

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

**Part Number:** [0878331231](#)  
**Status:** **Active**  
**Overview:** milligrid  
**Description:** 2.00mm (.079") Pitch Milli-Grid™ Header, Right Angle, Shrouded, Lead-free, 12 Circuits, 0.38µm (15µ") Gold (Au) Plating, without PCB Locator, with Locking Window, without Center Polarization Slot, Tube

**Documents:**

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

**Agency Certification**

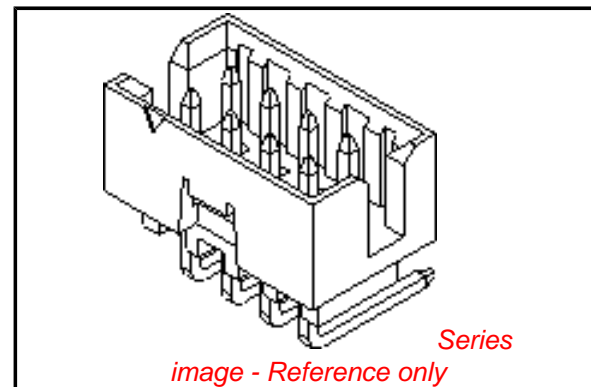
CSA LR19980  
 UL E29179

**General**

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

**Physical**

Breakaway No  
 Circuits (Loaded) 12  
 Circuits (maximum) 12  
 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 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) 15  
 Plating min: Mating (µm) 0.38  
 Plating min: Termination (µin) 75  
 Plating min: Termination (µm) 1.88



**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

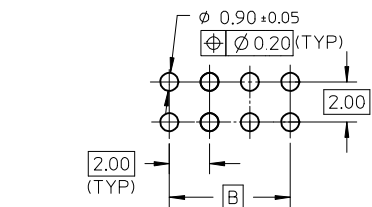
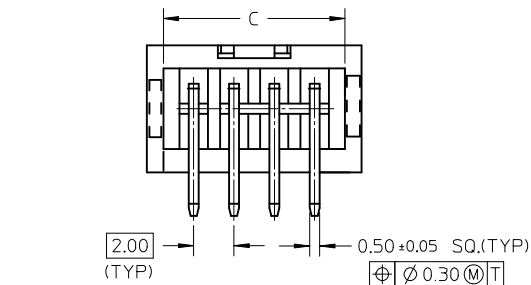
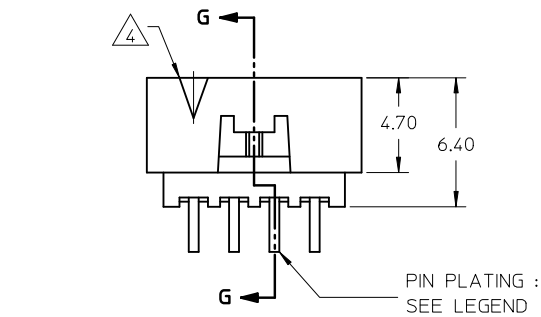
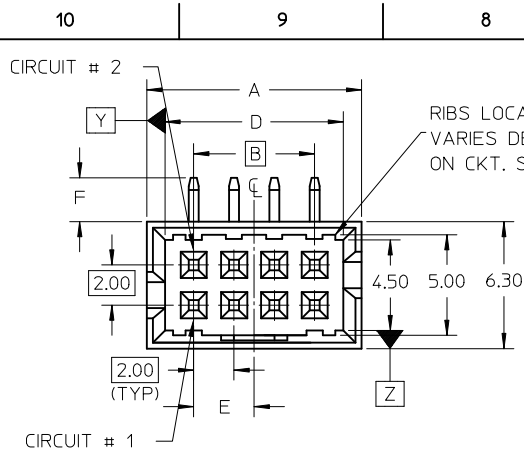
### **Material Info**

### **Reference - Drawing Numbers**

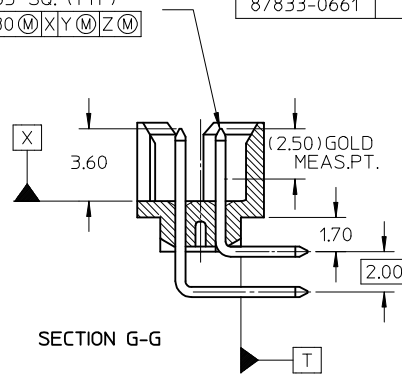
Product Specification	PS-87831-027
Sales Drawing	SD-87833-011

This document was generated on 05/26/2010

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0.50±0.05 SQ. (TYP)  
 $\text{⊕} \text{⌀} 0.30 \text{Ⓜ} \text{X} \text{Y} \text{Ⓜ} \text{Z} \text{Ⓜ}$



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	-	-	12	1	14.65	10.00	13.00	12.85	5.00	2.16	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.

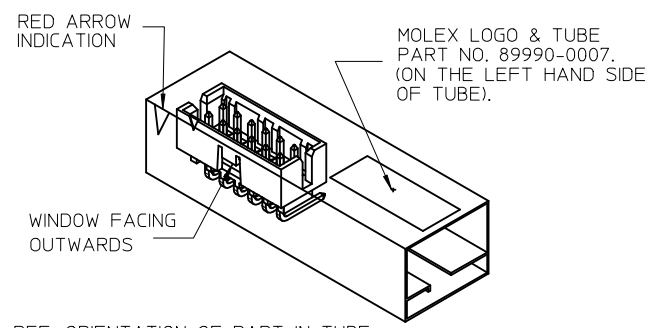
NOTES:

