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Part Number: [0878313821](#)
Status: **Active**
Overview: milligrid
Description: 2.00mm (.079") Pitch Milli-Grid™ Header, Vertical, Through Hole, Shrouded, Lead-free, 38 Circuits, 0.76µm (30µ") Gold (Au) Plating, Center Polarization Slot, with Locking Windows, without PCB Locator, Tube

Documents:

[3D Model](#) [Product Specification PS-87831-027 \(PDF\)](#)
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)

Agency Certification

CSA LR19980
 UL E29179

General

Product Family PCB Headers
 Series [87831](#)
 Application Wire-to-Board
 Comments Contact Molex for application in automotive industry
 Overview [milligrid](#)
 Product Name Milli-Grid™

Physical

Breakaway No
 Circuits (Loaded) 38
 Circuits (maximum) 38
 Color - Resin Black
 First Mate / Last Break No
 Flammability 94V-0
 Glow-Wire Compliant No
 Guide to Mating Part No
 Keying to Mating Part None
 Lock to Mating Part Yes
 Material - Metal Brass, Phosphor Bronze
 Material - Plating Mating Gold
 Material - Plating Termination Tin
 Material - Resin Nylon
 Number of Rows 2
 Orientation Vertical
 PC Tail Length (in) 0.098 In
 PC Tail Length (mm) 2.50 mm
 PCB Locator No
 PCB Retention None
 PCB Thickness Recommended (in) 0.062 In
 PCB Thickness Recommended (mm) 1.60 mm
 Packaging Type Tube
 Pitch - Mating Interface (in) 0.079 In
 Pitch - Mating Interface (mm) 2.00 mm
 Pitch - Term. Interface (in) 0.079 In
 Pitch - Term. Interface (mm) 2.00 mm
 Plating min: Mating (µin) 30
 Plating min: Mating (µm) 0.76
 Plating min: Termination (µin) 76
 Plating min: Termination (µm) 1.88
 Polarized to Mating Part Side Slots (2)



EU RoHS

**ELV and RoHS
 Compliant**
**REACH SVHC
 Contains SVHC: No
 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

[87831Series](#)

Mates With

[50394](#) Wire-to-Board Terminals. [51110](#) Wire-to-Board Crimp Housing. [87568](#) Wire-to-Board IDT Housings. [79107](#) Board-to-Board Top Entry Through Hole Receptacle. [79108](#) Board-to-Board FFC/FPC Top Entry Through Hole Receptacle. L

| | |
|--------------------------------|-----------------|
| Polarized to PCB | No |
| Shrouded | Fully |
| Stackable | No |
| Surface Mount Compatible (SMC) | Yes |
| Temperature Range - Operating | -55°C to +105°C |
| Termination Interface: Style | Through Hole |

Electrical

| | |
|-------------------------------|------|
| Current - Maximum per Contact | 2A |
| Voltage - Maximum | 125V |

