

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

**Part Number:** [0878330651](#)  
**Status:** **Active**  
**Overview:** milligrid  
**Description:** 2.00mm (.079") Pitch Milli-Grid™ Header, Right Angle, Shrouded, Lead-free, 6 Circuits, 0.38µm (15µ") Gold (Au) Plating, without PCB Locator, with Locking Window, without Center Polarization Slot, with Kapton Tape, Embossed Tape on Reel

**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 [87833](#)  
 Application Wire-to-Board  
 Comments Contact Molex for application in automotive industry  
 Overview [milligrid](#)  
 Product Name Milli-Grid™

**Physical**

Breakaway No  
 Circuits (Loaded) 6  
 Circuits (maximum) 6  
 Color - Resin Black  
 Durability (mating cycles max) 100  
 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 Phosphor Bronze  
 Material - Plating Mating Gold  
 Material - Plating Termination Tin  
 Material - Resin Nylon  
 Number of Rows 2  
 Orientation Right Angle  
 PC Tail Length (in) 0.085 In  
 PC Tail Length (mm) 2.16 mm  
 PCB Locator No  
 PCB Retention None  
 PCB Thickness Recommended (in) 0.062 In  
 PCB Thickness Recommended (mm) 1.60 mm  
 Packaging Type Embossed Tape on Reel  
 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) 15  
 Plating min: Mating (µm) 0.38  
 Plating min: Termination (µin) 75  
 Plating min: Termination (µm) 1.88

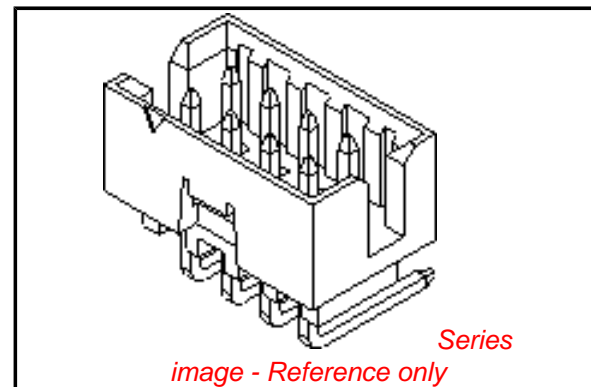


image - Reference only

**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](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**

[87833Series](#)

**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 Mating Part	Side Slots (2)
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**

Duration at Max. Process Temperature (seconds)	11
Lead-free Process Capability	SMC & Wave Capable (TH only)
Max. Cycles at Max. Process Temperature	1
Process Temperature max. C	265

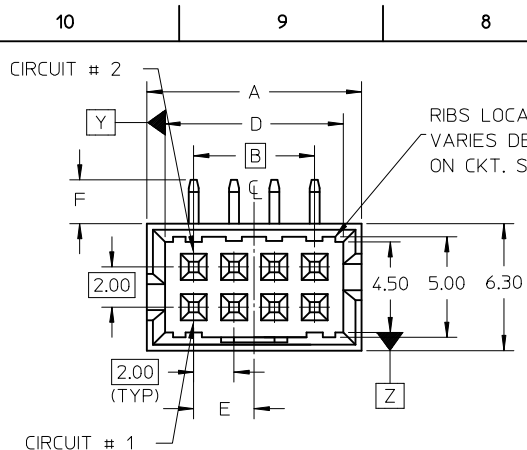
### **Material Info**

### **Reference - Drawing Numbers**

Product Specification	PS-87831-027
Sales Drawing	SD-87833-011

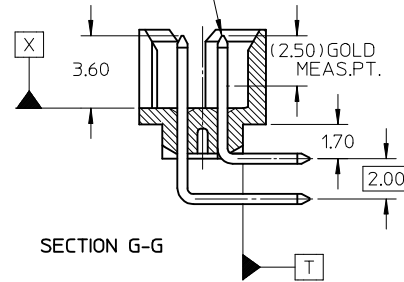
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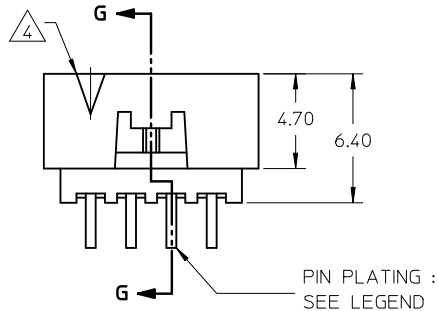


RIBS LOCATION VARIES DEPENDING ON CKT. SIZES.

