

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

**Part Number:** [0878322220](#)  
**Status:** **Active**  
**Overview:** milligrid  
**Description:** 2.00mm (.079") Pitch Milli-Grid™ Header, Surface Mount, Vertical, Shrouded, Lead-free, 22 Circuits, 0.38µm (15µ") Gold (Au) Plating, with Locking Windows and Centre Polarization Slot, PCB Locator, Tube

**Documents:**

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

**Agency Certification**

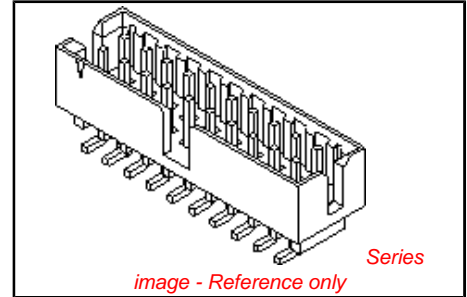
CSA LR19980  
 UL E29179

**General**

Product Family PCB Headers  
 Series [87832](#)  
 Application Wire-to-Board  
 Comments Contact Molex for application in automotive industry  
 Overview [milligrid](#)  
 Product Name Milli-Grid™

**Physical**

Breakaway No  
 Circuits (Loaded) 22  
 Circuits (maximum) 22  
 Color - Resin Black  
 First Mate / Last Break No  
 Flammability 94V-0  
 Glow-Wire Compliant No  
 Guide to Mating Part No  
 Keying to Mating Part Yes  
 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 Vertical  
 PCB Locator Yes  
 PCB Retention None  
 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  
 Polarized to Mating Part Side Slots (2)  
 Polarized to PCB No  
 Shrouded Fully  
 Stackable No  
 Temperature Range - Operating -55°C to +105°C



**EU RoHS** **China RoHS**

**ELV and RoHS Compliant**  
**REACH SVHC Contains SVHC: No**  
**Halogen-Free Status**  
**Not Halogen-Free**



**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**  
[87832Series](#)

**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

Termination Interface: Style

Surface Mount

**Electrical**

Current - Maximum per Contact

2A

Voltage - Maximum

125V

**Solder Process Data**

Duration at Max. Process Temperature (seconds)

10

Lead-free Process Capability

Reflow Capable (SMT only)

Max. Cycles at Max. Process Temperature

1

Process Temperature max. C

260

**Material Info**

**Reference - Drawing Numbers**

Product Specification

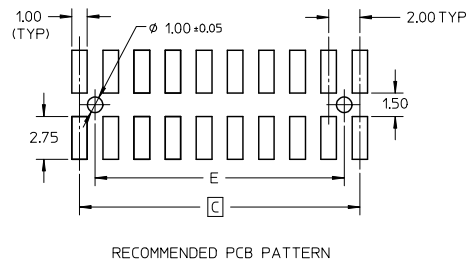
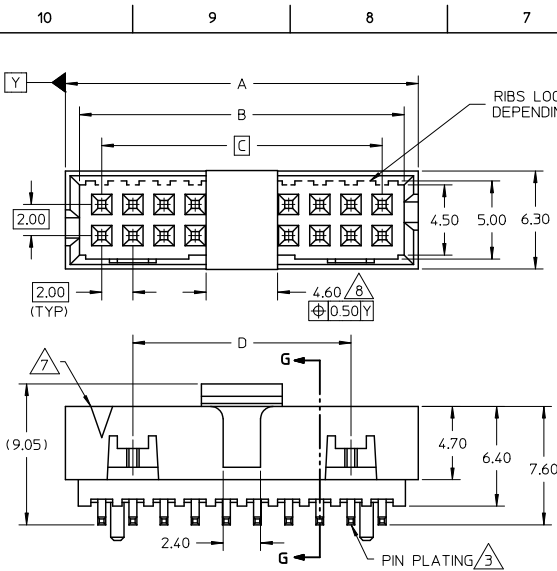
PS-87831-027

Sales Drawing

SD-87832-006

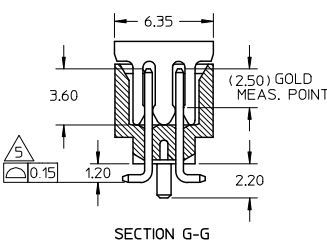
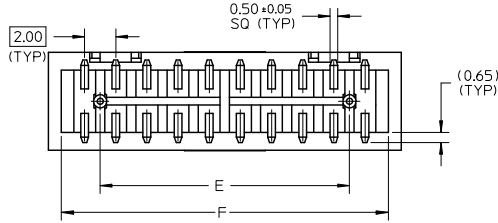
This document was generated on 05/25/2010