- 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

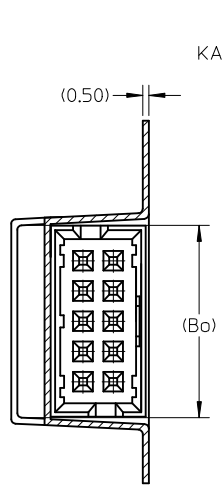
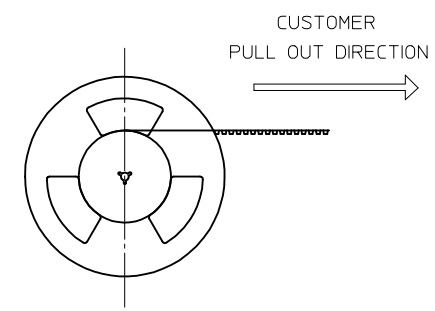
ADD IN NOTE NO. 7 EC NO: S2009-0964 DRWN: YMCHONG CHKD: SKANG APPR: MLONG	2009/07/01 2009/07/08 2009/07/15	QUALITY SYMBOLS $\blacktriangledown = 0$ $\text{Ⓜ} = 0$	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION				
				mm	INCH	DRAWN BY ATSEE	DATE 2003/10/23	TITLE MGRID, SHROUDED HEADER W/LOCKING FEATURE, R/A					
				4 PLACES	± ---	± ---	CHECKED BY KCLING	DATE 2003/11/07	MOLEX INCORPORATED				
				3 PLACES	± ---	± ---	APPROVED BY SKTOH	DATE 2003/11/07	DOCUMENT NO. SD-87833-011				
	2 PLACES	± 0.2	± ---	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		MATERIAL NO. SEE TABLE		SHEET NO. 1 OF 2					
	1 PLACE	± ---	± ---	ANGULAR ± 3 °		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

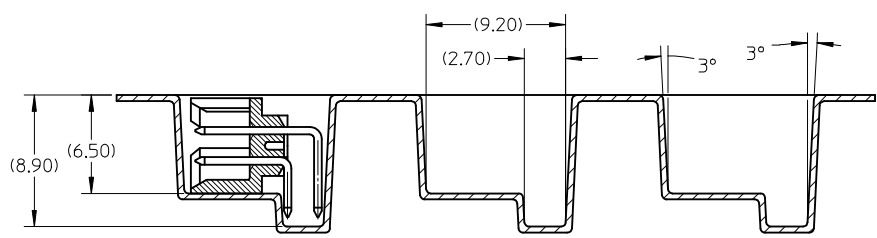
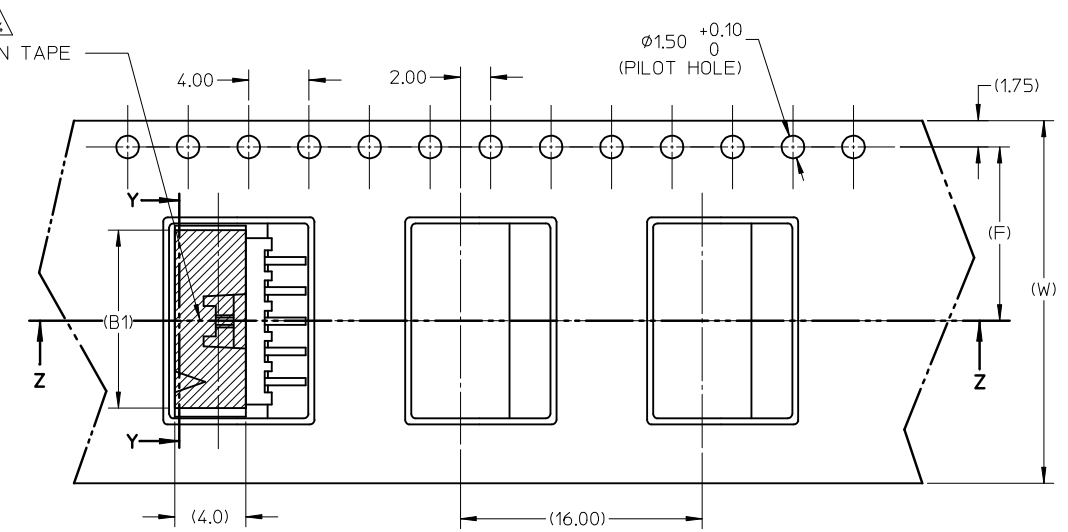
ASSEMBLY P/N PACKED IN T&R (WITH KAPTON)	CKT SIZE	(F)	(Bo)	(B1)	(W)
87833-0451	04	7.50	7.00	6.00	16.00
87833-0651	06	11.50	9.00		24.00
87833-0851	08	11.50	11.00	10.00	24.00
87833-1051	10	11.50	13.00	12.00	24.00



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



SECTION Y-Y



SECTION Z-Z

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

ADD IN NOTE NO. 7	EC NO: S2009-0964	2009/07/01	QUALITY SYMBOLS ▽=0 ◻=0
	DRWN:YMCCHONG	2009/07/08	
	CHKD:SKANG	2009/07/15	
	APPR:MLONG	2009/07/15	
A13	REV	DESCRIPTION	

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

DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
MM ONLY		NTS	METRIC	⊙ □
DRAWN BY	DATE	TITLE		
ATSEE	2003/10/23	MGRID, SHROUDED HEADER W/LOCKING FEATURE, R/A		
CHECKED BY	DATE	MOLEX INCORPORATED		
KCL ING	2003/11/07	DOCUMENT NO. SD-87833-011		
APPROVED BY	DATE	SHEET NO. 2 OF 2		
SKTOH	2003/11/07	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		
MATERIAL NO.	SEE TABLE			

9 8 7 6 5 4 3 2 1