Jameco Part Number 800235

## FEATURES AND SPECIFICATIONS

# Modular Jack

# 43202

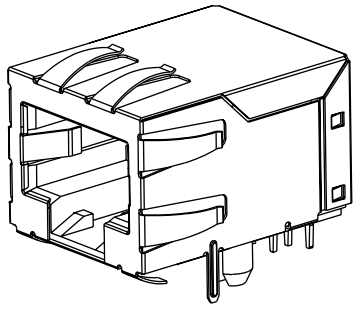
# Right Angle, Low Profile Shielded and Unshielded Versions

***Features and Benefits***
- Ultra low profile
- Enhanced panel grounding tabs on shielding RJ-45 configuration
- Enclosed top
- Surface Mount Compatible materials
- Pin through paste solderability
- 100% tested for hi-pot and continuity

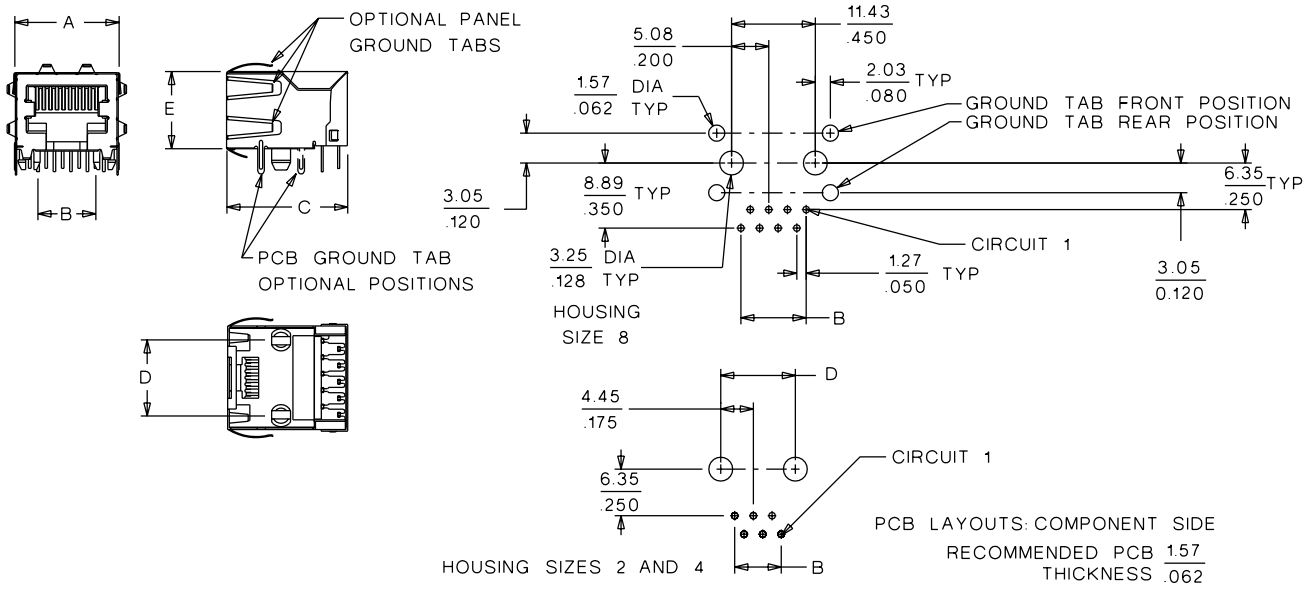
***Reference Information***
Product Specification: PSX-43202
Packaging: Tray
UL File No.: E107635
CSA File No.: LR19980
Use with: FCC 68 Plugs
Designed in: Inches

***Electrical***
Voltage: 125V
Current: 1.5A
Contact Resistance: 10mΩ max.
Dielectric Withstanding Voltage: 1000V AC
Insulation Resistance: 500 MΩ min.
Mechanical Durability: 500 Cycles min.