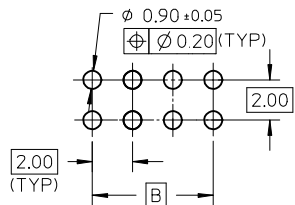
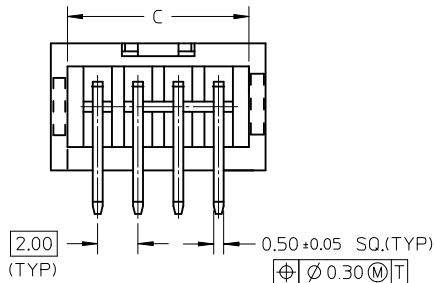
0.50±0.05 SQ. (TYP)  
 ⊕ ∅ 0.30 ⊕ X ⊕ Y ⊕ M ⊕ Z ⊕



SECTION G-G



PIN PLATING : SEE LEGEND



RECOMMENDED PCB PATTERN

ASSEMBLY P/N (W/O KAPTON)	ASSEMBLY P/N (WITH KAPTON)	ASSEMBLY P/N (WITH KAPTON)	CKT SIZE	VOID PIN LOCATION	DIMENSION						PLATING OPTION
					A	B	C	D	E	F	
87833-0431	87833-0441	87833-0451	4	-	6.65	2.00	5.00	4.85	1.00	2.16	1
87833-0631	87833-0641	87833-0651	6	-	8.65	4.00	7.00	6.85	2.00	2.16	1
87833-0831	87833-0841	87833-0851	8	-	10.65	6.00	9.00	8.85	3.00	2.16	1
87833-1031	-	-	10	-	12.65	8.00	11.00	10.85	4.00	2.16	1
87833-1231	-	-	12	-	14.65	10.00	13.00	12.85	5.00	2.16	1
87833-5230	-	-	-	1	-	-	-	-	-	-	-
87833-0432	-	-	4	-	6.65	2.00	5.00	4.85	1.00	2.16	2
87833-0632	-	-	6	-	8.65	4.00	7.00	6.85	2.00	2.16	2
87833-0832	-	-	8	-	10.65	6.00	9.00	8.85	3.00	2.16	2
87833-1032	-	-	10	-	12.65	8.00	11.00	10.85	4.00	2.16	2
87833-1232	-	-	12	-	14.65	10.00	13.00	12.85	5.00	2.16	2
87833-5220	-	-	10	10	12.65	8.00	11.00	10.85	4.00	2.16	1
-	87833-1041	87833-1051	10	-	12.65	8.00	11.00	10.85	4.00	1.70	1
87833-0661	-	-	6	-	8.65	4.00	7.00	6.85	2.00	3.18	1

PLATING OPTIONS:

- 0.38um/15uin GOLD IN CONTACT AREA AND 1.88um/75uin MIN.TIN IN SOLDER TAIL AREA OVER 1.27um/50uin MIN. NICKEL OVERALL.
- 0.76um/30uin GOLD IN CONTACT AREA AND 1.88um/75uin MIN.TIN IN SOLDER TAIL AREA OVER 1.27um/50uin MIN. NICKEL OVERALL.