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CKT SIZE	A	B	C	D	E	F
4	6.65	4.85	2.00	-----	-----	5.00
6	8.65	6.85	4.00	-----	-----	7.00
8	10.65	8.85	6.00	-----	-----	4.00
10	12.65	10.85	8.00	-----	-----	6.00
12	14.65	12.85	10.00	-----	-----	8.00
14	16.65	14.85	12.00	8.00	10.00	15.00
16	18.65	16.85	14.00	10.00	12.00	17.00
18	20.65	18.85	16.00	12.00	14.00	19.00
20	22.65	20.85	18.00	14.00	16.00	21.00
22	24.65	22.85	20.00	16.00	18.00	23.00
24	26.65	24.85	22.00	18.00	20.00	25.00
26	28.65	26.85	24.00	20.00	22.00	27.00
28	30.65	28.85	26.00	22.00	24.00	29.00
30	32.65	30.85	28.00	24.00	26.00	31.00
32	34.65	32.85	30.00	26.00	28.00	33.00
34	36.65	34.85	32.00	28.00	30.00	35.00
36	38.65	36.85	34.00	30.00	32.00	37.00
38	40.65	38.85	36.00	32.00	34.00	39.00
40	42.65	40.85	38.00	34.00	36.00	41.00
42	44.65	42.85	40.00	36.00	38.00	43.00
44	46.65	44.85	42.00	38.00	40.00	45.00
46	48.65	46.85	44.00	40.00	42.00	47.00
48	50.65	48.85	46.00	42.00	44.00	49.00
50	52.65	50.85	48.00	44.00	46.00	51.00

- NOTES:
- FOR ILLUSTRATION PURPOSES, 20 CIRCUIT SIZE WAFER IS SHOWN.
  - MATERIAL : HOUSING & CAP : 30% G.F., NYLON 46, UL94-V0, COLOR BLACK. PIN : 0.50MM SQ.PHOSPHOR BRONZE.
  - PLATING : 0.38um/15uin GOLD IN CONTACT AREA AND 188um/75uin MIN.TIN IN SOLDER TAIL AREA OVER 127um/50uin MIN.NICKEL OVERALL.
  - PRODUCT SPECIFICATION PS-87831-027 APPLIES.
  - COPLANARITY IS TO BE MEASURED BY RESTING THE SOLDER TAIL ON A GAUGE SURFACE.
  - NO SIDE LOCKING SLOT FROM 4 TO 12 CKT SIZE.
  - CKT 4 & 6 HAS NO IDENTIFICATION TAG.
  - POSITION OF CAP TO BE LOCATED AT CENTER OF DIMENSION 'A' REGARDLESS OF CIRCUIT SIZE.
  - TOP SURFACE OF CAP TO BE FLAT FOR THE PURPOSE OF PICK-&-PLACE BY VACUUM SUCTION NOZZLE.
  - THIS HEADER MATES WITH MOLEX:
    - a) CRIMP RECEPTACLE HOUSING, 51110 SERIES WITH CRIMP TERMINAL, 50394 SERIES.
    - b) 2MM MILLIGRID DUAL ROW IDT, 87568 SERIES.
  - NO CENTRE POLARIZATION SLOT FOR CKT SIZE 4 AND 6.
  - PARTS SHALL BE PACKED IN MOISTURE BARRIER BAG.



ADD ILLUSTRATION  
 EIC NO: S22009-0556  
 DIR: WNSKANG  
 CHKD: ATSEE  
 APPR: MILONG  
 2009/02/23  
 2009/02/23  
 2009/02/23

QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	
	mm	INCH
▽=0	4 PLACES ± ---	± ---
▽=0	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	2003/10/14	MGRID, SHROUDED HEADER		
CHECKED BY	DATE	SMT, W/PEGS/CAP FOR PICK		
KCLING	2003/11/07	& PLACE IN TUBE AND T&R		
APPROVED BY	DATE	MOLEX INCORPORATED		
SKTOH	2003/11/07	MOLEX INCORPORATED		
MATERIAL NO.	DOCUMENT NO.	SHEET NO.		
SEE TABLE	SD-87832-006	1 OF 4		

