

PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION

Part Number: [0022122144](#)
Status: **Active**
Description: 2.54mm (.100") Pitch KK® Solid Header, Right Angle, with Friction Lock, 14 Circuits, 0.51µm (20µ") Gold (Au) Plating

Documents:

[3D Model](#) [Product Specification PS-10-07 \(PDF\)](#)
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)

Agency Certification

CSA LR19980
 UL E29179

General

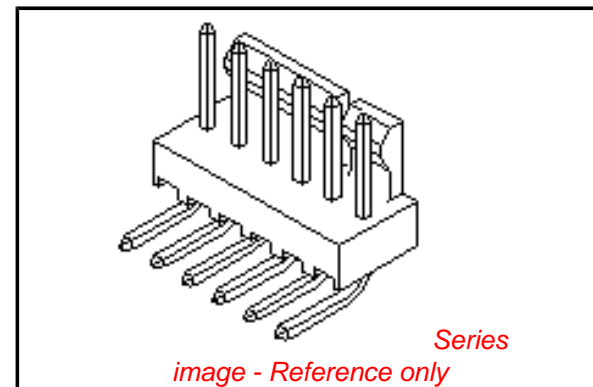
Product Family PCB Headers
 Series [7478](#)
 Application Wire-to-Board
 Product Name KK®

Physical

Breakaway No
 Circuits (Loaded) 14
 Circuits (maximum) 14
 Color - Resin Natural (White)
 Durability (mating cycles max) 50
 Flammability 94V-0
 Glow-Wire Compliant No
 Lock to Mating Part Yes
 Material - Metal Brass
 Material - Plating Mating Gold
 Material - Plating Termination Gold
 Material - Resin Nylon
 Number of Rows 1
 Orientation Right Angle
 PC Tail Length (in) 0.141 In
 PC Tail Length (mm) 3.58 mm
 PCB Locator No
 PCB Retention None
 PCB Thickness Recommended (in) 0.062 In
 PCB Thickness Recommended (mm) 1.60 mm
 Packaging Type Bag
 Pitch - Mating Interface (in) 0.100 In
 Pitch - Mating Interface (mm) 2.54 mm
 Plating min: Mating (µin) 20
 Plating min: Mating (µm) 0.5
 Plating min: Termination (µin) 20
 Plating min: Termination (µm) 0.5
 Polarized to Mating Part Yes
 Polarized to PCB Yes
 Shrouded Partial
 Stackable Yes
 Temperature Range - Operating 0°C to +75°C
 Termination Interface: Style Through Hole

Electrical

Current - Maximum per Contact 4A



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

[7478Series](#)

Mates With

[2695](#) , [6471](#) , [7880](#) , [4455](#) , [7720](#)

Voltage - Maximum 250V

Solder Process Data

Duration at Max. Process Temperature (seconds) 5
Lead-free Process Capability Wave Capable (TH only)
Max. Cycles at Max. Process Temperature 1
Process Temperature max. C 235

