

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

**Part Number:** [0873813019](#)  
**Status:** **Active**  
**Description:** 2.00mm (.079") Pitch Milli-Grid™ Receptacle, Surface Mount, Top Entry, 0.38μm (15μ") Gold (Au) Plating, with Cap, with Locating Pegs, 30 Circuits, Lead-free, Tube

**Documents:**

[3D Model](#) [Product Specification PS-87380-002 \(PDF\)](#)  
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)

**Agency Certification**

CSA LR19980  
 UL E29179

**General**

Product Family PCB Receptacles  
 Series [87381](#)  
 Application Board-to-Board  
 Comments With Cap  
 Product Literature Order No 987650-1991  
 Product Name Milli-Grid™

**Physical**

Circuits (Loaded) 30  
 Circuits (maximum) 30  
 Color - Resin Black  
 Durability (mating cycles max) 25  
 Flammability 94V-0  
 Glow-Wire Compliant No  
 Lock to Mating Part None  
 Material - Metal Phosphor Bronze  
 Material - Plating Mating Gold  
 Material - Plating Termination Tin-Lead  
 Material - Resin High Temperature Thermoplastic  
 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) 50  
 Plating min: Termination (μm) 1.27  
 Polarized to PCB No  
 Robotic Placement Pick and Place Cap  
 Surface Mount Compatible (SMC) N/A  
 Temperature Range - Operating -55°C to +105°C  
 Termination Interface: Style Surface Mount

**Electrical**

Current - Maximum per Contact 1.9A  
 Voltage - Maximum 125V

**Material Info**

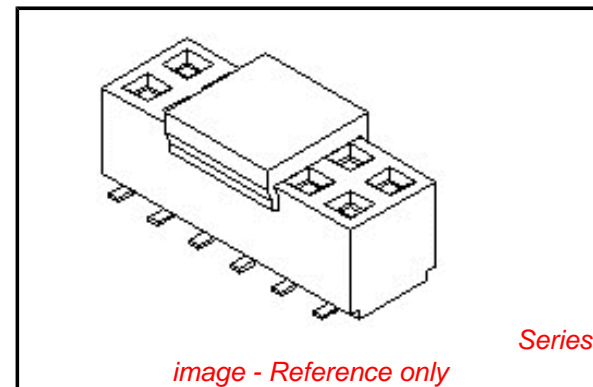


image - Reference only

**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**

[87381Series](#)

**Mates With**

[87758](#) Vertical, Through Hole, Stackable PCB Header, [87759](#) Vertical, Surface Mount, Stackable PCB Header, [87760](#) Right Angle, Through Hole, Stackable PCB Header, [87831](#) Vertical, Through Hole PCB Header, [87832](#) Vertical, Surface Mount PCB

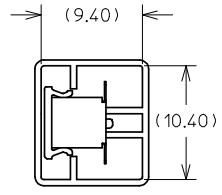
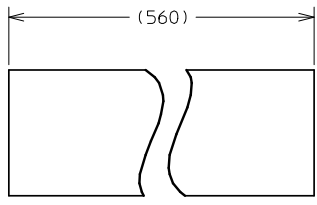
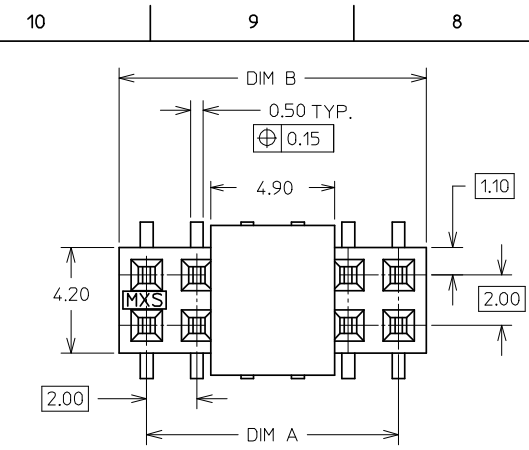
**Reference - Drawing Numbers**

