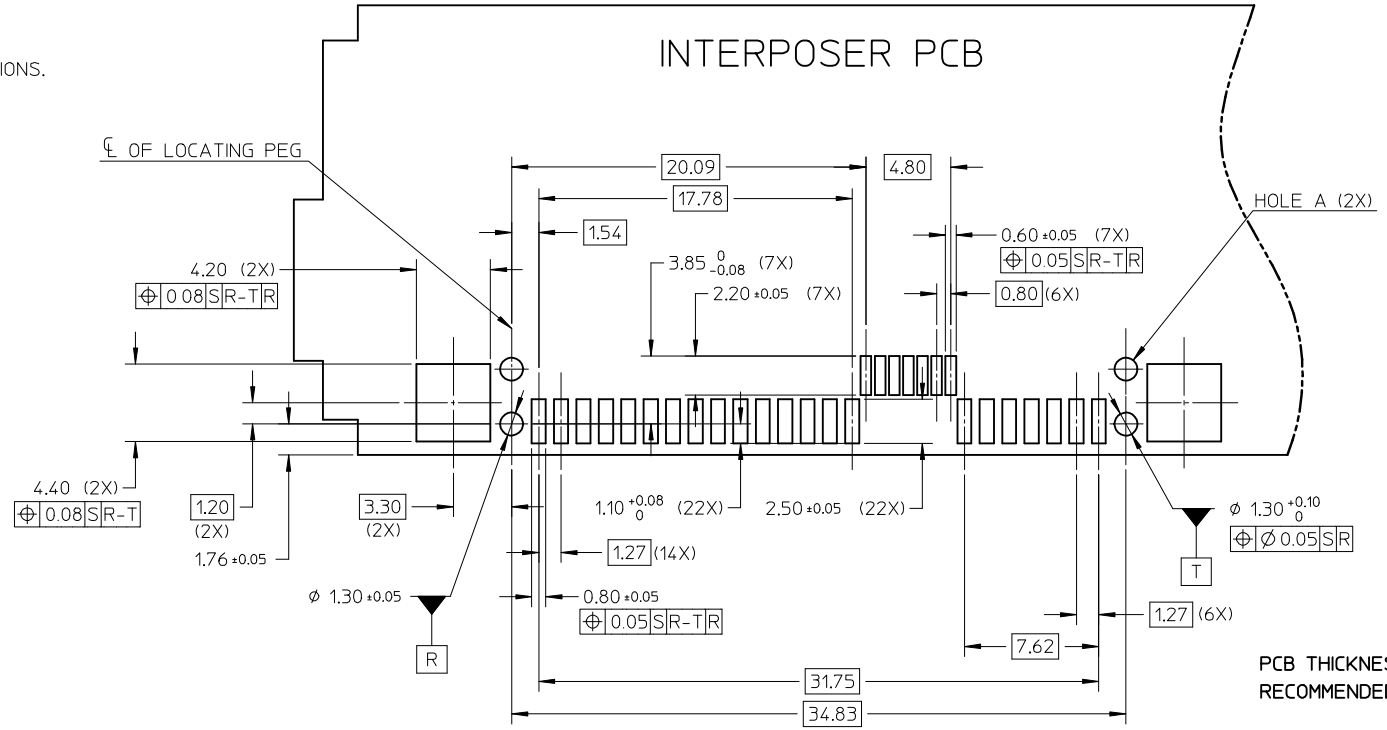
| | |
|---|---|
| DIMENSION STYLE | MM ONLY |
| SCALE | NTS |
| DESIGN UNITS | METRIC |
| | THIRD ANGLE PROJECTION |
| DRAWN BY | CGTAN |
| DATE | 2005/11/10 |
| CHECKED BY | SHONG |
| DATE | 2005/11/24 |
| APPROVED BY | KCLING |
| DATE | 2005/11/24 |
| MATERIAL NO. | 78012-0011 |
| DOCUMENT NO. | SD-78012-101 |
| SHEET NO. | 3 OF 6 |
| SIZE | A3 |

