

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

**Part Number:** [0878313035](#)  
**Status:** **Active**  
**Overview:** milligrid  
**Description:** 2.00mm (.079") Pitch Milli-Grid™ Header, Vertical, Through Hole, Shrouded, Lead-free, 30 Circuits, 0.76µm (15µ") Gold (Au) Plating, PCB Locator, Center Polarization Slot, with Locking Windows, Tube

**Documents:**

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

**Agency Certification**

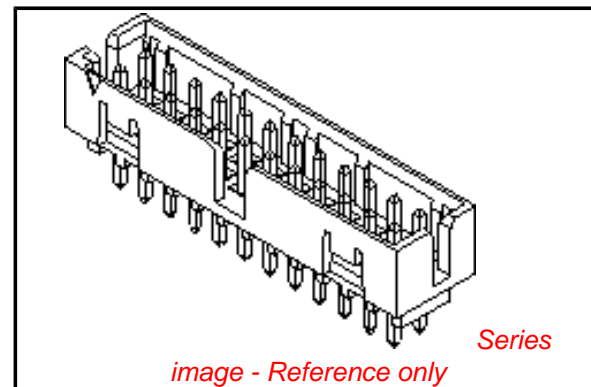
CSA LR19980  
 UL E29179

**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) 30  
 Circuits (maximum) 30  
 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) 0.138 In  
 PC Tail Length (mm) 3.50 mm  
 PCB Locator Yes  
 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**

**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**

[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               | Yes             |
| 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**

|                                                |                        |
|------------------------------------------------|------------------------|
| Duration at Max. Process Temperature (seconds) | 10                     |
| Lead-free Process Capability                   | Wave Capable (TH only) |
| Max. Cycles at Max. Process Temperature        | 1                      |
| Process Temperature max. C                     | 260                    |

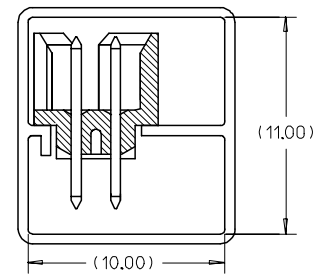
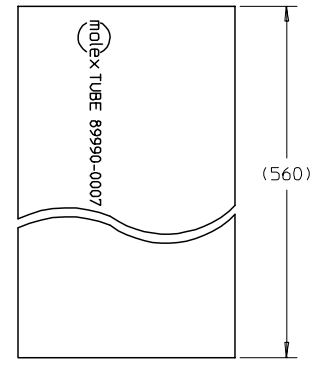
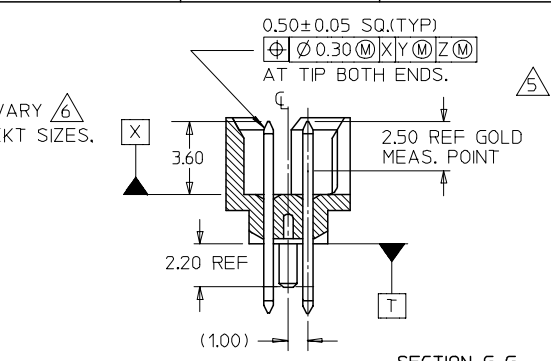
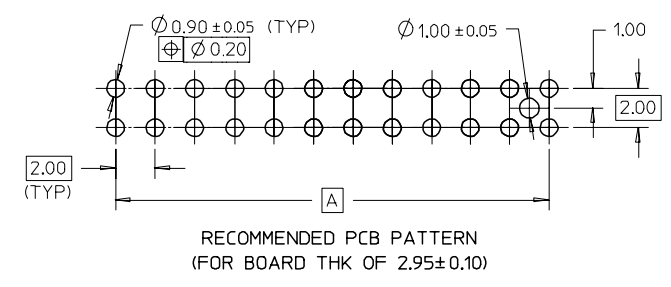
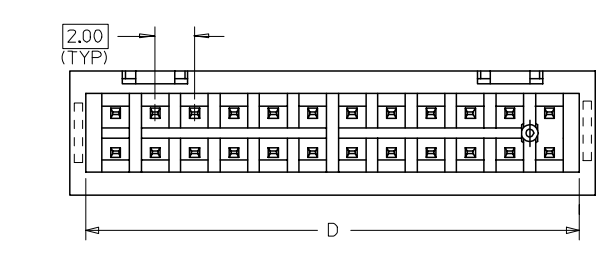
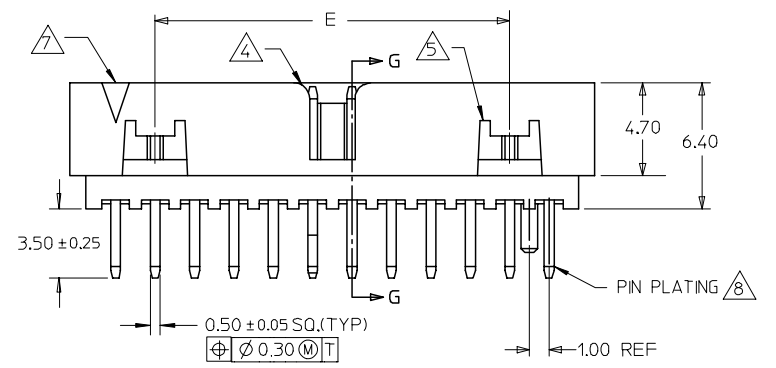
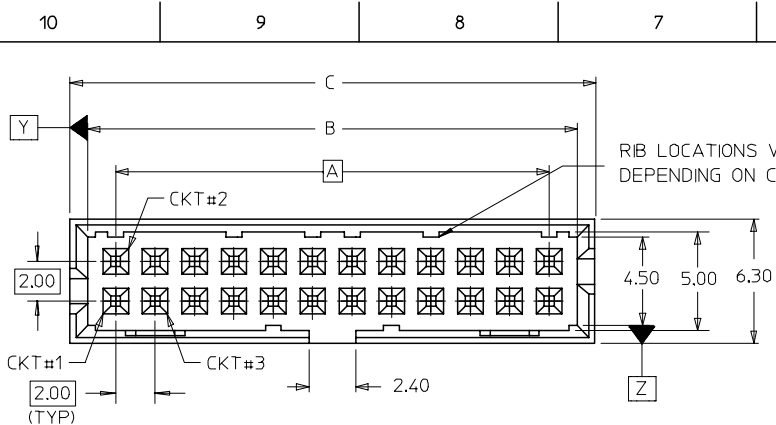
### **Material Info**

