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Part Number: [0878311221](#)
Status: **Active**
Overview: [milligrid](#)
Description: 2.00mm (.079") Pitch Milli-Grid™ Header, Vertical, Through Hole, Shrouded, Lead-free, 12 Circuits, 0.76µm (30µ") Gold (Au) Plating, Center Polarization Slot, without Locking Window, 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) 12
Circuits (maximum) 12
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 None
Material - Metal Brass
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)

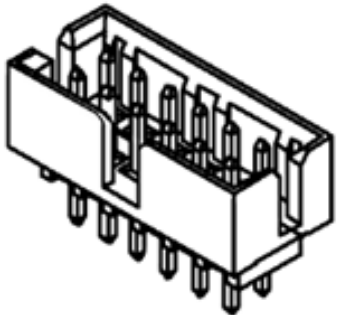


image - Reference only

Series

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

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

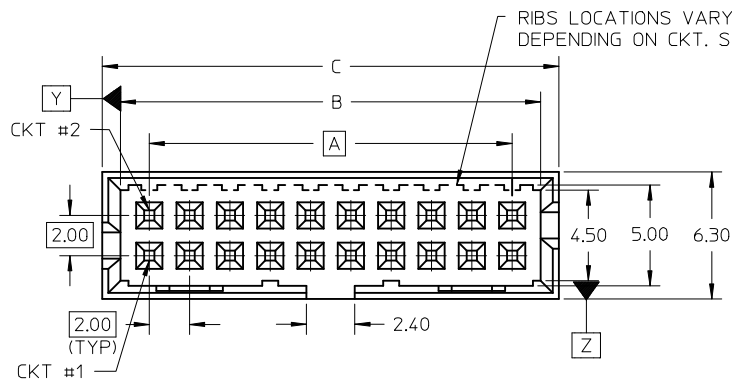
Material Info

Reference - Drawing Numbers

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

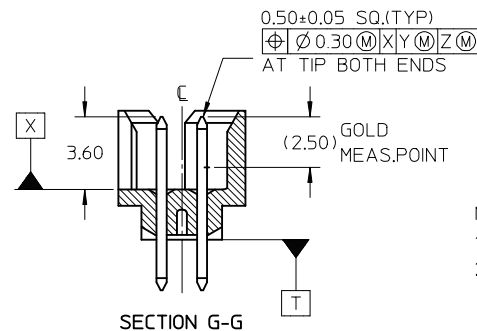
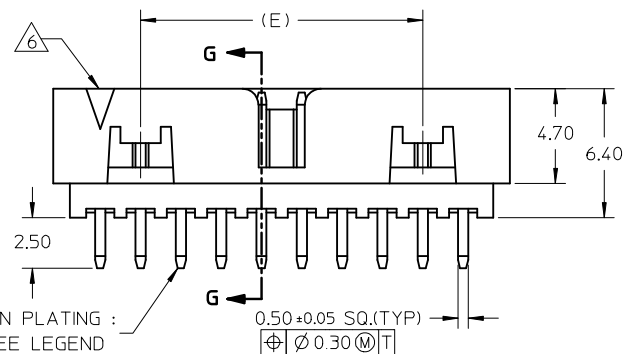
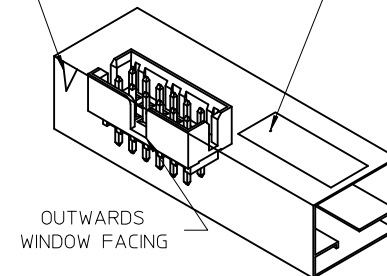
This document was generated on 05/26/2010

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RED ARROW
INDICATION

MOLEX LOGO & TUBE
PART NO. 89990-0007.
(ON THE LEFT HAND
SIDE OF TUBE).



PART NUMBER LEGEND :

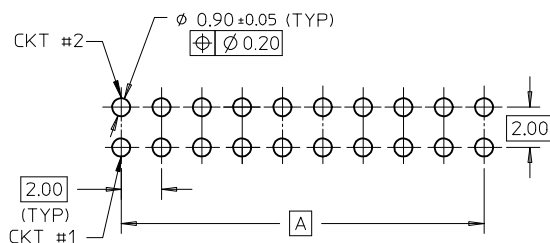
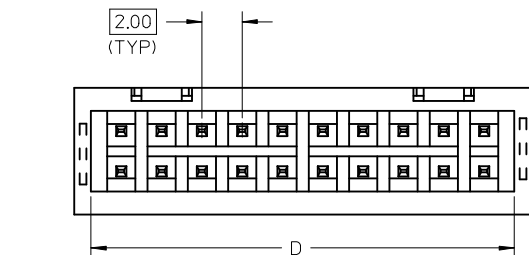
87831 - * * * *

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.



RECOMMENDED PCB PATTERN

REVISED EC NO: S2009-0559 DRWN:SKANG CHKD:ATSEE APPR:MLONG 2009/02/23 2009/02/23 2009/02/23	DESCRIPTION	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		
			4 PLACES	± ---	± ---	CHECKED BY	DATE			
			3 PLACES	± ---	± ---	KCLING	2003/11/07			
			2 PLACES	± 0.2	± ---	APPROVED BY	DATE			
		1 PLACE	± ---	± ---	SKTOH	2003/11/07	 MOLEX INCORPORATED			
		ANGULAR ± 3 °				MATERIAL NO.		DOCUMENT NO.		SHEET NO.
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				SEE TABLE		SD-87831-011		1 OF 2
		A14				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
F	P/N IN TUBE	CKT SIZE	VOID POSITION	DIMENSION								
				A	B	C	D	E				
F	87831-04**	4	-----	2.00	4.85	6.65	5.00	-----	} NO CENTRE POLARIZATION SLOT			
	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	-----				
E	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				
D	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				
C	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				
B	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	-----				
A	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				
ib_frame_A3_P_AM_T Rev. E 2006/04/15		9		8		7	6	5	4	3	2	1

REVISED	EC NO: S2009-0559	DRWN:SKANG	2009/02/23	CHKD:ATSEE	2009/02/23	APPR:MLONG	2009/02/23	DESCRIPTION	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION			
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		SKTOH		2003/11/07		MOLEX MOLEX INCORPORATED													
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