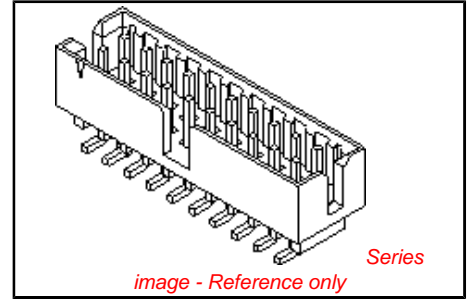


**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [0878322020](#)  
**Status:** **Active**  
**Overview:** milligrid  
**Description:** 2.00mm (.079") Pitch Milli-Grid™ Header, Surface Mount, Vertical, Shrouded, Lead-free, 20 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) 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 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?**

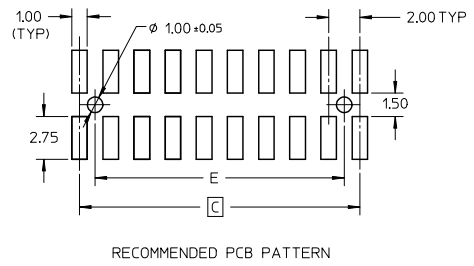
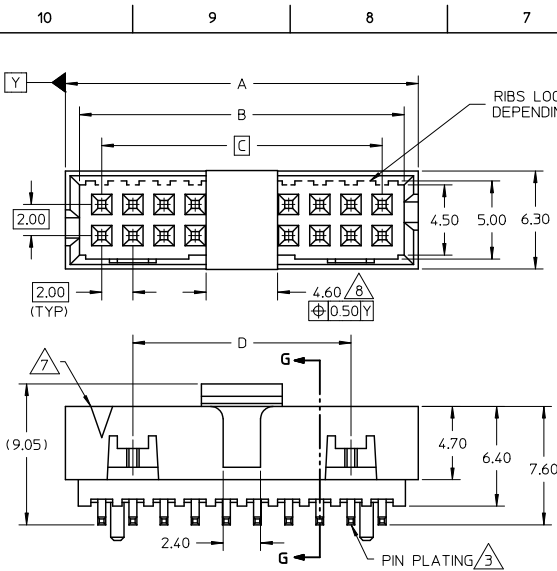
Email [productcompliance@molex.com](mailto:productcompliance@molex.com)  
 For a multiple part number RoHS Certificate of Compliance, [click here](#)

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

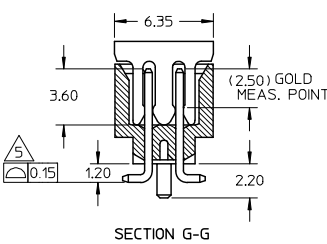
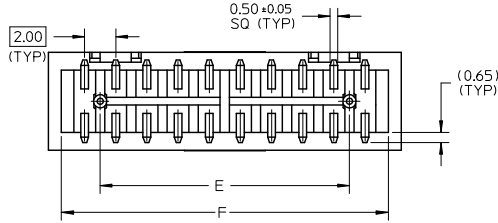




RECOMMENDED PCB PATTERN

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.



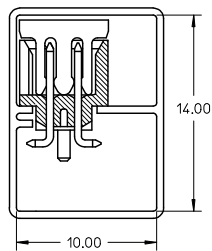
SECTION G-G

ADD ILLUSTRATION EIC NO: S22009-0556 DIRWNSKANG CHYKATSEE APPROVALONG 2009/02/23 2009/02/23 2009/02/23	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION	
				MM ONLY		NTS	METRIC		
				mm	INCH	DRAWN BY DATE		TITLE	
						ATSEE 2003/10/14		MGRID, SHROUDED HEADER SMT, W/PEGS/CAP FOR PICK & PLACE IN TUBE AND T&R	
				CHECKED BY DATE		MOLEX INCORPORATED			
				KCLING 2003/11/07		DOCUMENT NO.		SHEET NO.	
				APPROVED BY DATE		SD-87832-006		1 OF 4	
				SKTOH 2003/11/07					
				MATERIAL NO.					
				SEE TABLE					
				SIZE					
				A3					
				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					