***Physical***
Housing: Black glass-filled nylon, UL 94V-0
Contact: Phosphor Bronze
Plating: Contact Area—Post plate 1.27 to 1.52µm (50 to 60µ") Gold
Tail Area—1.90µm (75µ") min. Tin/Lead
Underplating—Nickel
Operating Temperature: -40 to +85°C



## CATALOG DRAWING (FOR REFERENCE ONLY)




## ORDERING INFORMATION AND DIMENSIONS

| Circuits | Loaded Contacts | Shield Panel Ground Tab Option | Order No. | | | Dimension | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unshielded | Shielded | | A | B | C | D | E |
| | | | | Front Position PCB Ground Tab | Rear Position PCB Ground Tab | | | | | |
| 4 | 2 | | 43202-4104 | | | 11.18 (.440) | 1.27 (.050) | 18.03 (.710) | 7.62 (.300) | 11.58 (.456) |
| | 4 | | 43202-4101 | | | 11.18 (.440) | 3.81 (.150) | 18.03 (.710) | 7.62 (.300) | 11.58 (.456) |
| 6 | 2 | | 43202-6107 | | | 13.21 (.520) | 1.27 (.050) | 18.03 (.710) | 10.16 (400) | 11.58 (.456) |
| | 4 | | 43202-6104 | | | 13.21 (.520) | 3.81 (.150) | 18.03 (.710) | 10.16 (.400) | 11.58 (.456) |
| | 6 | | 43202-6101 | | | 13.21 (.520) | 6.35 (.250) | 18.03 (.710) | 10.16 (.400) | 11.58 (.456) |
| 8 | 8 | | 43202-8104 | | | 15.24 (.600) | 8.89 (.350) | 18.03 (.710) | 11.43 (.450) | 11.58 (.456) |
| | 8 | All Panel Ground Tabs | | 43202-8919 | 43202-8927 | 15.85 (.624) | 8.89 (.350) | 18.39 (.724) | 11.43 (.450) | 12.09 (.476) |
| | 8 | Offset Panel Ground Tabs | | 43202-8918 | 43202-8926 | 15.85 (.624) | 8.89 (.350) | 18.39 (.724) | 11.43 (.450) | 12.09 (.476) |
| | 8 | Top Panel Ground Tabs | | 43202-8917 | 43202-8925 | 15.85 (.624) | 8.89 (.350) | 18.39 (.724) | 11.43 (.450) | 12.09 (.476) |
| | 8 | No Panel Ground Tabs | | 43202-8916 | 43202-8924 | 15.85 (.624) | 8.89 (.350) | 18.39 (.724) | 11.43 (.450) | 12.09 (.476) |
| | 10 | | 43202-8101 | | | 15.24 (.600) | 11.43 (.450) | 18.03 (.710) | 11.43 (.450) | 11.58 (.456) |
| | 10 | All Panel Ground Tabs | | 43202-8903 | 43202-8911 | 15.85 (.624) | 11.43 (.450) | 18.39 (.724) | 11.43 (.450) | 12.09 (.476) |
| | 10 | Offset Panel Ground Tabs | | 43202-8902 | 43202-8910 | 15.85 (.624) | 11.43 (.450) | 18.39 (.724) | 11.43 (.450) | 12.09 (.476) |
| | 10 | Top Panel Ground Tabs | | 43202-8901 | 43202-8909 | 15.85 (.624) | 11.43 (.450) | 18.39 (.724) | 11.43 (.450) | 12.09 (.476) |
| | 10 | No Panel Ground Tabs | | 43202-8900 | 43202-8908 | 15.85 (.624) | 11.43 (.450) | 18.39 (.724) | 11.43 (.450) | 12.09 (.476) |

# PRODUCT SPECIFICATION

## ULTRA LOW PROFILE RIGHT ANGLE MODULAR JACKS

### 1.0 SCOPE

This Product Specification covers the 1.27 mm (.050 inch) centerline (pitch) printed circuit board (PCB) modular jack connector series with selective gold and tin-lead plating.

### 2.0 PRODUCT DESCRIPTION

#### 2.1 PRODUCT NAME AND SERIES NUMBER(S)

Ultra Low Profile Right Angle Modular Jacks 43202, 44796

#### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawings (SDA-43202, SDA-44796-001) for information on dimensions, materials, plating and markings.