### **Reference - Drawing Numbers**

|                       |              |
|-----------------------|--------------|
| Product Specification | PS-87831-027 |
| Sales Drawing         | SD-87831-016 |

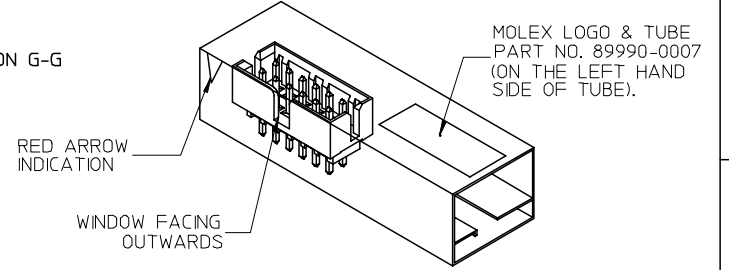
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| P/N IN TUBE | CKT SIZE | DIMENSION |       |       |       |       |
|-------------|----------|-----------|-------|-------|-------|-------|
|             |          | A         | B     | C     | D     | E     |
| 87831-1035  | 10       | 8.00      | 10.85 | 12.65 | 11.00 | —     |
| 87831-1435  | 14       | 12.00     | 14.85 | 16.65 | 15.00 | 8.00  |
| 87831-1635  | 16       | 14.00     | 16.85 | 18.65 | 17.00 | 10.00 |
| 87831-2035  | 20       | 18.00     | 20.85 | 22.65 | 21.00 | 14.00 |
| 87831-2435  | 24       | 22.00     | 24.85 | 26.65 | 25.00 | 18.00 |
| 87831-3035  | 30       | 28.00     | 30.85 | 32.65 | 31.00 | 24.00 |
| 87831-3435  | 34       | 32.00     | 34.85 | 36.65 | 35.00 | 28.00 |
| 87831-4435  | 44       | 42.00     | 44.85 | 46.65 | 45.00 | 38.00 |
| 87831-5035  | 50       | 48.00     | 50.85 | 52.65 | 51.00 | 44.00 |

SECTION G-G



REF : ORIENTATION OF PART IN TUBE (FOR THE REFERENCE OF PART/TUBE ASSEMBLY)

- NOTES:
- FOR ILLUSTRATION PURPOSES, 24 CKT 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 AND 6.
  - NO SIDE LOCKING SLOT FOR CKT SIZE 10.
  - FOR RIB LOCATION SEE DWG. NO. EC-87330-\*\*04.
  - CKT 6 HAS NO IDENTIFICATION TAG.
  - PLATING OPTION :  
0.76um/30uin GOLD IN CONTACT AREA AND 1.88um/75uin MIN.TIN IN SOLDER TAIL AREA OVER 1.27um/50uin MIN. NICKEL OVERALL.
  - 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.

REF : ORIENTATION OF PART IN TUBE

ADD MOIST BAG NOTE  
EC NO: S2007-0892  
DRWN:GIVENARLY 2007/05/04  
CHKD:SKANG 2007/05/04  
APPR:MLONG 2007/05/07

QUALITY SYMBOLS  
▽=0  
∇=0

| GENERAL TOLERANCES (UNLESS SPECIFIED) |       |
|---------------------------------------|-------|
| mm                                    | INCH  |
| 4 PLACES ± ---                        | ± --- |
| 3 PLACES ± ---                        | ± --- |
| 2 PLACES ± 0.2                        | ± --- |
| 1 PLACE ± ---                         | ± --- |
| ANGULAR ± 3 °                         |       |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

| DIMENSION STYLE |            |
|-----------------|------------|
| MM ONLY         |            |
| DRAWN BY        | DATE       |
| ATSEE           | 2003/10/06 |
| CHECKED BY      | DATE       |
| KCLING          | 2003/11/07 |
| APPROVED BY     | DATE       |
| SKTOH           | 2003/11/07 |
| MATERIAL NO.    |            |
| SEE TABLE       |            |

| SCALE                                                                                                                         | DESIGN UNITS | THIRD ANGLE PROJECTION |   |
|-------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------|---|
| NTS                                                                                                                           | METRIC       | ⊙                      | ∇ |
| MGRID, SHROUDED HEADER VERTICAL, W/PEG                                                                                        |              |                        |   |
| MOLEX INCORPORATED                                                                                                            |              | SHEET NO. 1 OF 1       |   |
| DOCUMENT NO. SD-87831-016                                                                                                     |              |                        |   |
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