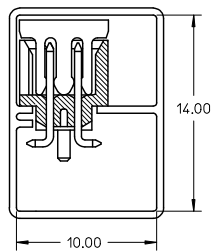
DRAFT WHERE APPLICABLE  
 MUST REMAIN  
 WITHIN DIMENSIONS

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

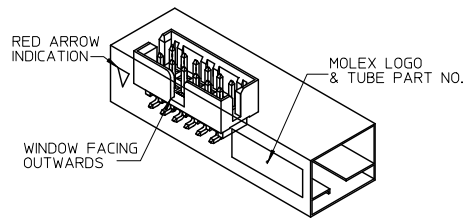
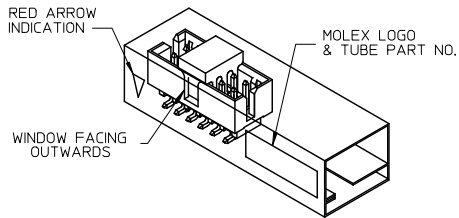
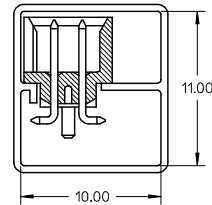
10 9 8 7 6 5 4 3 2 1

TUBE PACKAGING

WITH CAP IN TUBE



WITHOUT CAP IN TUBE



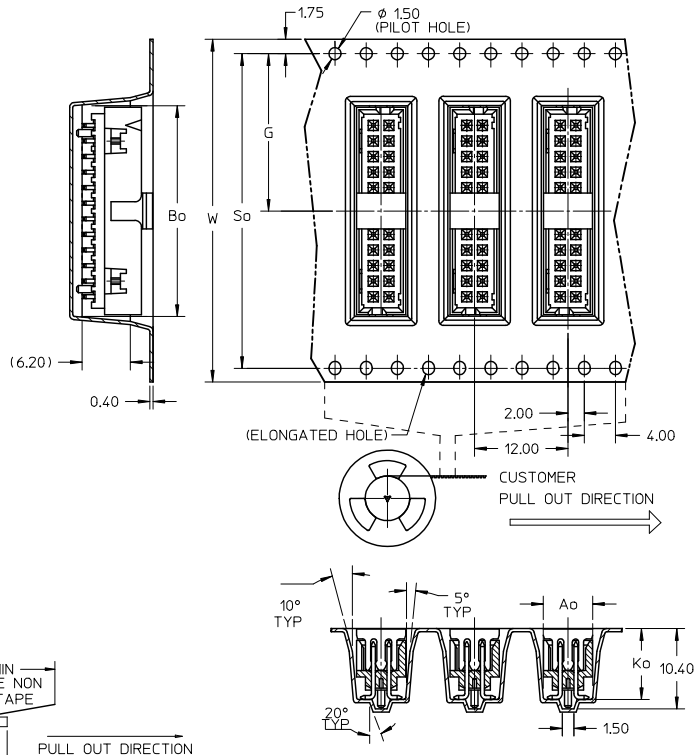
REF : ORIENTATION OF PART IN TUBE  
(FOR THE REFERENCE OF PART/TUBE ASSEMBLY)

ADD ILLUSTRATION EIC NO: S22009-0556 2009/02/23 DRWNSKANG 2009/02/23 CHYKATSEE 2009/02/23 APPR:MLONG	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
		4 PLACES ± --- ± ---	3 PLACES ± --- ± ---	mm	INCH	DRAWN BY ATSEE	DATE 2003/10/14	TITLE MGRID, SHROUDED HEADER SMT, W/PEGS/CAP FOR PICK & PLACE IN TUBE AND T&R	
		2 PLACES ± 0.2 ± ---	1 PLACE ± --- ± ---	ANGULAR ± 3°		CHECKED BY KCLING	DATE 2003/11/07	MOLEX INCORPORATED	
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		APPROVED BY SKTOH	DATE 2003/11/07	MATERIAL NO.	DOCUMENT NO.
A9	REV			SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			

9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

EMBOSSED CARRIER TAPE LAYOUT  
24 CKT USE FOR ILLUSTRATION ONLY



- NOTES:
- LEADER AND TRAILER TAPE  
160 MIN. TOP TAPE TRAILER  
390 MIN. TOP TAPE NON BONDED TAPE  
160 MIN. COMPONENT 230 MIN. PULL OUT DIRECTION
  - PEELING OFF FORCE OF THE TOP TAPE: 20-80gf.  
(PEELING DIRECTION AS SHOWN IN FOLLOWING FIGURE)  
15° MAX. PEEL OFF DIRECTION PULL OUT DIRECTION
  - PACKAGING STANDARD IS AS PER EIA-481.