#### 2.3 SAFETY AGENCY APPROVALS

UL File Number……E107635
CSA File Number……..LR19980

### 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

FCC Rules and Regulations, Part 68, Subpart F
REA Bulletin 345-81, PE-76; Specification for modular telephone set hardware
ANSI/EIA/TIA-568
IEC-60603-7
UL 1863
MIL-STD-202; General requirements for test specifications

### 4.0 RATINGS

#### 4.1 VOLTAGE

56.5 V DC
150 $V_{RMS}$ AC (Ringing voltage only)

#### 4.2 CURRENT

1.5 Amps @ 25°C

#### 4.3 TEMPERATURE

Operating: - 40°C to + 70°C

## 5.0 PERFORMANCE

### 5.1 ELECTRICAL REQUIREMENTS

| | DESCRIPTION | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| | **Contact Resistance (Low Level)** | Mate connectors: apply a maximum voltage of **20** mV and a current of **15** mA. (Measurement locations in Section 7.0) | **10** milliohms MAXIMUM [initial] |
| | **Insulation Resistance** | Unmated connector, mounted to a PCB: apply a voltage of **500** VDC between adjacent terminals and between terminals to ground. | **500** Megohms MINIMUM |
| | **Dielectric Withstanding Voltage** | Mate connectors: apply a voltage of **1000** VAC for **1** minute between adjacent terminals and between terminals to ground. | No breakdown; current leakage < **5** mA |
| | **Temperature Rise** | Mate connectors: measure the temperature rise at the rated current after: **96** hours | Temperature rise; **+30**°C MAXIMUM |

### 5.2 MECHANICAL REQUIREMENTS

| | DESCRIPTION | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| | **Connector Mate Force** | Mate connector at a rate of **25 ± 6** mm (**1 ± ¼** inch) per minute. (Gage dimensions in Section 7.0) | **22** N (**5** lbf) MAXIMUM insertion force |
| | **Durability** | Mate connectors up to **500** cycles at a maximum rate of **20** cycles per minute prior to Environmental Tests. | **10** milliohms MAXIMUM (change from initial) |
| | **Vibration (Random)** | Mate connectors and vibrate per MIL-STD-202 | **10** milliohms MAXIMUM (change from initial) & Discontinuity < **1** microsecond |
| | **Plug Retention Force** | Apply an axial pullout force on the plug at a rate of **25 ± 6** mm (**1 ± ¼** inch). | **89** N (**20** lbf) MINIMUM retention force |
| | **PCB Separation Forces** | Apply a perpendicular static load on the plug at a rate of **25 ± 6** mm (**1 ± ¼** inch). | **4.5** N (**1** lbf) MINIMUM withdrawal force before solder reflow<br>**89** N (**20** lbf) MINIMUM withdrawal force after solder reflow |