Solder Process Data

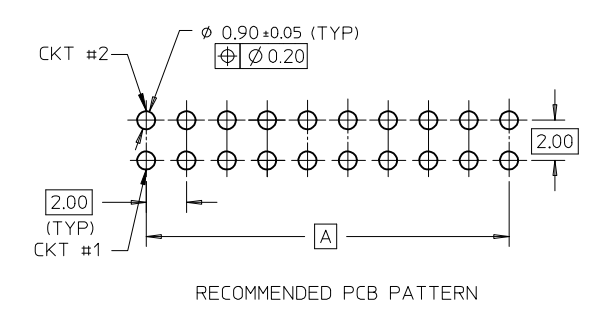
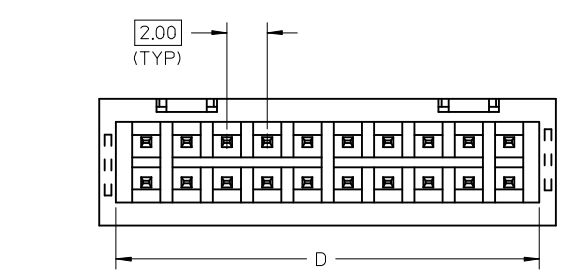
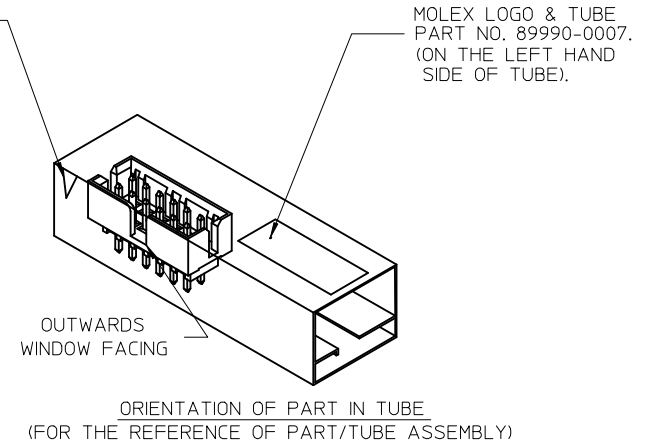
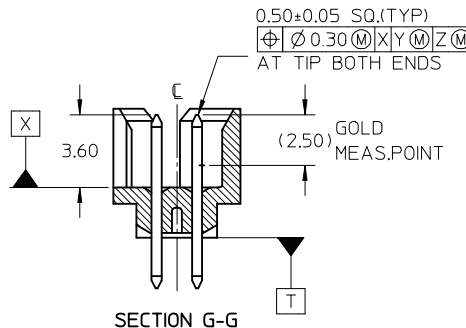
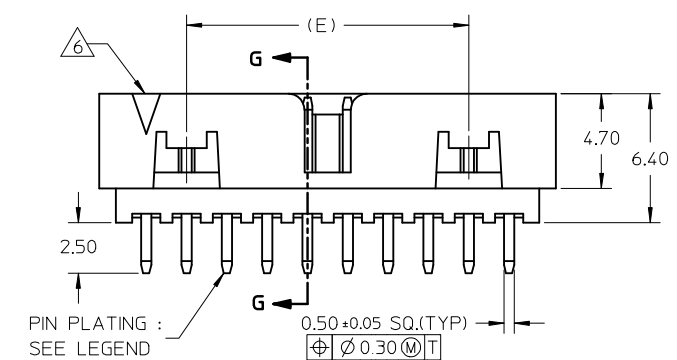
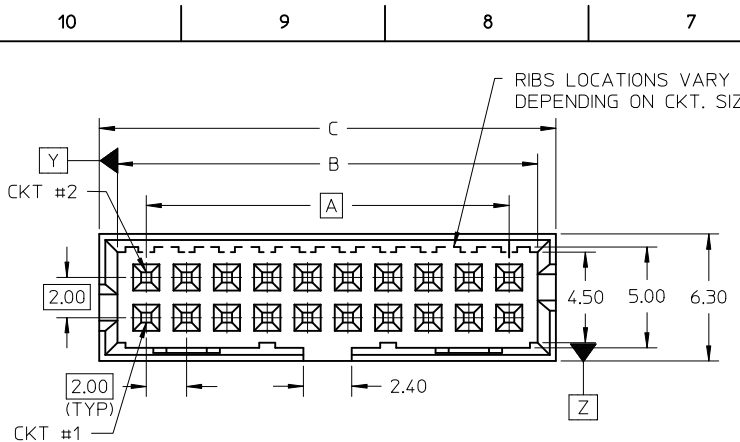
| | |
|------------------------------|------------------------|
| Lead-free Process Capability | Wave Capable (TH only) |
|------------------------------|------------------------|

Material Info**Reference - Drawing Numbers**

| | |
|-----------------------|--------------|
| Product Specification | PS-87831-027 |
| Sales Drawing | SD-87831-011 |

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PART NUMBER LEGEND :
 87831 - * * * * *
PLATING OPTION
 19 - 0.05-0.13um/2-5uin GOLD IN CONTACT AREA AND 1.88um/75uin MIN. TIN IN SOLDER TAIL AREA OVER 1.27um/50uin MIN. NICKEL OVERALL.
 20 - 0.38um/15uin GOLD IN CONTACT AREA AND 1.88um/75uin MIN. TIN IN SOLDER TAIL AREA OVER 1.27um/50uin MIN. NICKEL OVERALL.
 21 - 0.76um/30uin GOLD IN CONTACT AREA AND 1.88um/75uin MIN. TIN IN SOLDER TAIL AREA OVER 1.27um/50uin MIN. NICKEL OVERALL.