Material Info

Old Part Number A-7478-14A501

Reference - Drawing Numbers

Product Specification PS-10-07, RPS-6373-001
Sales Drawing SDA-7478

This document was generated on 04/12/2010

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| | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|----|----------------------------------|--------------------------------|------------------|---|---|---|---|---|---|---|---|---|
| J | 28 | (71.12 / 70.61) 2.800 / 2.780 | (68.58 ± 0.25) 2.700 ± .010 | 4 , 5 24 , 25 | | | | | | | | | |
| | 27 | (68.58 / 68.07) 2.700 / 2.680 | (66.04 ± 0.25) 2.600 ± .010 | 4 , 5 24 , 25 | | | | | | | | | |
| | 26 | (66.04 / 65.53) 2.600 / 2.580 | (63.50 ± 0.25) 2.500 ± .010 | 4 , 5 20 , 21 | | | | | | | | | |
| | 25 | (63.50 / 62.99) 2.500 / 2.480 | (60.96 ± 0.25) 2.400 ± .010 | 4 , 5 20 , 21 | | | | | | | | | |
| I | 24 | (60.96 / 60.45) 2.400 / 2.380 | (58.42 ± 0.25) 2.300 ± .010 | 4 , 5 20 , 21 | | | | | | | | | |
| | 23 | (58.42 / 57.96) 2.300 / 2.282 | (55.88 ± 0.23) 2.200 ± .009 | 4 , 5 20 , 21 | | | | | | | | | |
| | 22 | (55.88 / 55.42) 2.200 / 2.182 | (53.34 ± 0.23) 2.100 ± .009 | 4 , 5 16 , 17 | | | | | | | | | |
| | 21 | (53.34 / 52.88) 2.100 / 2.082 | (50.80 ± 0.23) 2.000 ± .009 | 4 , 5 16 , 17 | | | | | | | | | |
| H | 20 | (50.80 / 50.34) 2.000 / 1.982 | (48.26 ± 0.23) 1.900 ± .009 | 4 , 5 16 , 17 | | | | | | | | | |
| | 19 | (48.26 / 47.80) 1.900 / 1.882 | (45.72 ± 0.23) 1.800 ± .009 | 4 , 5 16 , 17 | | | | | | | | | |
| | 18 | (45.72 / 45.31) 1.800 / 1.784 | (43.18 ± 0.20) 1.700 ± .008 | 4 , 5 12 , 13 | | | | | | | | | |
| G | 17 | (43.18 / 42.77) 1.700 / 1.684 | (40.64 ± 0.20) 1.600 ± .008 | 4 , 5 12 , 13 | | | | | | | | | |
| | 16 | (40.64 / 40.23) 1.600 / 1.584 | (38.10 ± 0.20) 1.500 ± .008 | 4 , 5 12 , 13 | | | | | | | | | |
| | 15 | (38.10 / 37.69) 1.500 / 1.484 | (35.56 ± 0.20) 1.400 ± .008 | 4 , 5 12 , 13 | | | | | | | | | |
| F | 14 | (35.56 / 35.20) 1.400 / 1.386 | (33.02 ± 0.18) 1.300 ± .007 | 4 , 5 8 , 9 | | | | | | | | | |
| | 13 | (33.02 / 32.66) 1.300 / 1.286 | (30.48 ± 0.18) 1.200 ± .007 | 4 , 5 8 , 9 | | | | | | | | | |
| | 12 | (30.48 / 30.12) 1.200 / 1.186 | (27.94 ± 0.18) 1.100 ± .007 | 4 , 5 8 , 9 | | | | | | | | | |
| E | 11 | (27.94 / 27.58) 1.100 / 1.086 | (25.40 ± 0.18) 1.000 ± .007 | 4 , 5 8 , 9 | | | | | | | | | |
| | 10 | (25.40 / 25.04) 1.000 / .986 | (22.86 ± 0.15) .900 ± .006 | 4 , 5 | | | | | | | | | |
| | 9 | (22.86 / 22.50) .900 / .886 | (20.32 ± 0.15) .800 ± .006 | 4 , 5 | | | | | | | | | |
| D | 8 | (20.32 / 19.96) .800 / .786 | (17.78 ± 0.15) .700 ± .006 | 4 , 5 | | | | | | | | | |
| | 7 | (17.78 / 17.42) .700 / .686 | (15.24 ± 0.13) .600 ± .005 | 4 , 5 | | | | | | | | | |
| | 6 | (15.24 / 14.88) .600 / .586 | (12.70 ± 0.13) .500 ± .005 | 4 , 5 | | | | | | | | | |
| | 5 | (12.70 / 12.40) .500 / .488 | (10.16 ± 0.13) .400 ± .005 | NONE | | | | | | | | | |
| C | 4 | (10.16 / 9.86) .400 / .388 | (7.62 ± 0.13) .300 ± .005 | NONE | | | | | | | | | |
| | 3 | (7.62 / 7.32) .300 / .288 | (5.08 ± 0.10) .200 ± .004 | NONE | | | | | | | | | |
| | 2 | (5.08 / 4.78) .200 / .188 | (2.54 ± 0.05) .100 ± .002 | NONE | | | | | | | | | |