TITLE: SERIAL ATTACH SCSI (SAS) PLUG, VERTICAL MOUNT SMT

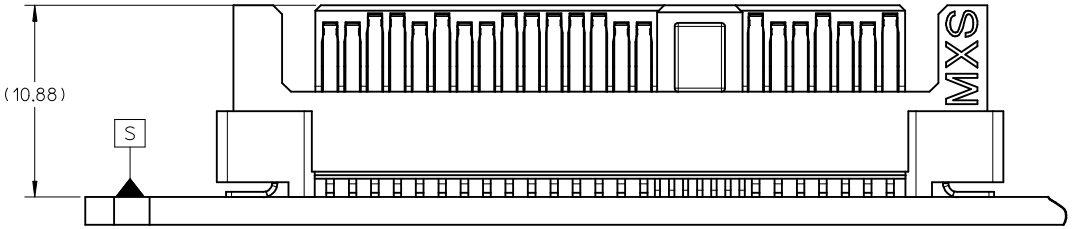
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NOTES:
1. REFER TO SD-78011-101
   FOR HOLES A DETAIL DIMENSIONS.

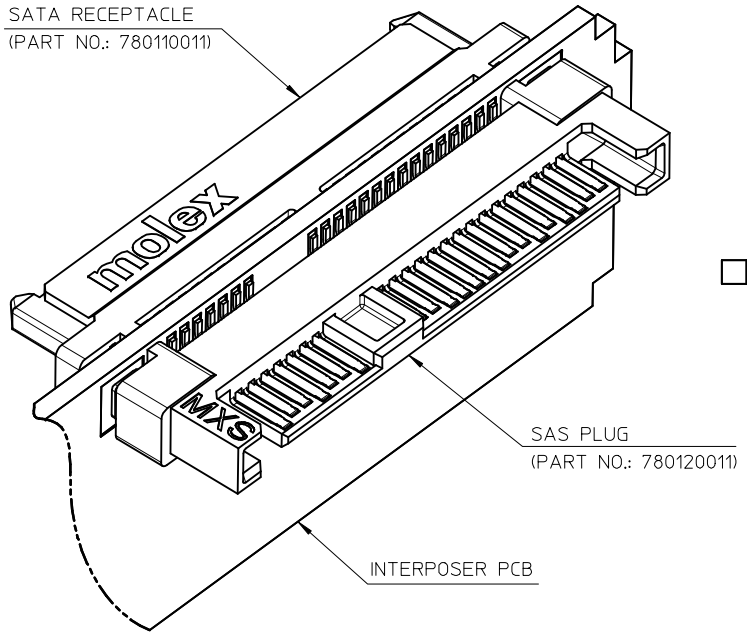



PCB THICKNESS: 1.57mm
RECOMMENDED PCB LAYOUT

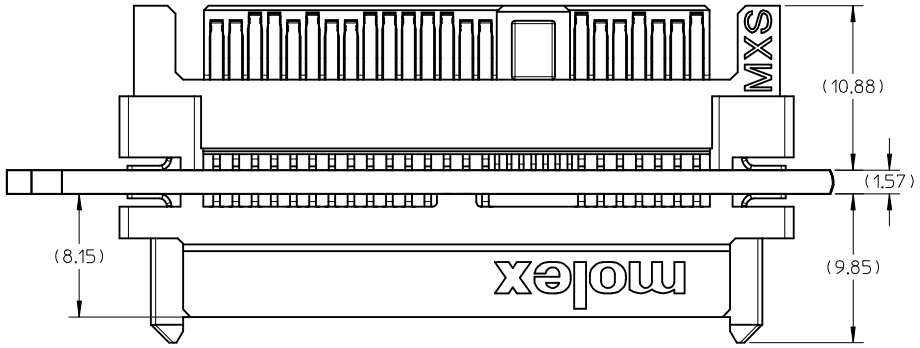



| | | | | | |
|---|---|---|---|---|---|
| SEE SHEET 6 | QUALITY SYMBOLS | GENERAL TOLERANCES (UNLESS SPECIFIED) | | DIMENSION STYLE | SCALE / DESIGN UNITS / PROJECTION |
| EC NO: S2009-0661 2009/03/11 | ▼=0 | | mm / INCH | MM ONLY | NTS / METRIC / THIRD ANGLE PROJECTION |
| DRWN:GMENARLY 2009/03/12 | ▽C=0 | 4 PLACES | ± --- / ± --- | DRAWN BY: CGTAN DATE: 2005/11/10 | TITLE: SERIAL ATTACH SCSI (SAS) PLUG, VERTICAL MOUNT SMT |
| CH'KD:CGOH 2009/03/13 | | 3 PLACES | ± --- / ± --- | CHECKED BY: SHONG DATE: 2005/11/24 | |
| APPR:BOKOK DESCRIPTION | | 2 PLACES | ± 0.20 / ± --- | APPROVED BY: KCLING DATE: 2005/11/24 | molex MOLEX INCORPORATED |
| REV | | 1 PLACE | ± --- / ± --- | MATERIAL NO.: 78012-0011 | DOCUMENT NO.: SD-78012-101 SHEET NO.: 4 OF 6 |