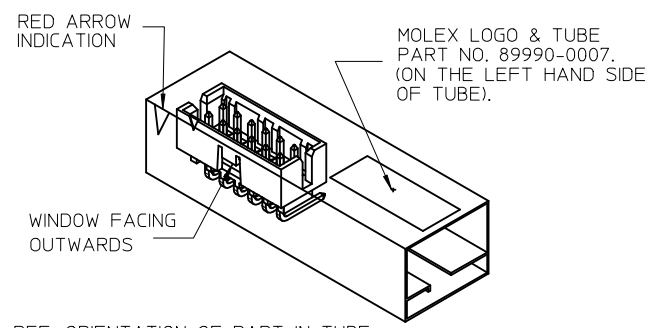
NOTES:

- FOR ILLUSTRATION PURPOSES, 8 CIRCUIT SIZE WAFER IS SHOWN.
- MATERIAL :  
 HOUSING : NYLON 46, GLASS FILLED, UL94V-0, COLOR BLACK.  
 PIN : 0.50MM SQ.PHOSPHOR BRONZE.  
 KAPTON TAPE : POLYIMIDE 4mm X 30m X 0.055mm COLOR: AMBER
- PRODUCT SPECIFICATION PS-87831-027 APPLIES.
- CKT 4 & 6 HAS NO IDENTIFICATION TAG.
- THIS HEADER MATES WITH MOLEX:
  - CRIMP RECEPTACLE HOUSING, 51110 SERIES WITH CRIMP TERMINAL, 50394 SERIES.
  - 2MM MILLIGRID DUAL ROW IDT, 87568 SERIES.
- PARTS TO BE PACKED WITH MOISTURE BARRIER BAG.
- NO CENTRE POLARIZATION SLOT FOR CKT SIZE 4 AND 6

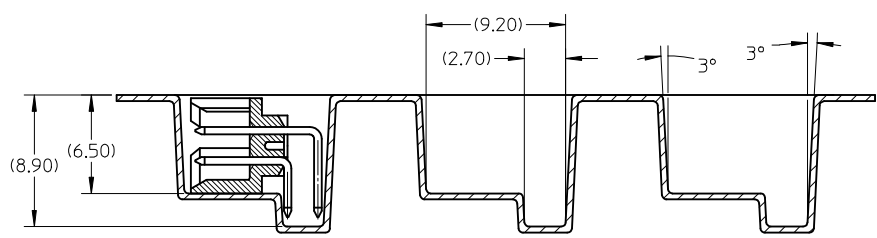
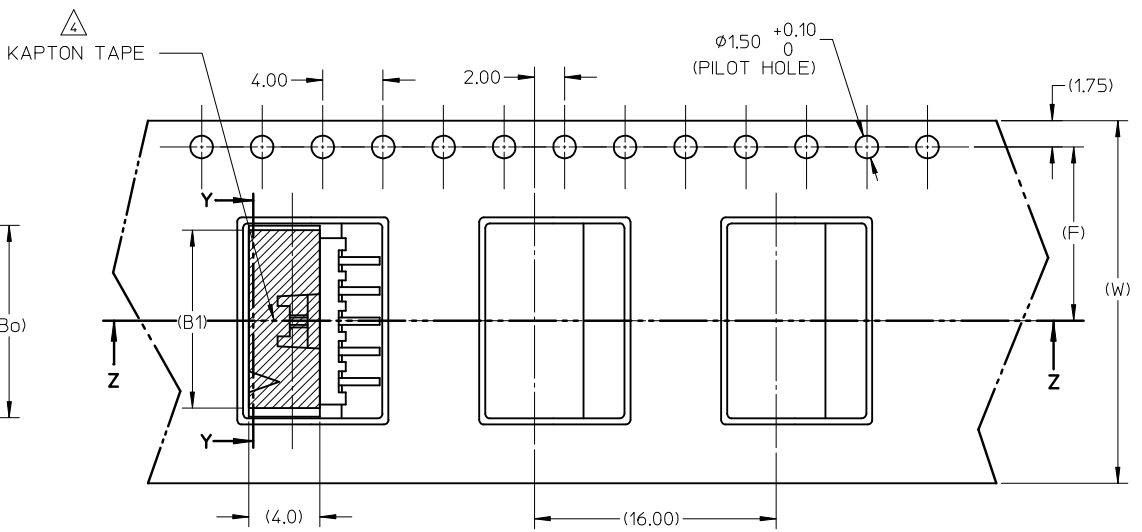
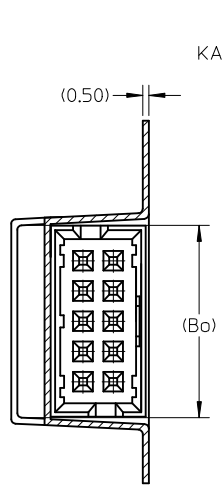
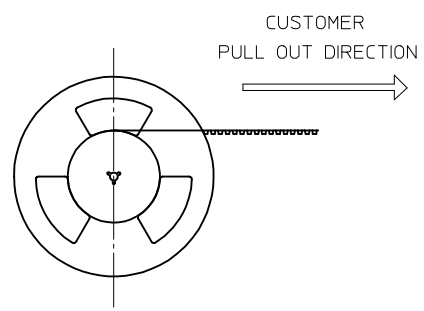
<b>ADD IN NOTE NO. 7</b> EC NO: S2009-0964 DRWN: YMCHONG CHKD: SKANG APPR: MLONG 2009/07/01 2009/07/08 2009/07/15	<b>QUALITY SYMBOLS</b> ▽=0 ◻=0	<b>GENERAL TOLERANCES (UNLESS SPECIFIED)</b>		<b>DIMENSION STYLE</b> <b>MM ONLY</b>		<b>SCALE</b> NTS	<b>DESIGN UNITS</b> METRIC	THIRD ANGLE PROJECTION		
			mm	INCH	DRAWN BY	DATE	TITLE			
		4 PLACES	± ---	± ---	ATSEE	2003/10/23	<b>MGRID, SHROUDED HEADER          W/LOCKING FEATURE, R/A</b>			
		3 PLACES	± ---	± ---	CHECKED BY	DATE				
2 PLACES	± 0.2	± ---	KCL ING	2003/11/07	<b>MOLEX INCORPORATED</b>					
1 PLACE	± ---	± ---	APPROVED BY	DATE						
ANGULAR ± 3 °		SKTOH		2003/11/07	DOCUMENT NO.					
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		SD-87833-011				SHEET NO.		
		SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION						