CTKT. #1, REF SEE NOTE 7

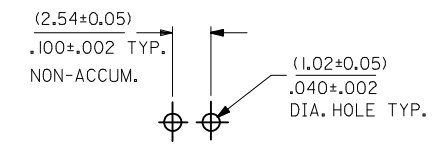
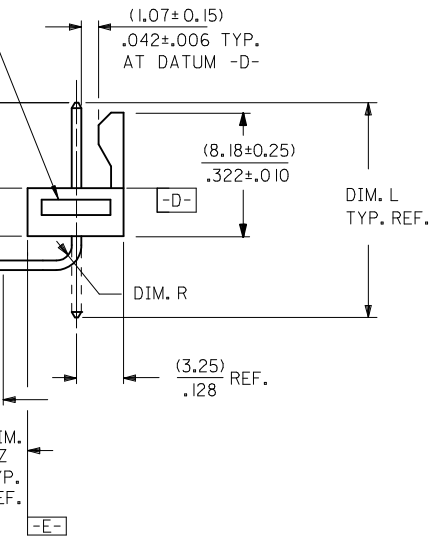
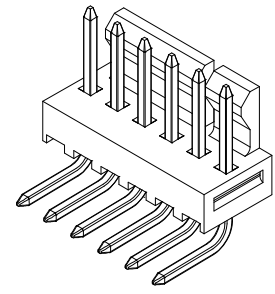
SLOTS LOCATED BETWEEN CIRCUITS (SEE CHART)

CENTERLINE OF PIN IN AREA SHOWN NOT TO VARY FROM CENTERLINE OF PIN AT DATUM -D- BY MORE THAN (0.20)/.008 IN ANY DIRECTION

GROOVE MAY BE PRESENT ON 2-6 CIRCUIT PARTS (BOTH SIDES).

CENTERLINE OF PIN IN AREA SHOWN NOT TO VARY FROM CENTERLINE OF PIN AT DATUM -E- BY MORE THAN (0.13)/.005 IN ANY DIRECTION

| SECONDARY OPERATIONS | |
|----------------------|-----------------------|
| CODE | PACKAGE |
| BLANK | BULK PK-7478-001 |
| T | TUBE PER PK-44743-001 |



RECOMMENDED P.C. BOARD HOLE LAYOUT

NOTES:

- MATERIAL: NYLON, UL94V-0, COLOR: WHITE
- FINISH:
 - (102) - OVERALL TIN: (0.00508)/.000200 MIN., OVERALL COPPER UNDERPLATE: (0.00254)/.000100 MIN.
 - (154) - OVERALL TIN: (0.00254)/.000100 MIN., OVERALL NICKEL UNDERPLATE: (0.00127)/.000050 MIN.
 - (501) - OVERALL GOLD: (0.00051)/.000020 MIN., OVERALL NICKEL UNDERPLATE: (0.00076)/.000030 MIN.
 - (503) - OVERALL GOLD: (0.00076)/.000030 MIN., OVERALL NICKEL UNDERPLATE: (0.00127)/.000050 MIN.
 - (531) - OVERALL GOLD: (0.00038)/.000015 MIN., OVERALL NICKEL UNDERPLATE: (0.00076)/.000030 MIN.
- PARTS CONFORM TO PRODUCT SPECIFICATION PS-10-07.
- PACKAGING INFORMATION: SEE LEGEND.
- PARTS ARE STACKABLE END TO END ON (2.54)/.100 CENTERS.
- PIN PUSH OUT FORCE: 2 LBS. MIN.
- CIRCUIT ONE DESIGNATION IS USED TO DEFINE VOID LOCATION. CIRCUIT ONE MAY OR MAY NOT LINE UP WITH CIRCUIT ONE ON THE MATING HOUSING.
- THIS PART CONFORMS TO CLASS B REQUIREMENTS OF COSMETIC SPECIFICATION PS-45499-002.

A-7478-N***
NO. OF CKTS.
VERSION LETTER CHANGES WHEN PIN NO. OR PRESS DIM. CHANGES

PLATING SEE NOTE 2

| | |
|-----|-----|
| 7 | Y4 |
| 6 | W1 |
| 5 | Y8 |
| 4 | Y7 |
| 3 | Y9 |
| 2 | Y9 |
| 1 | Z |
| SHT | REV |

| | | | |
|--------------|---------------------|------------|-----------------|
| ADD GROOVE | EC NO: UCP2009-0785 | 2008/12/29 | QUALITY SYMBOLS |
| DRWN:MKIPPER | 2009/01/30 | | ▽=0 |
| CHKD:SSOUSEK | 2009/01/30 | | ▽=0 |
| APPR:FSMITH | 2009/01/30 | | |
| REV | | | |

| GENERAL TOLERANCES (UNLESS SPECIFIED) | |
|---------------------------------------|--------|
| | MM/IN |
| 4 PLACES ± | ± .010 |
| 3 PLACES ± | ± .010 |
| 2 PLACES ± | ± .015 |
| 1 PLACE ± | ± .038 |
| ANGULAR ±1/2° | |