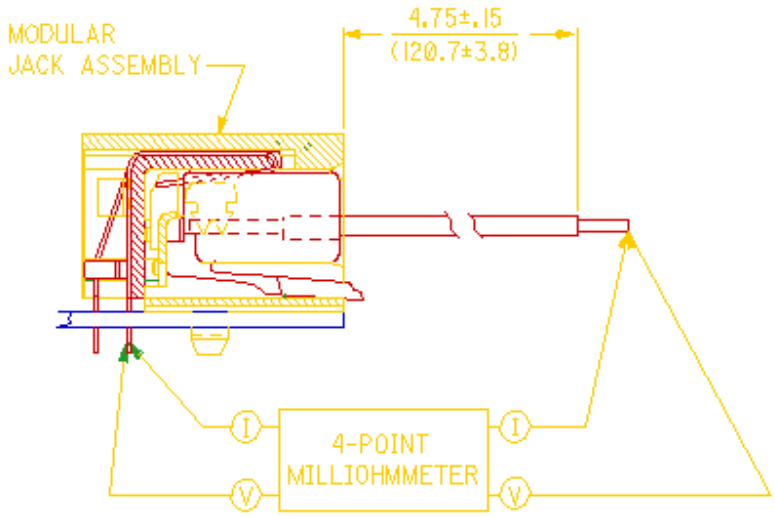
### 5.3 ENVIRONMENTAL REQUIREMENTS

| | DESCRIPTION | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| | **Thermal (Cycling)** | Connectors to be placed in 95% relative humidity. Maximum temperature change is 15°C/hour. Cycle linearly per chart below. Mate connectors; expose to **10** cycles of:<br>Temperature °C — Duration (Minutes)<br>**30 to 5 — 120**<br>**5 to 30 — 120**<br>**Hold at 30 — 240**<br>**30 to 5 — 180**<br>**Hold at 5 — 180** | **10** milliohms MAXIMUM (change from initial)<br>&<br>Dielectric Withstanding Voltage:<br>No Breakdown at 500 VAC<br>&<br>Insulation Resistance:<br>500 Megohms MINIMUM<br>&<br>Visual: No Damage |
| | **Solderability** | Dip solder tails in flux and immerse in solder bath at 230±5°C for 3±0.5 seconds. | Solder Wetting<br>Visual: 95% of immersed area must shown no voids, pin holes |
| | **Resistance to Soldering Heat** | Dip solder tails in molten solder and immerse in solder bath at 260±5°C for 5±0.5 seconds. | Visual: No Damage |

## 6.0 PACKAGING

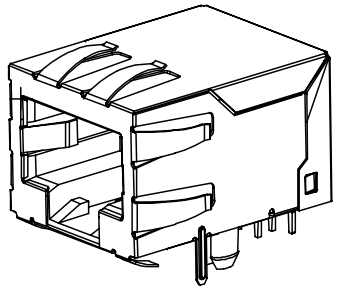
Parts shall be packaged to protect against damage during handling, transit and storage.
See appropriate sales drawings on Sheet 1 for packaging descriptions.

## 7.0 GAGES AND FIXTURES




TERMINATION RESISTANCE MEASUREMENT POINTS

## 8.0 OTHER INFORMATION



SHIELDED MODULAR JACK
SHOWN WITH PANEL GROUND
OPTION 'D' AND FRONT
PCB GROUND TABS.

NOTES:
1) MATERIAL:
HOUSING: NYLON(PA), GLASS FILLED, UL94V-0, COLOR: SEE SHEETS 5 AND 6
INSULATOR: NYLON(PA), GLASS FILLED, UL94V-0, COLOR: SEE SHEETS 5 AND 6
TERMINALS: PHOSPHOR BRONZE, .012/(0.30) THICK
SHIELD: BRASS, .007/(0.18) THICK
2) FINISH:
TERMINALS:
A = SELECT GOLD IN CONTACT AREA: 50 MICROINCHES MIN.,
*SELECT TIN IN PC TAIL AREA: 100 MICROINCHES MIN.,
WITH OVERALL NICKEL UNDERPLATE: 50 MICROINCHES MIN.
B = SELECT GOLD IN CONTACT AREA: 30 MICROINCHES MIN.,
*SELECT TIN IN PC TAIL AREA: 100 MICROINCHES MIN.,
WITH OVERALL NICKEL UNDERPLATE: 50 MICROINCHES MIN.
*THE PRIMARY SHIPPING CARTON WILL BE LABELED "COMPLIANT TO RoHS DIRECTIVE 2002/95/EC AND ELV ANNEX II OF DIRECTIVE 2000/53/EC". CARTONS WITHOUT THIS LABEL MAY CONTAIN PRODUCT WITH TIN-LEAD IN THE PC TAILS AND/OR SHIELD.
SHIELD:
100 MICROINCHES NICKEL OVER 50 MICROINCHES COPPER UNDERPLATE
PCB GROUND TABS DIPPED IN TIN
3) PRODUCT SPECIFICATION AND PROCESSING PARAMETERS: PS-43202.
4) PACKAGING SPECIFICATION:
UNSHIELDED CONNECTOR ASSEMBLIES PACKAGED IN THERMOFORMED TRAYS PER MOLEX PACKAGING SPECIFICATION PK-43249-004.
UNSHIELDED CONNECTOR ASSEMBLIES PACKAGED IN TUBES PER MOLEX PACKAGING SPECIFICATION PK-43202-005.
SHIELDED CONNECTOR ASSEMBLIES PACKAGED IN THERMOFORMED TRAYS PER MOLEX PACKAGING SPECIFICATION PK-43202-004.
5) SEE SHEETS 7 - 9 FOR P.C. BOARD LAYOUTS.
6) CONFORMS TO FCC REGULATION PART 68.5 FOR MODULAR JACKS.