10 9 8 7 6 5 4 3 2 1

ASSEMBLY P/N PACKED IN T&R (WITH KAPTON)	CKT SIZE	(F)	(Bo)	(B1)	(W)
87833-0451	04	7.50	7.00	6.00	16.00
87833-0651	06	11.50	9.00		24.00
87833-0851	08	11.50	11.00	10.00	24.00
87833-1051	10	11.50	13.00	12.00	24.00



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



NOTES:

- LEADER AND TRAILER TAPE
- PEELING OFF FORCE OF THE TOP TAPE: 20-80gf.  
(PEELING DIRECTION AS SHOWN IN FOLLOWING FIGURE)
- PACKAGING STANDARD IS AS PER EIA-481.

- KAPTON TAPE SHOULD BE LOCATED AS CENTRAL OF PART AS POSSIBLE AND MUST COVER THE WINDOWS.
- TAPE & REEL QUANTITY : 500 PCS/REEL

<b>ADD IN NOTE NO. 7</b> EC NO: S2009-0964 2009/07/01 DRWN: YMC HONG 2009/07/08 CHKD: SKANG 2009/07/15 APPR: MLONG 2009/07/15	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.2 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3°	DIMENSION STYLE MM ONLY DRAWN BY ATSEE DATE 2003/10/23 CHECKED BY KCL ING DATE 2003/11/07 APPROVED BY SKTOH DATE 2003/11/07	SCALE NTS DESIGN UNITS METRIC THIRD ANGLE PROJECTION	TITLE MGRID, SHROUDED HEADER W/LOCKING FEATURE, R/A
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	SEE TABLE	MATERIAL NO. SKTOH 2003/11/07	DOCUMENT NO. SD-87833-011	SHEET NO. 2 OF 2
	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				
	SIZE A3				

9 8 7 6 5 4 3 2 1