

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

**Part Number:** [0878312021](#)  
**Status:** **Active**  
**Overview:** milligrid  
**Description:** 2.00mm (.079") Pitch Milli-Grid™ Header, Vertical, Through Hole, Shrouded, Lead-free, 20 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**

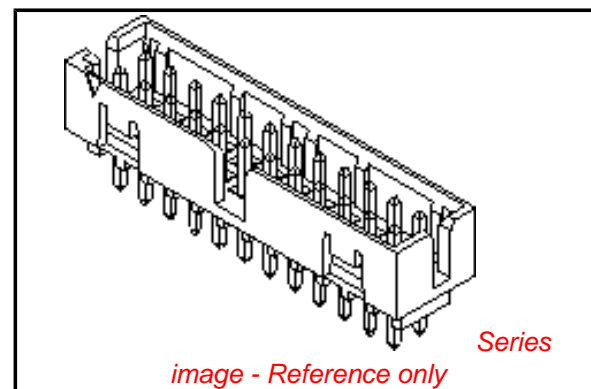
CSA LR19980  
 UL E29179

**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) 20  
 Circuits (maximum) 20  
 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**

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

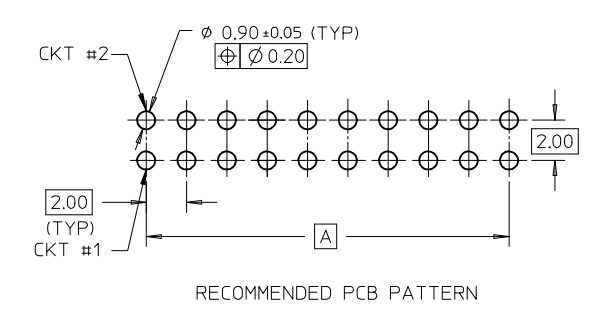
### **Material Info**

### **Reference - Drawing Numbers**

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

This document was generated on 05/26/2010

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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:**
1. FOR ILLUSTRATION PURPOSES, 20 CIRCUIT SIZE WAFER IS SHOWN.
  2. MATERIAL : HOUSING : 30% G.F., NYLON 46, UL94V-0, COLOR BLACK. PIN : 0.50MM SQ.PHOSPHOR BRONZE.
  3. PRODUCT SPECIFICATION PS-87831-027 APPLIES.
  4. NO CENTRE POLARIZATION SLOT FOR CKT SIZE 4 & 6 (EXCEPT FOR 87831-5119).
  5. NO SIDE LOCKING SLOT FROM 4 TO 12 CKT SIZE.
  6. CKT 4 AND 6 HAS NO IDENTIFICATION TAG.
  7. REFER TO PART 87831-\*\*4\* FOR CENTRE LOCKING SLOT OPTION FOR 4 TO 12 CKT.
  8. THIS HEADER MATES WITH MOLEX :
    - a) CRIMP RECEPTACLE HOUSING, 51110 SERIES WITH CRIMP TERMINAL, 50394 SERIES.
    - b) 2MM MILLIGRID DUAL ROW IDT, 87568 SERIES.
  9. 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 KCLING	DATE 2003/11/07	MOLEX INCORPORATED			
			3 PLACES	± ---	± ---	APPROVED BY SKTOH	DATE 2003/11/07	DOCUMENT NO. SD-87831-011		SHEET NO. 1 OF 2	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			ANGULAR ± 3 °		SEE TABLE		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

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			mm	INCH	DRAWN BY	DATE	TITLE			
		4 PLACES	± ---	± ---	ATSEE	2003/10/03	MGRID, SHROUDED HEADER VERTICAL W/SLOT & STANDOFF			
		3 PLACES	± ---	± ---	CHECKED BY	DATE				
2 PLACES	± 0.2	± ---	KCLING	2003/11/07	MOLEX INCORPORATED					
1 PLACE	± ---	± ---	APPROVED BY	DATE						
ANGULAR ± 3 °		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SKTOH	2003/11/07	DOCUMENT NO.		SHEET NO.		
A14		SEE TABLE		MATERIAL NO.		SD-87831-011		2 OF 2		
				SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				