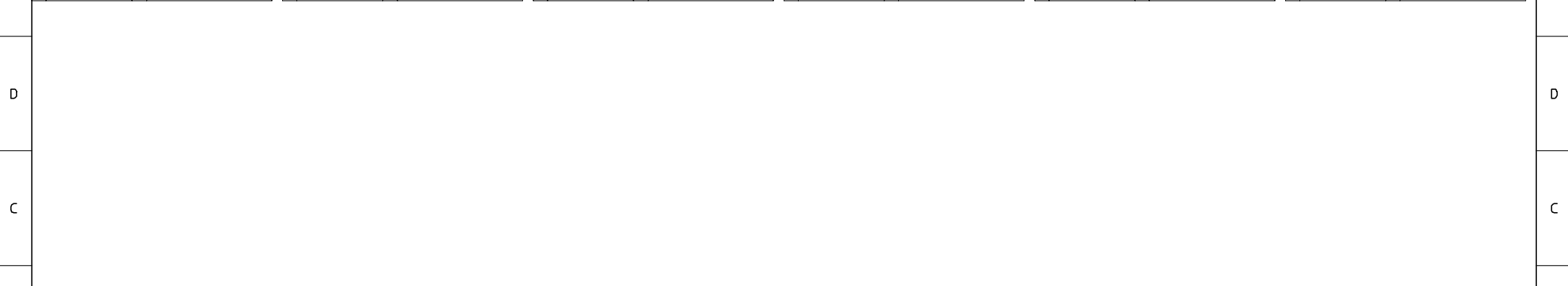
| DIMENSION STYLE | | SCALE | DESIGN UNITS | THIRD ANGLE PROJECTION |
|-----------------|------------|--------------------------|--------------|------------------------|
| MM/IN | | 4:1 | INCH | |
| DRAWN BY | DATE | TITLE | | |
| GUZIC | 1987/07/30 | FRICTION LOCK HEADER ASY | | |
| CHECKED BY | DATE | .100 CL BENT SQ PINS | | |
| PATEL | 1987/07/30 | 7478 SERIES DWG | | |
| APPROVED BY | DATE | MOLEX INCORPORATED | | |
| LENZ | 1987/07/30 | DOCUMENT NO. SDA-7478 | | |
| MATERIAL NO. | SEE CHART | SHEET NO. 1 OF 7 | | |

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

| | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | |
|---|---------------|----------------|-----------------|----------------|----------------|----------------|--------|----------------|----------|---------|--------|--------|--------|--------|--------|--------|---|
| J | ENG. NO. | PIN NO. | DIM. L | DIM. X | DIM. Z | DIM. Y | DIM. W | DIM. R | ENG. NO. | PIN NO. | DIM. L | DIM. X | DIM. Z | DIM. Y | DIM. W | DIM. T | J |
| | A-7478-NA102 | 2766-41(I102) | (18.69) .736 | (6.60) .260 | (3.58) .141 | (3.05) .120 | 90° | (1.17) .046 | | | | | | | | | |
| | A-7478-NA50I | 2766-41(I50I) | (18.69) .736 | (6.60) .260 | (3.58) .141 | (3.05) .120 | 90° | (1.17) .046 | | | | | | | | | |
| I | A-7478-NA50IT | 2766-41(I50IT) | (18.69) .736 | (6.60) .260 | (3.58) .141 | (3.05) .120 | 90° | (1.17) .046 | | | | | | | | | I |
| | A-7478-NA102T | 2766-41(I102T) | (18.69) .736 | (6.60) .260 | (3.58) .141 | (3.05) .120 | 90° | (1.17) .046 | | | | | | | | | |
| H | | | | | | | | | | | | | | | | | H |
| G | | | | | | | | | | | | | | | | | G |
| F | | | | | | | | | | | | | | | | | F |
| E | | | | | | | | | | | | | | | | | E |
| D | | | | | | | | | | | | | | | | | D |
| C | | | | | | | | | | | | | | | | | C |