ADD ILLUSTRATION EIC NO: S22009-0556 DRAWNSKANG 2009/02/23 CHYKATSEE 2009/02/23 APPR:MLONG 2009/02/23 A9	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION	
		mm	INCH	MM ONLY	NTS	METRIC		
		4 PLACES ± --- ± ---		DRAWN BY	DATE	TITLE		
		3 PLACES ± --- ± ---		ATSEE	2003/10/14	MGRID, SHROUDED HEADER SMT, W/PEGS/CAP FOR PICK & PLACE IN TUBE AND T&R		
2 PLACES ± 0.2 ± ---		CHECKED BY	DATE	MOLEX INCORPORATED MOLEX INCORPORATED				
1 PLACE ± --- ± ---		KCLING	2003/11/07					
ANGULAR ± 3°		APPROVED BY	DATE	DOCUMENT NO.		SHEET NO.		
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SKTOH	2003/11/07	SD-87832-006		3 OF 4		
		MATERIAL NO.	SEE TABLE	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				
		SIZE	A3					

tb\_frame\_A3\_P\_AM\_T Rev. E 2006/04/15 9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

PLS REFER TO PART 87832-\*\*\*08 FOR CENTER LOCKING SLOT OPTION.

REG. OPTION	P/N W/O CAP IN TUBE	P/N W/CAP IN TUBE	P/N W/CAP IN TAPE & REEL	CKT SIZE	DIMENSION					
					W	G	Bo	So	Ao	Ko
NO	87832-0420	87832-0422	87832-5122	4	16.00	7.50	7.15	-----	6.40	9.30
YES	87832-0620	87832-0622	87832-5222	6	24.00	11.50	9.15	-----	6.40	9.30
YES	87832-0820	87832-0822	87832-5322	8	24.00	11.50	11.05	-----	6.40	9.30
YES	87832-1020	87832-1022	87832-5422	10	24.00	11.50	13.05	-----	6.40	9.30
YES	87832-1220	87832-1222	87832-5522	12	32.00	14.20	15.15	28.40	6.85	9.30
YES	87832-1420	87832-1422	87832-5622	14	32.00	14.20	17.05	28.40	6.40	9.30
YES	87832-1620	87832-1622	87832-5722	16	32.00	14.20	19.05	28.40	6.40	9.30
YES	87832-1820	87832-1822	87832-5822	18	44.00	20.20	21.05	40.40	6.40	9.30
YES	87832-2020	87832-2022	87832-5922	20	44.00	20.20	23.05	40.40	6.40	9.30
YES	87832-2220	87832-2222	87832-6022	22	44.00	20.20	25.05	40.40	6.40	9.30
YES	87832-2420	87832-2422	87832-6122	24	44.00	20.20	27.05	40.40	6.40	9.30
YES	87832-2620	87832-2622	87832-6222	26	44.00	20.20	29.05	40.40	6.40	9.30
YES	87832-2820	87832-2822	87832-6322	28	56.00	26.20	31.05	52.40	6.40	9.30
YES	87832-3020	87832-3022	87832-6422	30	56.00	26.20	33.05	52.40	6.40	9.30
YES	87832-3220	87832-3222	-----	32	-----	-----	-----	-----	-----	-----
YES	87832-3420	87832-3422	87832-6622	34	56.00	26.20	37.05	52.40	6.40	9.30
YES	87832-3620	87832-3622	-----	36	-----	-----	-----	-----	-----	-----
YES	87832-3820	87832-3822	-----	38	-----	-----	-----	-----	-----	-----
YES	87832-4020	87832-4022	87832-6922	40	56.00	26.20	43.05	52.40	6.40	9.30
YES	87832-4220	87832-4222	-----	42	-----	-----	-----	-----	-----	-----
YES	87832-4420	87832-4422	87832-7122	44	56.00	26.20	46.80	52.40	6.40	9.30
YES	87832-4620	87832-4622	87832-7222	46	56.00	26.20	47.05	52.40	6.40	9.30
YES	87832-4820	87832-4822	-----	48	-----	-----	-----	-----	-----	-----
YES	87832-5020	87832-5022	87832-7422	50	72.00	34.20	53.05	68.40	6.40	9.30

ADD ILLUSTRATION EIC NO: S2009-0556 DRAWNSKANG 2009/02/23 CHYKATSEE 2009/02/23 APPR:MLONG 2009/02/23 A9	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	$\nabla = 0$ $\nabla = 0$	mm INCH	MM ONLY	NTS	METRIC	
		4 PLACES ± --- ± ---	DRAWN BY DATE			
		3 PLACES ± --- ± ---	ATSEE 2003/10/14			
	2 PLACES ± 0.2 ± ---	CHECKED BY DATE				
	1 PLACE ± --- ± ---	KCLING 2003/11/07				
	ANGULAR ± 3°	APPROVED BY DATE				
		SKTOH 2003/11/07				
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	MATERIAL NO.	SEE TABLE	DOCUMENT NO.	MOLEX INCORPORATED	
		SIZE A3		SD-87832-006	SHEET NO. 4 OF 4	