| A2 | | ANGULAR ± 3 ° | | SIZE: A3 | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |
| | | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | | |

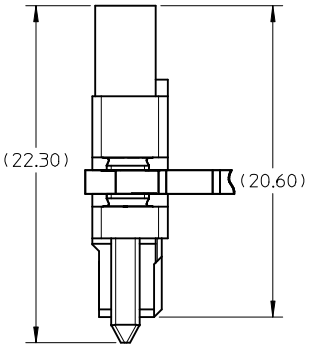
NOTES:
1. APPLICATION AS SHOWN IN SHEET 5/6.
2. REFER TO SD-78011-101 FOR THE DETAILS OF SATA RECEPTACLE.




PARTIAL5




PARTIAL3




PARTIAL4

SEE SHEET 6
EC NO: S2009-0661 2009/03/11
DRWN:GMENARLY 2009/03/12
CH'KD:CGOH 2009/03/13
APPR:BOKOK
DESCRIPTION
REV
A2

QUALITY SYMBOLS
▼=0
Ⓒ=0

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: MM ONLY
SCALE: NTS
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

DRAWN BY: CGTAN DATE: 2005/11/10
CHECKED BY: SHONG DATE: 2005/11/24
APPROVED BY: KCLING DATE: 2005/11/24

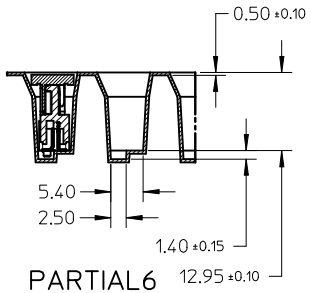
TITLE: SERIAL ATTACH SCSI (SAS) PLUG, VERTICAL MOUNT SMT

MOLEX INCORPORATED

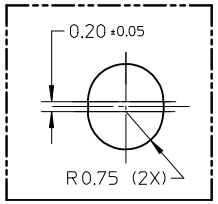
MATERIAL NO.: 78012-0011
DOCUMENT NO.: SD-78012-101
SHEET NO.: 5 OF 6
SIZE: A3

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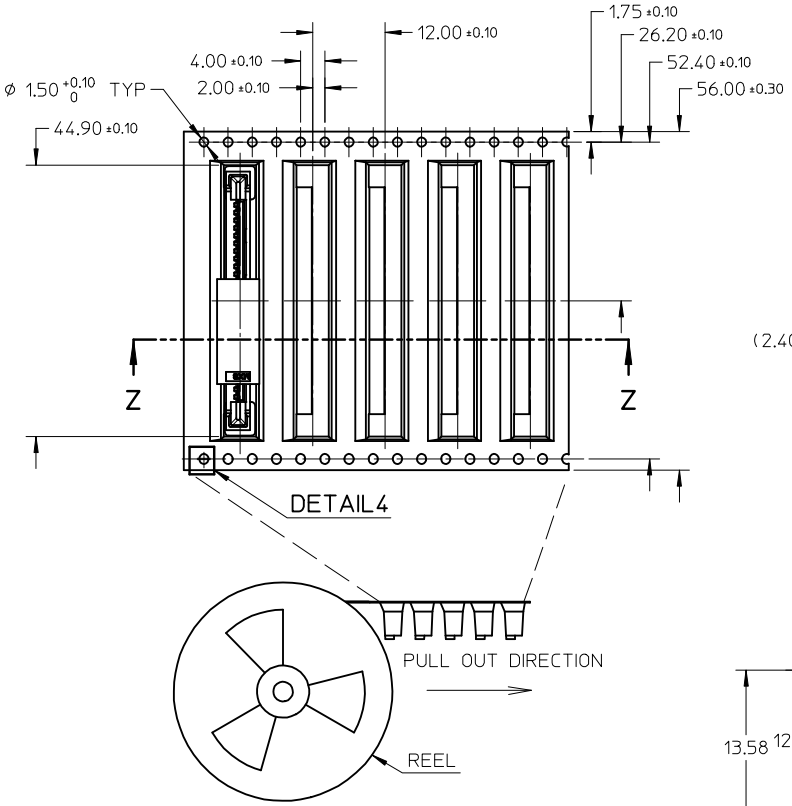
## TAPE & REEL PACKING