## DRAWING LEGEND



| REV | DESCRIPTION |
|---|---|
| 9 | L2 |
| 8 | L2 |
| 7 | L2 |
| 6 | L |
| 5 | L |
| 4 | K2 |
| 3 | L1 |
| 2 | L1 |
| 1 | L2 |
| SH | REV |

ADDED PCB THICKNESS
EC NO: UCP2005-2739 DRWN: LSCHMIDT 2005/06/20
CHKD: 2005/06/22
APPR: FSMITH 2005/06/23
L2

QUALITY SYMBOLS
▼ = 0
▽(C) = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | mm | INCH |
|---|---|---|
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± .010 |
| 2 PLACES | ± 0.25 | ± .014 |
| 1 PLACE | ± 0.36 | ± --- |
| ANGULAR ±1/2° | | |

DRAFT WHERE APPLICABLE
MUST REMAIN WITHIN DIMENSIONS

SCALE 4:1 | DESIGN UNITS INCH | THIRD ANGLE PROJECTION | REVISE ON CAD ONLY
DIMENSION STYLE IN/MM
DRAWN BY JTR DATE 1993/03/31
CHECKED BY JTR DATE 1993/03/31
APPROVED BY RAS DATE 1993/03/31

TITLE: ULTRA LOW PROFILE RIGHT ANGLE MODULAR JACK ASSEMBLY

MOLEX INCORPORATED

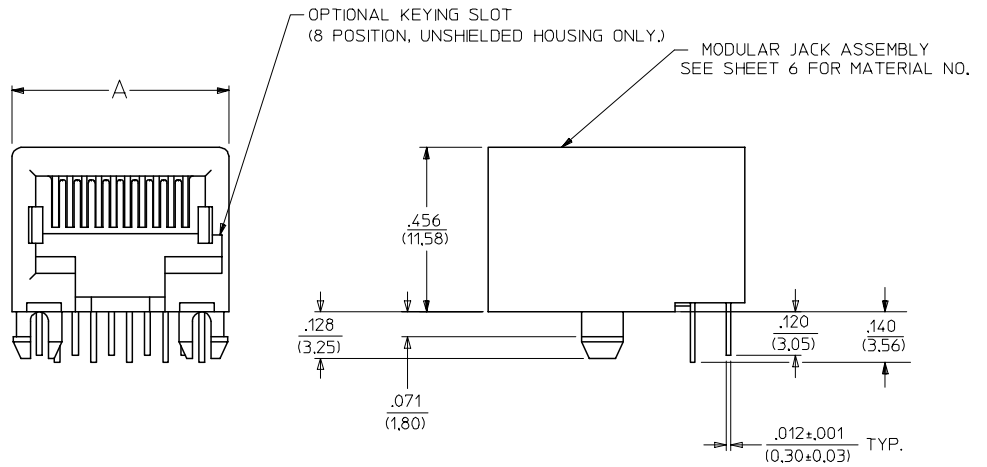
MATERIAL NO. SEE SHTS 5&6 | DOCUMENT NO. SDA-43202 | SHEET NO. 1 OF 9

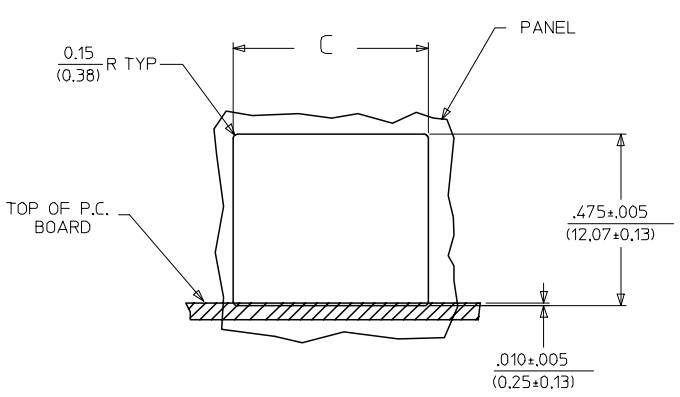


C

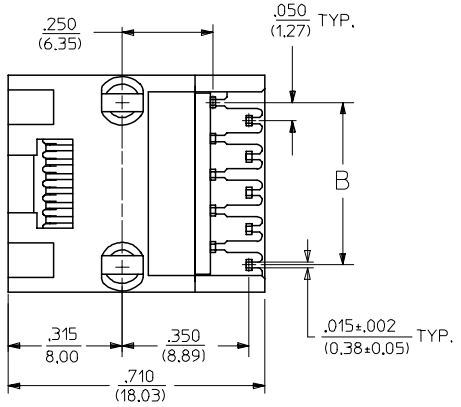
# UNSHIELDED MODULAR JACKS

SIZE 8, LOADED 10 SHOWN




PANEL CUT-OUT (UNSHIELDED)




| HOUSING SIZE | LOADED CIRCUITS | A | B | C |
|---|---|---|---|---|
| 4 | 4 | .440 (11,18) | .150±.005 (3,81±0,13) | .460±.005 (11,68±0,13) |
| 4 | 2 | .440 (11,18) | .050±.005 (1,27±0,13) | .460±.005 (11,68±0,13) |