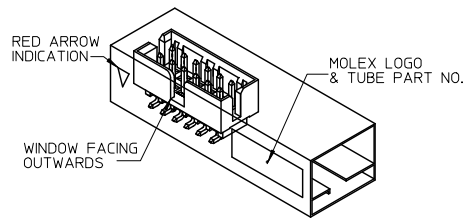
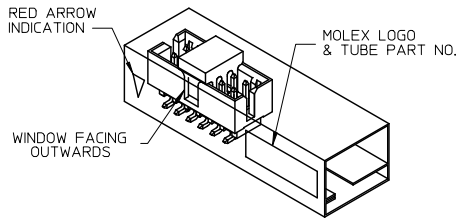
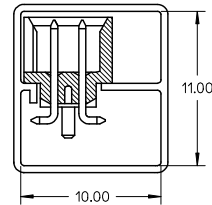
10 9 8 7 6 5 4 3 2 1

TUBE PACKAGING

WITH CAP IN TUBE



WITHOUT CAP IN TUBE



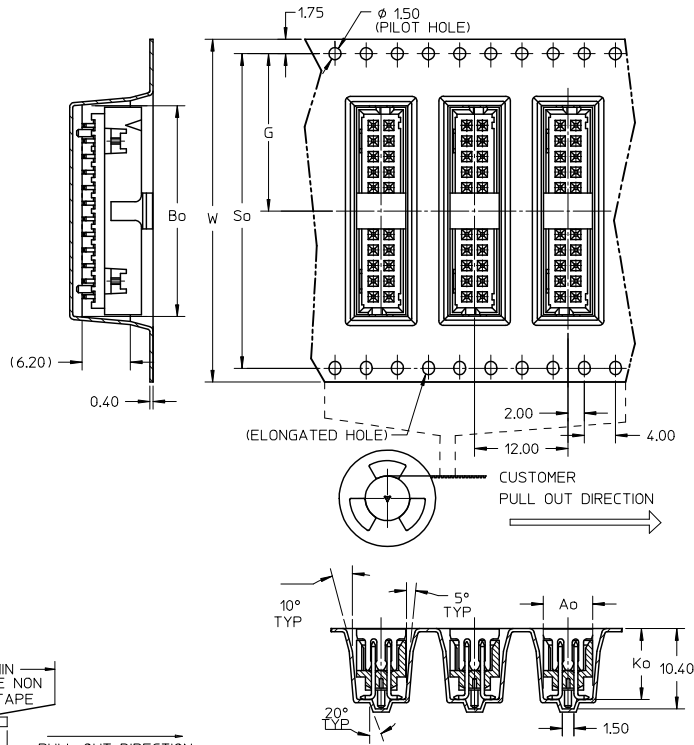
REF : ORIENTATION OF PART IN TUBE  
(FOR THE REFERENCE OF PART/TUBE ASSEMBLY)

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

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	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	$\nabla=0$ $\nabla=0$	mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.2 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3°	MM ONLY	NTS	METRIC	
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWN BY DATE ATSEE 2003/10/14 CHECKED BY DATE KCLING 2003/11/07 APPROVED BY DATE SKTOH 2003/11/07	TITLE MGRID, SHROUDED HEADER SMT, W/PEGS/CAP FOR PICK & PLACE IN TUBE AND T&R	MOLEX INCORPORATED		
	MATERIAL NO. SEE TABLE	DOCUMENT NO. SD-87832-006	SHEET NO. 3 OF 4	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

PLS REFER TO PART 87832-008 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 DRWNSKANG CHYKATSEE APPR:MLONG 2009/02/23 2009/02/23 2009/02/23	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	=0 =0	mm INCH	MM ONLY	NTS	METRIC	
	4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.2 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3°	DRAWN BY DATE ATSEE 2003/10/14 CHECKED BY DATE KCLING 2003/11/07 APPROVED BY DATE SKTOH 2003/11/07	TITLE	MGRID, SHROUDED HEADER SMT, W/PEGS/CAP FOR PICK & PLACE IN TUBE AND T&R		
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	MATERIAL NO. SEE TABLE	MOLEX INCORPORATED MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION	DOCUMENT NO. SD-87832-006	SHEET NO.	4 OF 4