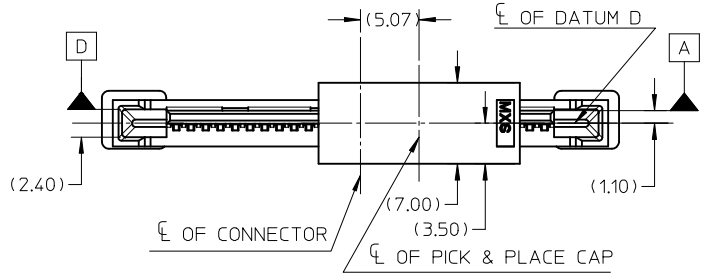


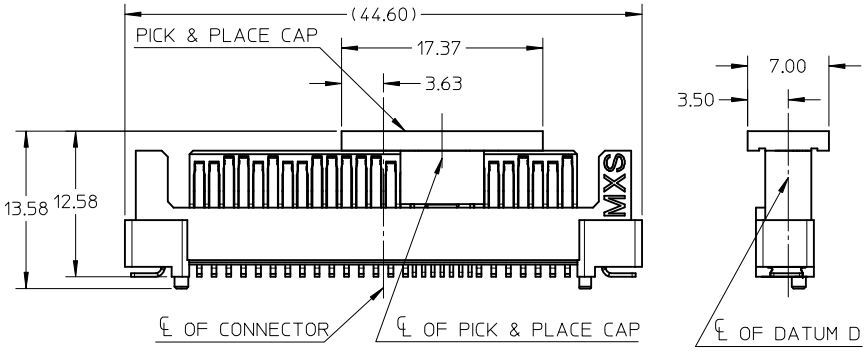

PARTIAL6
SECTION Z-Z




DETAIL4

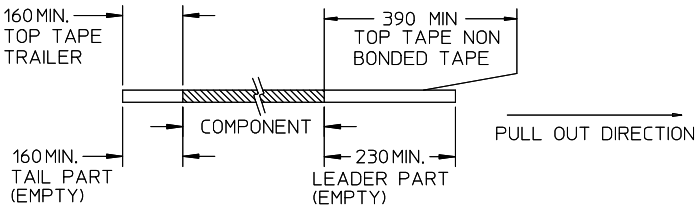


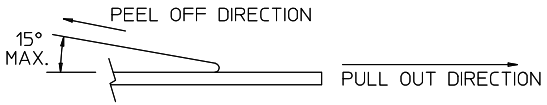




NOTES:

1. LEADER AND TRAILER TAPE




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




3. TAPE AND REEL SPECIFICATION IS AS PER EIA-481.
4. TAPE AND REEL QUANTITY : 250 PCS/ REEL.
5. THE TAPE IS TREATED FOR ANTI-STATIC.

CHANGED T&R QTY
EC NO: S2009-0661
DRWN:GMENARLY 2009/03/11
CH'KD:CGOH 2009/03/12
APPR:BOKOK 2009/03/13
DESCRIPTION
REV
A2

QUALITY SYMBOLS
▼=0
Ⓒ=0

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: MM ONLY
SCALE: NTS
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

DRAWN BY: CGTAN DATE: 2005/11/10
CHECKED BY: SHONG DATE: 2005/11/24
APPROVED BY: KCLING DATE: 2005/11/24

TITLE: SERIAL ATTACH SCSI (SAS) PLUG, VERTICAL MOUNT SMT

MOLEX INCORPORATED

MATERIAL NO.: 78012-0011
DOCUMENT NO.: SD-78012-101
SHEET NO.: 6 OF 6
SIZE: A3

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