| 6 | 6 | .520 (13,21) | .250±.005 (6,35±0,13) | .540±.005 (13,72±0,13) |
| 6 | 4 | .520 (13,21) | .150±.005 (3,81±0,13) | .540±.005 (13,72±0,13) |
| 6 | 2 | .520 (13,21) | .050±.005 (1,27±0,13) | .540±.005 (13,72±0,13) |
| 8 | 10 | .600 (15,24) | .450±.005 (11,43±0,13) | .620±.005 (15,75±0,13) |
| 8 | 8 | .600 (15,24) | .350±.005 (8,89±0,13) | .620±.005 (15,75±0,13) |
| 8 | 6 | .600 (15,24) | .250±.005 (6,35±0,13) | .620±.005 (15,75±0,13) |
| 8 | 4 | .600 (15,24) | .150±.005 (3,81±0,13) | .620±.005 (15,75±0,13) |
| 8 | 2 | .600 (15,24) | .050±.005 (1,27±0,13) | .620±.005 (15,75±0,13) |

SEE SHEET ONE
EC NO: UCP2004-1194
DRWN: LSCHMDT 2004/01/02
CHKD: LSCHMDT 2004/01/05
APPR: FSMITH 2004/01/09
DESCRIPTION
REV
K2

QUALITY SYMBOLS
▼ = 0
▽(C) = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | mm | INCH |
|---|---|---|
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± .010 |
| 2 PLACES | ± 0.25 | ± .014 |
| 1 PLACE | ± 0.36 | ± --- |
| ANGULAR ±1/2° | | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

| | |
|---|---|
| SCALE | 4:1 |
| DESIGN UNITS | INCH |
| THIRD ANGLE PROJECTION | REVISE ON CAD ONLY |
| DIMENSION STYLE | IN/MM |
| DRAWN BY | JTR |
| DATE | 1993/03/31 |
| CHECKED BY | JTR |
| DATE | 1993/03/31 |
| APPROVED BY | RAS |
| DATE | 1993/03/31 |
| MATERIAL NO. | SEE SHT 6 |
| DOCUMENT NO. | SDA-43202 |
| SHEET NO. | 4 OF 9 |