Product Specification  
Sales Drawing

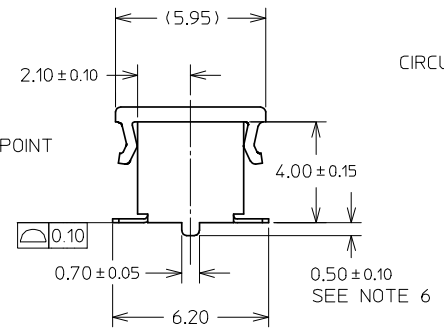
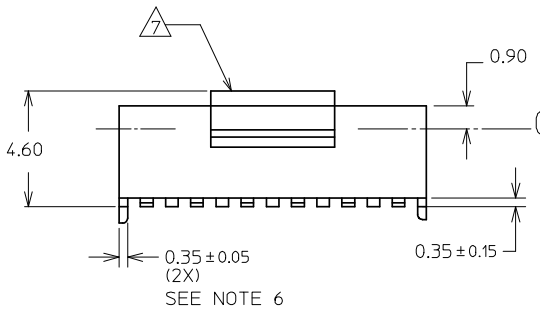
PS-87380-002  
SD-87381-\*\*\*3

This document was generated on 03/18/2010

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CONNECTOR ORIENTATION IN TUBE



PART NO. LEGEND

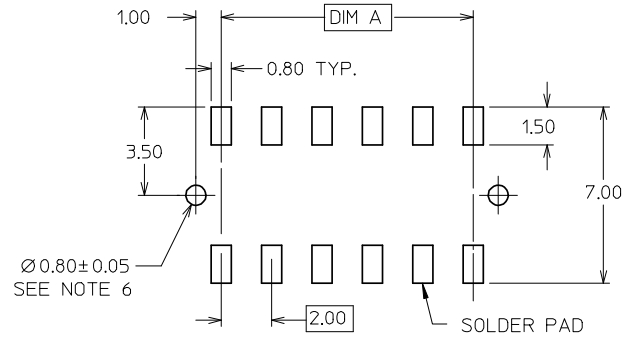
87381 - \* \* \* \*

CIRCUIT SIZE  
 PLATING  
 5  
 9 (SEE NOTE 1)  
 PEG OPTION  
 0 WITHOUT PEG  
 1 WITH PEG

PART NUMBER W/ CAP IN TUBE	CKT. SIZE	DIM A	DIM B
87381-04**	4	2.00	4.00
87381-06**	6	4.00	6.00
87381-08**	8	6.00	8.00
87381-10**	10	8.00	10.00
87381-12**	12	10.00	12.00
87381-141*	14	12.00	14.00
87381-16**	16	14.00	16.00
87381-18**	18	16.00	18.00
87381-20**	20	18.00	20.00
87381-22**	22	20.00	22.00
87381-24**	24	22.00	24.00
87381-26**	26	24.00	26.00
87381-28**	28	26.00	28.00
87381-30**	30	28.00	30.00
87381-32**	32	30.00	32.00
87381-34**	34	32.00	34.00
87381-36**	36	34.00	36.00
87381-38**	38	36.00	38.00
87381-40**	40	38.00	40.00
87381-42**	42	40.00	42.00
87381-44**	44	42.00	44.00
87381-46**	46	44.00	46.00
87381-48**	48	46.00	48.00
87381-50**	50	48.00	50.00

NOTES:

- PLATING FINISH :
  - 5 - 0.76µm MIN. GOLD IN CONTACT AREA  
1.27µm MIN TIN IN SOLDER TAIL AREA  
BOTH OVER 1.27µm MIN NICKEL OVERALL
  - 9 - 0.38µm MIN GOLD IN CONTACT AREA  
1.27µm MIN TIN IN SOLDER TAIL AREA  
BOTH OVER 1.27µm MIN NI OVERALL
- MATERIAL:
  - HOUSING : NYLON 4/6, 94V-0, COLOUR BLACK
  - CAP : PCT, GLASS FILLED, COLOUR BLACK
  - TERMINAL : COPPER ALLOY
  - EMBOSS TAPE : CLEAR POLYSTYRENE
  - COVER TAPE : CLEAR POLYESTER
- PRODUCT SPECIFICATION PS-87380 APPLIES
- COPLANARITY OF SOLDER TAILS ARE TO BE MEASURED BY RESTING THE PART ON A FLAT GAUGE SURFACE
- OTHER PLATING OPTIONS AVAILABLE. PLEASE CONTACT FACTORY
- PEG AND PCB HOLE OPTIONAL. SEE PART LEGEND FOR PART CONFIGURATON
- △ POSITION OF CAP TO BE LOCATED AT CENTER OF DIM A REGARDLESS OF CKT SIZES.
- 12 CKT SIZE SHOWN FOR ILLUSTRATION ONLY. SEE CHART FOR ALL AVAILABLE PART SIZES. 22 CKT ILLUSTRATED FOR TAPE/REEL VERSION ON SHT 2.
- PACKING QTY PER REEL IS APPROX. 800PCS.
- PARTS SHALL BE PACKED IN MOISTURE BARRIER BAG.