| | | | | | | | | | | | |
|---|---|-------------------------------|--|----------------------|--------------------------|---------------------|--------------------------|----------------------|------------------------|---------------------|--|
| B | ADD A-7478-NA102T EC NO: UCP2006-1815 DRAWN: ADERR 2006/02/06 CHKD: AELHAG 2006/02/06 APPR: FSM TH 2006/02/09 | QUALITY SYMBOLS ▽=0 ▽=0 | GENERAL TOLERANCES (UNLESS SPECIFIED) | | DIMENSION STYLE IN/MM | | SCALE --- | DESIGN UNITS INCH | THIRD ANGLE PROJECTION | | TITLE FRICTION LOCK HEADER ASY .100 CL BENT SQ PINS 7478 SERIES DWG molex MOLEX INCORPORATED |
| | | | 4 PLACES ± --- ± --- | 3 PLACES ± --- ± --- | 2 PLACES ± --- ± --- | 1 PLACE ± --- ± --- | ANGULAR ± --- ° | DRAWN BY GUZIK | DATE 1987/07/10 | CHECKED BY PATEL | |
| A | Y9 | | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | SEE CHART | | DOCUMENT NO. SDA-7478 | | SHEET NO. 2 OF 7 | | |

| | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |
|---|--------------|-----------------|--------------|-----------------|---------------|----------------|---------------|---------------|----------|----------|----------|----------|----------|----------|
| | A-7478-NA102 | | A-7478-NA501 | | A-7478-NA501T | | A-7478-NA102T | | | | | | | |
| J | PART NO. | ENG. NO. | PART NO. | ENG. NO. | PART NO. | ENG. NO. | PART NO. | ENG. NO. | PART NO. | ENG. NO. | PART NO. | ENG. NO. | PART NO. | ENG. NO. |
| | 22-05-3021 | * A-7478-2A102 | 22-12-2024 | * A-7478-2A501 | 50-29-1710 | A-7478-2A501T | 50-34-8500 | A-7478-2A102T | | | | | | |
| | 22-05-3031 | * A-7478-3A102 | 22-12-2034 | * A-7478-3A501 | 50-29-1711 | A-7478-3A501T | 50-34-8501 | A-7478-3A102T | | | | | | |
| | 22-05-3041 | * A-7478-4A102 | 22-12-2044 | * A-7478-4A501 | 50-29-1705 | A-7478-4A501T | 50-34-8502 | A-7478-4A102T | | | | | | |
| I | 22-05-3051 | * A-7478-5A102 | 22-12-2054 | * A-7478-5A501 | 50-29-1712 | A-7478-5A501T | | | | | | | | |
| | 22-05-3061 | * A-7478-6A102 | 22-12-2064 | * A-7478-6A501 | 50-29-1713 | A-7478-6A501T | | | | | | | | |
| | 22-05-3071 | * A-7478-7A102 | 22-12-2074 | * A-7478-7A501 | 50-29-1714 | A-7478-7A501T | | | | | | | | |
| | 22-05-3081 | * A-7478-8A102 | 22-12-2084 | * A-7478-8A501 | 50-29-1715 | A-7478-8A501T | | | | | | | | |
| | 22-05-3091 | * A-7478-9A102 | 22-12-2094 | * A-7478-9A501 | 50-29-1716 | A-7478-9A501T | | | | | | | | |
| H | 22-05-3101 | * A-7478-10A102 | 22-12-2104 | * A-7478-10A501 | 50-29-1717 | A-7478-10A501T | | | | | | | | |
| | 22-05-3111 | * A-7478-11A102 | 22-12-2114 | * A-7478-11A501 | 50-29-1718 | A-7478-11A501T | | | | | | | | |
| | 22-05-3121 | * A-7478-12A102 | 22-12-2124 | * A-7478-12A501 | 50-29-1719 | A-7478-12A501T | | | | | | | | |
| | 22-05-3131 | * A-7478-13A102 | 22-12-2134 | * A-7478-13A501 | 50-29-1720 | A-7478-13A501T | | | | | | | | |
| | 22-05-3141 | * A-7478-14A102 | 22-12-2144 | * A-7478-14A501 | 50-29-1721 | A-7478-14A501T | | | | | | | | |
| | 22-05-3151 | * A-7478-15A102 | 22-12-2154 | * A-7478-15A501 | 50-29-1722 | A-7478-15A501T | | | | | | | | |
| G | 22-05-3161 | * A-7478-16A102 | 22-12-2164 | * A-7478-16A501 | 50-29-1723 | A-7478-16A501T | | | | | | | | |
| | 22-05-3171 | * A-7478-17A102 | 22-12-2174 | * A-7478-17A501 | 50-29-1724 | A-7478-17A501T | | | | | | | | |
| | 22-05-3181 | * A-7478-18A102 | 22-12-2184 | * A-7478-18A501 | 50-29-1725 | A-7478-18A501T | | | | | | | | |
| | 22-05-3191 | * A-7478-19A102 | 22-12-2194 | * A-7478-19A501 | 50-29-1726 | A-7478-19A501T | | | | | | | | |
| | 22-05-3201 | * A-7478-20A102 | 22-12-2204 | * A-7478-20A501 | 50-29-1727 | A-7478-20A501T | | | | | | | | |
| | 22-05-3211 | * A-7478-21A102 | 22-12-2214 | * A-7478-21A501 | 50-29-1728 | A-7478-21A501T | | | | | | | | |
| F | 22-05-3221 | * A-7478-22A102 | 22-12-2224 | * A-7478-22A501 | 50-29-1729 | A-7478-22A501T | | | | | | | | |
| | 22-05-3231 | * A-7478-23A102 | 22-12-2234 | * A-7478-23A501 | 50-29-1730 | A-7478-23A501T | | | | | | | | |
| | 22-05-3241 | * A-7478-24A102 | 22-12-2244 | * A-7478-24A501 | 50-29-1731 | A-7478-24A501T | | | | | | | | |
| | 22-05-3251 | * A-7478-25A102 | 22-12-2254 | * A-7478-25A501 | 50-29-1732 | A-7478-25A501T | | | | | | | | |
| | 22-05-3261 | * A-7478-26A102 | 22-12-2264 | * A-7478-26A501 | 50-29-1733 | A-7478-26A501T | | | | | | | | |
| E | 22-05-3271 | * A-7478-27A102 | 22-12-2274 | * A-7478-27A501 | 50-29-1734 | A-7478-27A501T | | | | | | | | |
| | 22-05-3281 | * A-7478-28A102 | 22-12-2284 | * A-7478-28A501 | 50-29-1735 | A-7478-28A501T | | | | | | | | |