TITLE: ULTRA LOW PROFILE RIGHT ANGLE MODULAR JACK ASSEMBLY

MOLEX INCORPORATED



C

## SHIELDED MODULAR JACKS W/O BOTTOM GROUND TABS (SHEET 3)

| ASSEMBLY MATERIAL NUMBER | CONNECTOR SIZE | NUMBER OF CIRCUITS | SIDE/TOP PANEL GROUND TAB OPTION | PCB GROUND TAB OPTION | TERMINAL PLATING OPTION | PACKAGING | HOUSING COLOR |
|---|---|---|---|---|---|---|---|
| 43202-8800 | 8 | 10 | E | FRONT POSITION | A | TRAY | BLACK |
| 43202-8801 | 8 | 10 | F | FRONT POSITION | A | TRAY | |
| 43202-8802 | 8 | 10 | G | FRONT POSITION | A | TRAY | |
| 43202-8803 | 8 | 10 | H | FRONT POSITION | A | TRAY | |
| 43202-8808 | 8 | 10 | E | REAR POSITION | A | TRAY | |
| 43202-8809 | 8 | 10 | F | REAR POSITION | A | TRAY | |
| 43202-8810 | 8 | 10 | G | REAR POSITION | A | TRAY | |
| 43202-8811 | 8 | 10 | H | REAR POSITION | A | TRAY | |
| 43202-8816 | 8 | 8 | E | FRONT POSITION | A | TRAY | |
| 43202-8817 | 8 | 8 | F | FRONT POSITION | A | TRAY | |
| 43202-8818 | 8 | 8 | G | FRONT POSITION | A | TRAY | |
| 43202-8819 | 8 | 8 | H | FRONT POSITION | A | TRAY | |
| 43202-8824 | 8 | 8 | E | REAR POSITION | A | TRAY | |
| 43202-8825 | 8 | 8 | F | REAR POSITION | A | TRAY | |
| 43202-8826 | 8 | 8 | G | REAR POSITION | A | TRAY | |
| 43202-8827 | 8 | 8 | H | REAR POSITION | A | TRAY | |

## UNSHIELDED MODULAR JACKS- (SHEET 4)

| ASSEMBLY MATERIAL NUMBER | CONNECTOR SIZE | NUMBER OF CIRCUITS | TERMINAL PLATING OPTION | KEYING OPTION | PACKAGING OPTION | HOUSING COLOR |
|---|---|---|---|---|---|---|
| 43202-4101 | 4 | 4 | A | NO | TRAY | BLACK |
| 43202-4104 | 4 | 2 | A | NO | TRAY | |
| 43202-6101 | 6 | 6 | A | NO | TRAY | |
| 43202-6102 | 6 | 6 | B | NO | TRAY | |
| 43202-6104 | 6 | 4 | A | NO | TRAY | |
| 43202-6105 | 6 | 4 | B | NO | TRAY | |
| 43202-6107 | 6 | 2 | A | NO | TRAY | |
| 43202-6110 | 6 | 6 | B | NO | TUBE | |
| 43202-6113 | 6 | 2 | A | NO | TRAY | ORANGE |
| 43202-6116 | 6 | 2 | A | NO | TRAY | GREEN |
| 43202-8101 | 8 | 10 | A | NO | TRAY | BLACK |
| 43202-8104 | 8 | 8 | A | NO | TRAY | |
| 43202-8105 | 8 | 8 | B | NO | TRAY | |
| 43202-8113 | 8 | 8 | A | YES | TRAY | |
| 43202-8116 | 8 | 6 | A | NO | TRAY | |
| 43202-8119 | 8 | 4 | A | NO | TRAY | |
| 43202-8122 | 8 | 2 | A | NO | TRAY | |
| 43202-8125 | 8 | 8 | A | NO | TRAY | BLUE |
| 43202-8504 | 8 | 8 | A | NO | TUBE | BLACK |
| 43202-8513 | 8 | 8 | A | YES | TUBE | |

SEE SHEET ONE
EC NO: UCP2004-1347
DRWN: MKAMARA 2004/02/09
CH'KD: MKAMARA 2004/02/09
APPR: BWIRKUS 2004/02/10
DESCRIPTION
REV

QUALITY SYMBOLS
▼ = 0
Ⓒ = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | mm | INCH |
|---|---|---|
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± .010 |
| 2 PLACES | ± 0.25 | ± .014 |
| 1 PLACE | ± 0.36 | ± --- |
| ANGULAR ±1/2° | | |