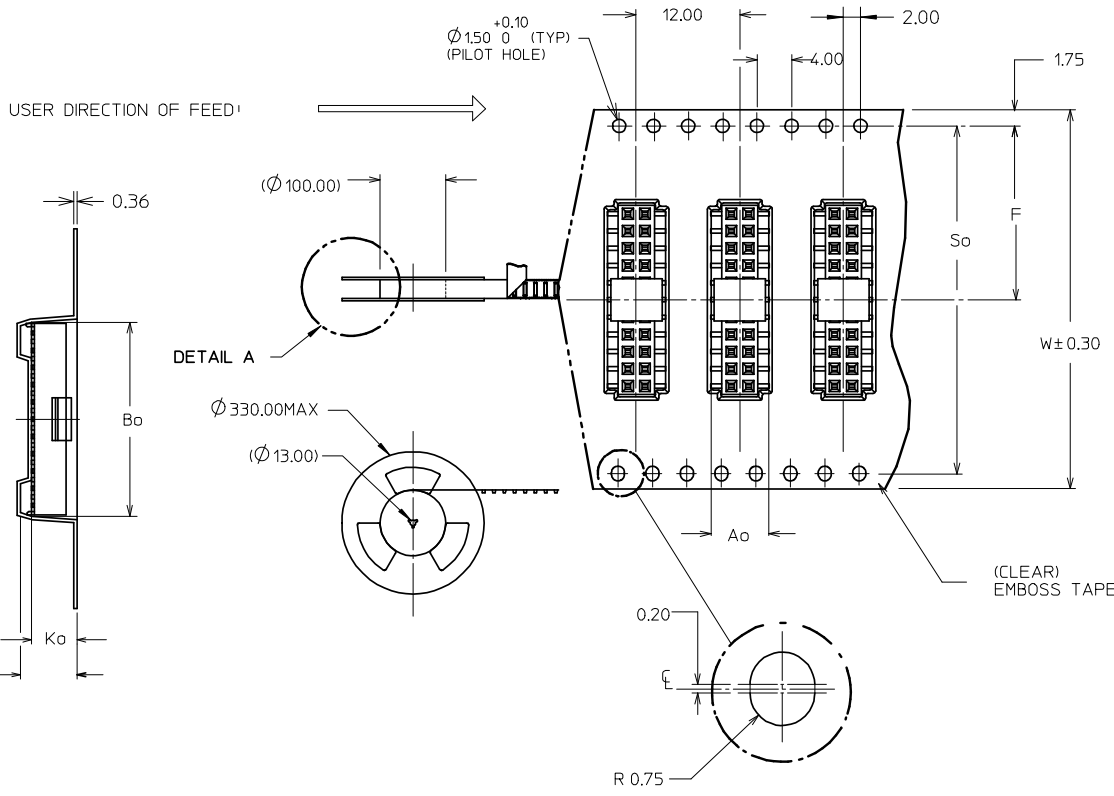


RECOMMENDED PCB LAYOUT

PDR#S-001789-00-00 EC NO: S2008-0938 DRWN:SKANG CHKD:ATSEE APPR:MLONG 2008/04/16 2008/04/16 2008/04/16	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
			mm	INCH	DRAWN BY	DATE	TITLE			
		4 PLACES	± ---	± ---	KSEE	1999/01/06	MGRID, TOP ENTRY RECEPT. 4MM HT., W/PEGS/CAP IN TUBE AND T&R, SMT			
		3 PLACES	± ---	± ---	CHECKED BY	DATE				
2 PLACES	± 0.2	± ---	KCL ING	1999/01/11	MOLEX INCORPORATED					
1 PLACE	± ---	± ---	APPROVED BY	DATE						
ANGULAR ± 3 °		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		MATERIAL NO.		DOCUMENT NO.		SHEET NO.		
				SEE TABLE		SD-87381-***3		1 OF 2		
				THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION						