| ADD P/N'S EC NO: UCP2006-1815 DRAWN:ADERR CHKD:AEI/HAG APPR:FSM/TH Y9 | DESCRIPTION 2006/02/06 2006/02/06 2006/02/09 | QUALITY SYMBOLS = 0.05 = 0.1 | GENERAL TOLERANCES (UNLESS SPECIFIED) <table border="1"> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> <tr> <td>4 PLACES</td> <td>± ---</td> <td>± ---</td> </tr> <tr> <td>3 PLACES</td> <td>± ---</td> <td>± ---</td> </tr> <tr> <td>2 PLACES</td> <td>± ---</td> <td>± ---</td> </tr> <tr> <td>1 PLACE</td> <td>± ---</td> <td>± ---</td> </tr> </table> | | mm | INCH | 4 PLACES | ± --- | ± --- | 3 PLACES | ± --- | ± --- | 2 PLACES | ± --- | ± --- | 1 PLACE | ± --- | ± --- | DIMENSION STYLE IN/MM | SCALE --- | DESIGN UNITS INCH | THIRD ANGLE PROJECTION |
|--|---|------------------------------------|--|---|--------------------------|---------------------|----------|-------|-------|----------|-------|-------|----------|-------|-------|---------|-------|-------|--------------------------|--------------|----------------------|------------------------|
| | | | mm | INCH | | | | | | | | | | | | | | | | | | |
| | | 4 PLACES | ± --- | ± --- | | | | | | | | | | | | | | | | | | |
| | | 3 PLACES | ± --- | ± --- | | | | | | | | | | | | | | | | | | |
| 2 PLACES | ± --- | ± --- | | | | | | | | | | | | | | | | | | | | |
| 1 PLACE | ± --- | ± --- | | | | | | | | | | | | | | | | | | | | |
| | | DRAWN BY GUZIK | DATE 1987/07/10 | TITLE FRICTION LOCK HEADER ASY .100 CL BENT SQ PINS 7478 SERIES DWG. | | | | | | | | | | | | | | | | | | |
| | | CHECKED BY PATEL | DATE 1987/07/10 | MOLEX INCORPORATED | | | | | | | | | | | | | | | | | | |
| | | APPROVED BY LENZ | DATE 1987/07/10 | MATERIAL NO. SEE CHART | DOCUMENT NO. SDA-7478 | SHEET NO. 3 OF 7 | | | | | | | | | | | | | | | | |