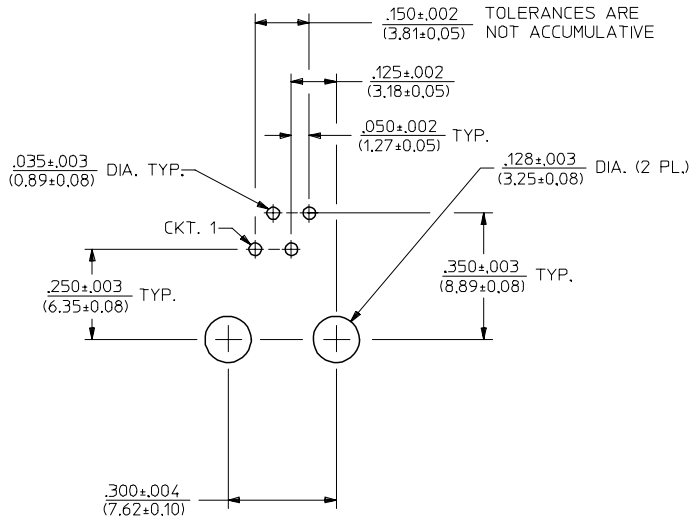
DRAFT WHERE APPLICABLE
MUST REMAIN WITHIN DIMENSIONS

SCALE 4:1 | DESIGN UNITS INCH | THIRD ANGLE PROJECTION | REVISE ON CAD ONLY
DIMENSION STYLE IN/MM
DRAWN BY JBS DATE 2000/10/03
CHECKED BY BW DATE 2000/10/03
APPROVED BY BW DATE 2000/10/03

TITLE: ULTRA LOW PROFILE RIGHT ANGLE MODULAR JACK ASSEMBLY
MOLEX INCORPORATED
MATERIAL NO. SEE CHART | DOCUMENT NO. SDA-43202 | SHEET NO. 6 OF 9

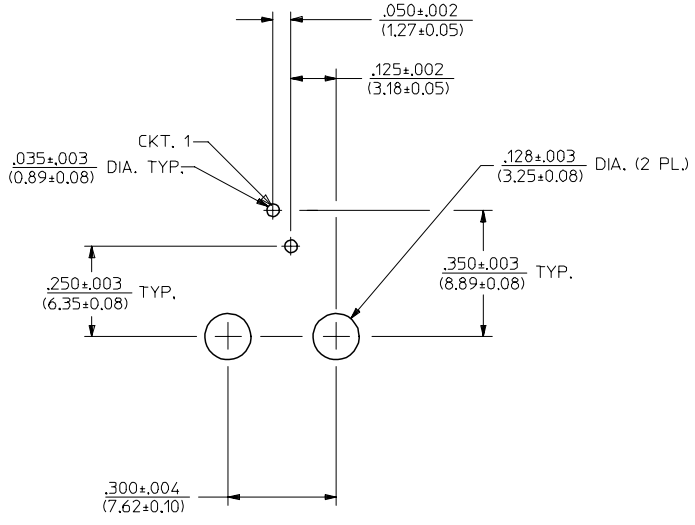


C




## PC BOARD LAYOUT FOR 4 POSITION HOUSING

(4 CIRCUIT FOOT PRINT SHOWN)
(COMPONENT SIDE OF BOARD)




## PC BOARD LAYOUT FOR 4 POSITION HOUSING

(2 CIRCUIT FOOT PRINT SHOWN)
(COMPONENT SIDE OF BOARD)

NOTES:
1. RECOMMENDED PCB THICKNESS: .062±.005/(1.57±0.13)

ADD PCB THICKNESS
EC NO: UCP2005-2739
DRWN:LSCHMDT 2005/06/20
CHKD:ELHAG 2005/06/22
APPR:FSMITH 2005/06/23
DESCRIPTION
L2
REV

QUALITY SYMBOLS
▼ = 0
Ⓒ = 0

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | mm | INCH |
|---|---|---|
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± .010 |
| 2 PLACES | ± 0.25 | ± .014 |
| 1 PLACE | ± 0.36 | ± --- |
| ANGULAR ±1/2° | | |

DRAFT WHERE APPLICABLE
MUST REMAIN WITHIN DIMENSIONS

SCALE 4:1 | DESIGN UNITS INCH | THIRD ANGLE PROJECTION | REVISE ON CAD ONLY
DIMENSION STYLE IN/MM
DRAWN BY JTR DATE 1993/03/31
CHECKED BY JTR DATE 1993/03/31
APPROVED BY RAS DATE 1993/03/31

TITLE: ULTRA LOW PROFILE RIGHT ANGLE MODULAR JACK ASSEMBLY

molex MOLEX INCORPORATED

MATERIAL NO. SEE SHT 6 | DOCUMENT NO. SDA-43202 | SHEET NO. 7 OF 9



C