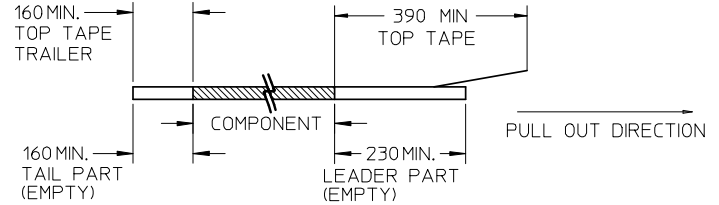
10 9 8 7 6 5 4 3 2 1

CKT SIZE	PLATING FINISH (SEE NOTE #1)	PART NO WITH CAP IN TAPE / REEL	PART NO WITH CAP IN TUBE	W	So	Ao	F	Bo	Ko
08	9	87381-9016	87381-0819	24.00	-	7.00	11.50	8.50	4.80
10	5	87381-9030	87381-1015	24.00	-	7.00	11.50	10.50	4.80
30	9	87381-9015	87381-3019	56.00	52.40	7.00	26.20	30.50	4.80
50	9	87381-9027	87381-5019	72.00	68.40	7.00	34.20	50.50	4.80
50	5	87381-9028	87381-5015	72.00	68.40	7.00	34.20	50.50	4.80

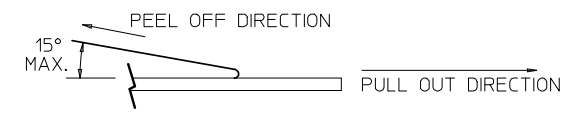


NOTES:

1. LEADER AND TRAILER TAPE



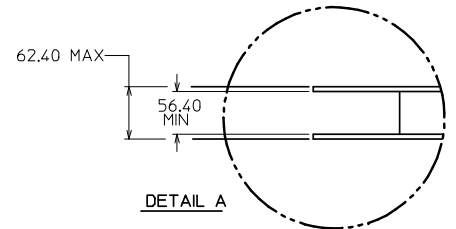
2. PEELING OFF FORCE OF THE TOP TAPE: 20-80gf.  
(PEELING DIRECTION AS SHOWN IN FOLLOWING FIGURE)



3. PACKAGING STANDARD IS AS PER EIA-481.

4. TAPE & REEL QUANTITY = 800 PCS/REEL

TAPE & REEL ORIENTATION (22 CKT SHOWN FOR REF)  
(NTS)



PDR#S-001789-00-00 EC NO: S2008-0938 DRWN:SKANG CHKD:ATSEE APPR:MLONG	2008/04/16	2008/04/16	2008/04/16
	2008/04/16	2008/04/16	2008/04/16
	2008/04/16	2008/04/16	2008/04/16
	2008/04/16	2008/04/16	2008/04/16

QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	
	mm	INCH
▽=0	± ---	± ---
∇=0	± ---	± ---
	± 0.2	± ---
	± ---	± ---
	ANGULAR ± 3 °	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		

DIMENSION STYLE		SCALE	DESIGN UNITS
MM ONLY		NTS	METRIC
DRAWN BY	DATE	TITLE	
KSEE	1999/01/06	MGRID, TOP ENTRY RECEPT.	
CHECKED BY	DATE	4MM HT., W/PEGS/CAP	
KCL ING	1999/01/11	IN TUBE AND T&R, SMT	
APPROVED BY	DATE	MOLEX INCORPORATED	
SKTOH	1999/01/11	MOLEX INCORPORATED	
MATERIAL NO.	DOCUMENT NO.	SHEET NO.	
SEE TABLE	SD-87381-***3	2 OF 2	

THIRD ANGLE PROJECTION	
MATERIAL NO. SKTOH	
DOCUMENT NO. SD-87381-***3	
SHEET NO. 2 OF 2	
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9 8 7 6 5 4 3 2 1