- NOTES:**
- FOR ILLUSTRATION PURPOSES, 20 CIRCUIT SIZE WAFER IS SHOWN.
 - MATERIAL :**
 HOUSING : 30% G.F., NYLON 46, UL94V-0, COLOR BLACK.
 PIN : 0.50MM SQ.PHOSPHOR BRONZE.
 - PRODUCT SPECIFICATION PS-87831-027 APPLIES.
 - NO CENTRE POLARIZATION SLOT FOR CKT SIZE 4 & 6 (EXCEPT FOR 87831-5119).
 - NO SIDE LOCKING SLOT FROM 4 TO 12 CKT SIZE.
 - CKT 4 AND 6 HAS NO IDENTIFICATION TAG.
 - REFER TO PART 87831-**4* FOR CENTRE LOCKING SLOT OPTION FOR 4 TO 12 CKT.
 - THIS HEADER MATES WITH MOLEX :
 a) CRIMP RECEPTACLE HOUSING, 51110 SERIES WITH CRIMP TERMINAL, 50394 SERIES.
 b) 2MM MILLIGRID DUAL ROW IDT, 87568 SERIES.
 - PARTS TO BE PACKED IN TUBE WITH MOISTURE BARRIER BAG.

| | | | | | | | | | | | |
|--|--|-------------------------------|---------------------------------------|-------|----------------------------|---|--|------------------------------|------------------------|---------------------|--|
| REVISED EC NO: S2009-0559 DRWN:SKANG CHKD:ATSEE APPR:MLONG | 2009/02/23 2009/02/23 2009/02/23 | QUALITY SYMBOLS ▽=0 ◻=0 | GENERAL TOLERANCES (UNLESS SPECIFIED) | | DIMENSION STYLE MM ONLY | | SCALE NTS | DESIGN UNITS METRIC | THIRD ANGLE PROJECTION | | |
| | | | mm | INCH | DRAWN BY ATSEE | DATE 2003/10/03 | TITLE MGRID, SHROUDED HEADER VERTICAL W/SLOT & STANDOFF | | | | |
| A14 | REV | DESCRIPTION | 4 PLACES | ± --- | ± --- | CHECKED BY KCL ING | DATE 2003/11/07 | MOLEX INCORPORATED | | | |
| | | | 3 PLACES | ± --- | ± --- | APPROVED BY SKTOH | DATE 2003/11/07 | DOCUMENT NO. SD-87831-011 | | | |
| | | | 2 PLACES | ± 0.2 | ± --- | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | SEE TABLE | | SHEET NO. 1 OF 2 | |
| | | | 1 PLACE | ± --- | ± --- | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | | | |

| P/N IN TUBE | CKT SIZE | VOID POSITION | DIMENSION | | | | |
|-------------|----------|---------------|-----------|-------|-------|-------|-------|
| | | | A | B | C | D | E |
| 87831-04** | 4 | ----- | 2.00 | 4.85 | 6.65 | 5.00 | ----- |
| 87831-06** | 6 | ----- | 4.00 | 6.85 | 8.65 | 7.00 | ----- |
| 87831-08** | 8 | ----- | 6.00 | 8.85 | 10.65 | 9.00 | ----- |
| 87831-10** | 10 | ----- | 8.00 | 10.85 | 12.65 | 11.00 | ----- |
| 87831-12** | 12 | ----- | 10.00 | 12.85 | 14.65 | 13.00 | ----- |
| 87831-14** | 14 | ----- | 12.00 | 14.85 | 16.65 | 15.00 | 8.00 |
| 87831-16** | 16 | ----- | 14.00 | 16.85 | 18.65 | 17.00 | 10.00 |
| 87831-18** | 18 | ----- | 16.00 | 18.85 | 20.65 | 19.00 | 12.00 |
| 87831-20** | 20 | ----- | 18.00 | 20.85 | 22.65 | 21.00 | 14.00 |
| 87831-22** | 22 | ----- | 20.00 | 22.85 | 24.65 | 23.00 | 16.00 |
| 87831-24** | 24 | ----- | 22.00 | 24.85 | 26.65 | 25.00 | 18.00 |
| 87831-26** | 26 | ----- | 24.00 | 26.85 | 28.65 | 27.00 | 20.00 |
| 87831-28** | 28 | ----- | 26.00 | 28.85 | 30.65 | 29.00 | 22.00 |
| 87831-30** | 30 | ----- | 28.00 | 30.85 | 32.65 | 31.00 | 24.00 |
| 87831-32** | 32 | ----- | 30.00 | 32.85 | 34.65 | 33.00 | 26.00 |
| 87831-34** | 34 | ----- | 32.00 | 34.85 | 36.65 | 35.00 | 28.00 |
| 87831-36** | 36 | ----- | 34.00 | 36.85 | 38.65 | 37.00 | 30.00 |
| 87831-38** | 38 | ----- | 36.00 | 38.85 | 40.65 | 39.00 | 32.00 |
| 87831-40** | 40 | ----- | 38.00 | 40.85 | 42.65 | 41.00 | 34.00 |
| 87831-42** | 42 | ----- | 40.00 | 42.85 | 44.65 | 43.00 | 36.00 |
| 87831-44** | 44 | ----- | 42.00 | 44.85 | 46.65 | 45.00 | 38.00 |
| 87831-46** | 46 | ----- | 44.00 | 46.85 | 48.65 | 47.00 | 40.00 |
| 87831-48** | 48 | ----- | 46.00 | 48.85 | 50.65 | 49.00 | 42.00 |
| 87831-50** | 50 | ----- | 48.00 | 50.85 | 52.65 | 51.00 | 44.00 |
| 87831-5120 | 12 | 1 | 10.00 | 12.85 | 14.65 | 13.00 | ----- |
| 87831-5220 | 44 | 20 | 42.00 | 44.85 | 46.65 | 45.00 | 38.00 |
| 87831-5320 | 24 | 13 | 22.00 | 24.85 | 26.65 | 25.00 | 18.00 |
| 87831-5420 | 34 | 3 | 32.00 | 34.85 | 36.65 | 35.00 | 28.00 |
| 87831-5520 | 20 | 20 | 18.00 | 20.85 | 22.65 | 21.00 | 14.00 |
| 87831-5620 | 28 | 13 | 26.00 | 28.85 | 30.65 | 29.00 | 22.00 |
| 87831-5119 | 6 | ----- | 4.00 | 6.85 | 8.65 | 7.00 | ----- |
| 87831-5720 | 34 | 15 | 32.00 | 34.85 | 36.65 | 35.00 | 28.00 |
| 87831-5820 | 40 | 25 | 38.00 | 40.85 | 42.65 | 41.00 | 34.00 |
| 87831-5920 | 20 | 13 | 18.00 | 20.85 | 22.65 | 21.00 | 14.00 |
| 87831-6020 | 24 | 20 | 22.00 | 24.85 | 26.65 | 25.00 | 18.00 |

} NO CENTRE POLARIZATION SLOT

| | | | | | | | |
|--|--|---|--|--|--------------|------------------------|--|
| REVISED EC NO: S2009-0559 DRWN:SKANG 2009/02/23 CHKD:ATSEE 2009/02/23 APPR:MLONG 2009/02/23 | QUALITY SYMBOLS | GENERAL TOLERANCES (UNLESS SPECIFIED) | DIMENSION STYLE | SCALE | DESIGN UNITS | THIRD ANGLE PROJECTION | |
| | $\nabla=0$ $\nabla C=0$ | mm INCH | MM ONLY | NTS | METRIC | | |
| | | 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.2 ± --- 1 PLACE ± --- ± --- | DRAWN BY DATE ATSEE 2003/10/03 | TITLE MGRID, SHROUDED HEADER VERTICAL W/SLOT & STANDOFF | | | |
| | | ANGULAR ± 3 ° | CHECKED BY DATE KCLING 2003/11/07 | MOLEX INCORPORATED | | | |
| | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | APPROVED BY DATE SKTOH 2003/11/07 | MATERIAL NO. | DOCUMENT NO. | | SHEET NO. | |
| A14 | | SEE TABLE | SD-87831-011 | | 2 OF 2 | | |
| | | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | | | |