

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

**Part Number:** [0873819002](#)  
**Status:** **Active**  
**Description:** 2.00mm (.079") Pitch Milli-Grid™ Receptacle, Surface Mount, Top Entry, 4.5mm (.177") Height, 0.38µm (15µ") Gold (Au) Plating, with Cap, without Locating Pegs, 6 Circuits, Embossed Tape on Reel, Lead-free

**Documents:**

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

**Agency Certification**

CSA LR19980  
 UL E29179

**General**

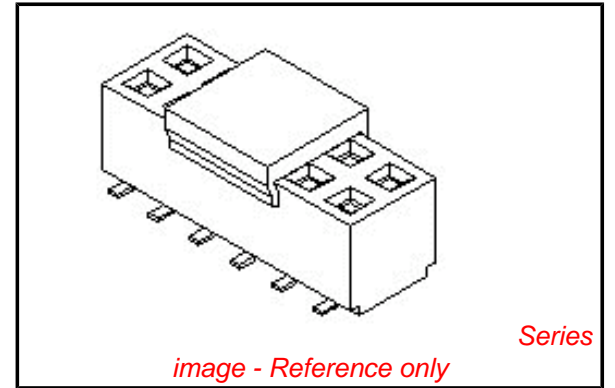
Product Family PCB Receptacles  
 Series [87381](#)  
 Application Board-to-Board  
 Comments With Cap  
 Product Name Milli-Grid™

**Physical**

Circuits (Loaded) 6  
 Circuits (maximum) 6  
 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 No  
 PCB Retention None  
 Packaging Type Embossed Tape on Reel  
 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 Mating Part No  
 Polarized to PCB No  
 Robotic Placement Pick and Place Cap  
 Stackable Yes  
 Surface Mount Compatible (SMC) Yes  
 Temperature Range - Operating -55°C to +105°C  
 Termination Interface: Style Surface Mount

**Electrical**

Current - Maximum per Contact 1.9A



**EU RoHS**

**ELV and RoHS Compliant**  
**REACH SVHC**  
 Not Reviewed  
**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**

[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

Voltage - Maximum 125V

### **Solder Process Data**

Duration at Max. Process Temperature (seconds) 12  
Lead-free Process Capability Reflow Capable (SMT only)  
Max. Cycles at Max. Process Temperature 1  
Process Temperature max. C 260

### **Material Info**

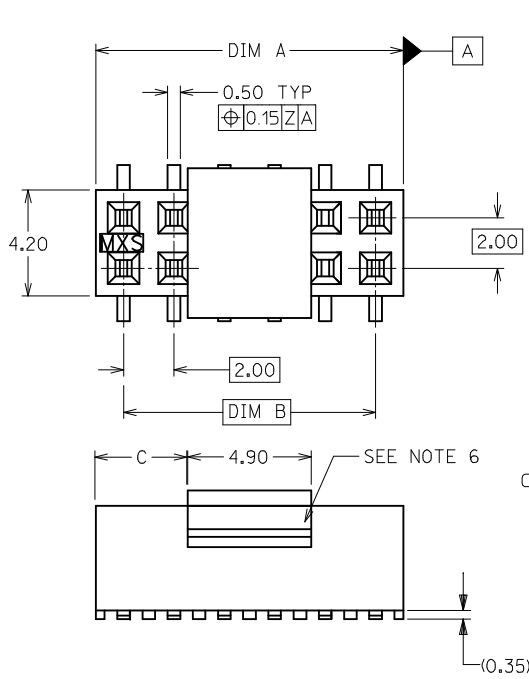
### **Reference - Drawing Numbers**

Product Specification PS-87380-002  
Sales Drawing SD-87381-\*\*6\*

This document was generated on 04/09/2010

**PLEASE CHECK [WWW.MOLEX.COM](http://WWW.MOLEX.COM) FOR LATEST PART INFORMATION**

10 9 8 7 6 5 4 3 2 1

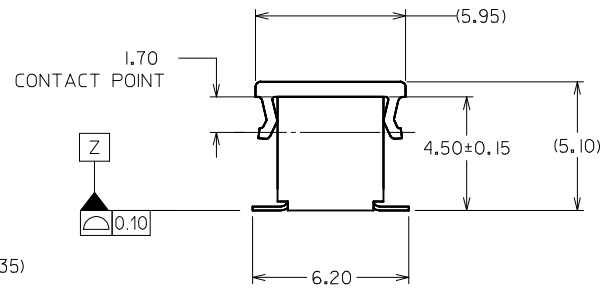


PART NO. LEGEND  
FOR TUBE PACKAGING ONLY

87381 - \* \* \* \*

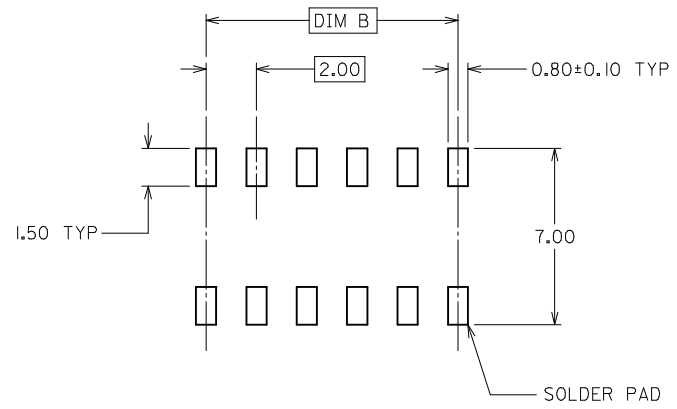
CIRCUIT SIZE ——— PLATING (SEE NOTE 1)  
3  
4

6 COVER  
7 NO COVER



PART NUMBER (SEE NOTE 5)	CKT. SIZE	DIM A	DIM B	DIM C
87381-06**	6	6.00	4.00	0.55
87381-08**	8	8.00	6.00	1.55
87381-10**	10	10.00	8.00	2.55
87381-12**	12	12.00	10.00	3.55
87381-14**	14	14.00	12.00	4.55
87381-16**	16	16.00	14.00	5.55
87381-18**	18	18.00	16.00	6.55
87381-20**	20	20.00	18.00	7.55
87381-22**	22	22.00	20.00	8.55
87381-24**	24	24.00	22.00	9.55
87381-26**	26	26.00	24.00	10.55
87381-28**	28	28.00	26.00	11.55
87381-30**	30	30.00	28.00	12.55
87381-32**	32	32.00	30.00	13.55
87381-34**	34	34.00	32.00	14.55
87381-36**	36	36.00	34.00	15.55
87381-38**	38	38.00	36.00	16.55
87381-40**	40	40.00	38.00	17.55
87381-42**	42	42.00	40.00	18.55
87381-44**	44	44.00	42.00	19.55
87381-46**	46	46.00	44.00	20.55
87381-48**	48	48.00	46.00	21.55
87381-50**	50	50.00	48.00	22.55

- NOTES:
- PLATING FINISH:
    - 3 - 0.76um MIN. GOLD IN CONTACT AREA 1.27um MIN. TIN IN SOLDER TAIL AREA BOTH OVER 1.27um MIN. NICKEL OVERALL
    - 4 - 0.38um MIN. GOLD IN CONTACT AREA 1.27um MIN. TIN IN SOLDER TAIL AREA BOTH OVER 1.27um MIN. NICKEL OVERALL
  - 12 CKT SIZE SHOWN FOR ASSY ILLUSTRATION ONLY. (SEE CHART FOR ALL PART SIZES), 6 CKT & 30 CKT ILLUSTRATED FOR TAPE/REEL VERSION ON SHT 2.
  - PRODUCT SPECIFICATION PS-87380 APPLIES.
  - COPLANARITY OF SOLDER TAILS ARE TO BE MEASURED BY RESTING THE PART ON A FLAT GAUGE SURFACE.
  - TUBE PACKAGING STANDARD.
  - COVER IS OPTIONAL, SEE LEGEND.
  - PARTS SHALL BE PACKED IN MOISTURE BARRIER BAG.
  - REFER SHT 3 FOR P/N: 87381-6000 T&R ILLUSTRATION.



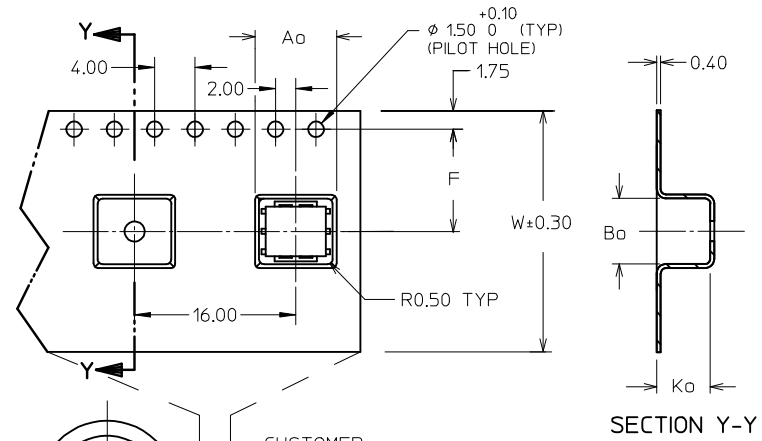
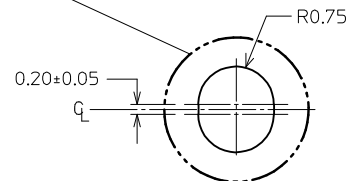
RECOMMENDED PCB LAYOUT

ADD P/N: 87381-3200 EC NO: S2009-0725 DRWN:SKANG CHKD:ATSEE APPR:MLONG 2009/04/01 2009/04/06 2009/04/07	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	± ---	± ---	JAMES	1998/01/08	MGRID, TOP ENTRY RECEPT. 4.50MM HT., SMT			
		3 PLACES	± ---	± ---	CHECKED BY	DATE				
	2 PLACES	± 0.20	± ---	LCHANG	1999/04/23	MOLEX INCORPORATED DOCUMENT NO. SD-87381-***6*				
	1 PLACE	± ---	± ---	APPROVED BY	DATE					
		ANGULAR ± 3 °		SQUEK	1999/04/26	SHEET NO. 1 OF 4				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		MATERIAL NO.						
				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



30 CKT FOR ILLUSTRATION ONLY  
TAPE & REEL TYPE 'B'



6 CKT FOR ILLUSTRATION ONLY  
TAPE & REEL TYPE 'A'

NOTES:

- LEADER AND TRAILER TAPE
- PEELING OFF FORCE OF THE TOP TAPE: 20-80gf.  
(PEELING DIRECTION AS SHOWN IN FOLLOWING FIGURE)
- PACKAGING STANDARD IS AS PER EIA-481.
- TAPE & REEL QUANTITY = SEE TABLE

ADD P/N: 87381-3200	2009/04/07
EC NO: S2009-0725	2009/04/07
DRWN:SKANG	2009/04/06
CHKD:ATSEE	2009/04/06
APPR:MLONG	2009/04/07

REV	DESCRIPTION
8	

QUALITY SYMBOLS	
	=0
	=0

GENERAL TOLERANCES (UNLESS SPECIFIED)	
	mm
4 PLACES	± ---
3 PLACES	± ---
2 PLACES	± 0.20
1 PLACE	± ---
ANGULAR ± 3 °	

DIMENSION STYLE	
MM ONLY	
DRAWN BY	DATE
JAMES	1998/01/08
CHECKED BY	DATE
LCHANG	1999/04/23
APPROVED BY	DATE
SQUEK	1999/04/26
MATERIAL NO.	
SEE TABLE	

SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
NTS	METRIC	
TITLE		
MGRID, TOP ENTRY RECEPT. 4.50MM HT., SMT		
MOLEX INCORPORATED		SHEET NO.
DOCUMENT NO.		2 OF 4
SD-87381-***6*		

10 9 8 7 6 5 4 3 2 1

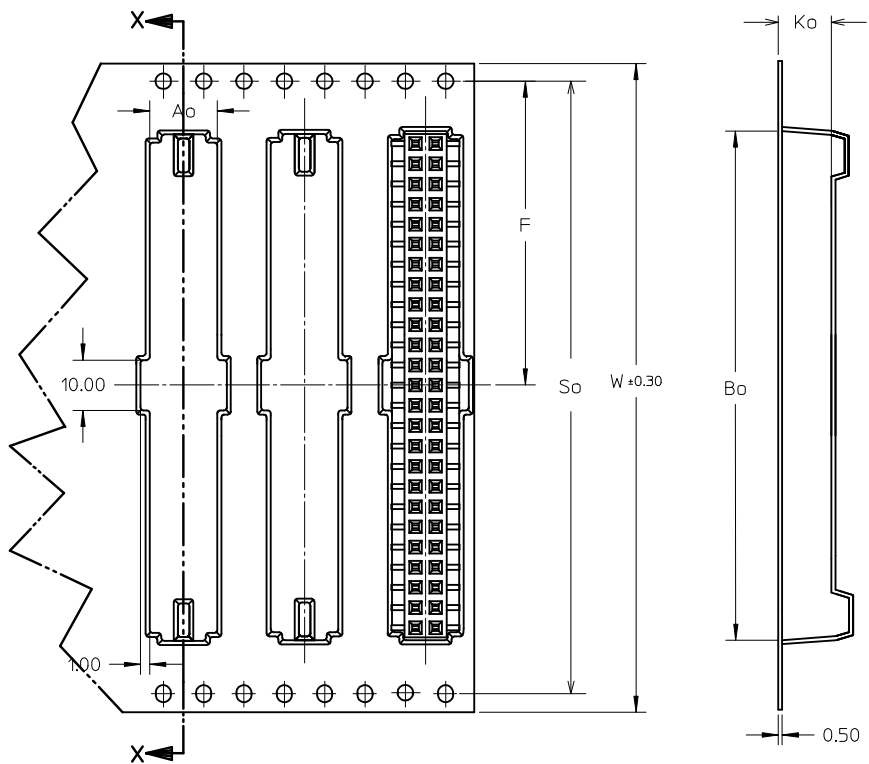
CKT SIZE	PART NO. WITH CAP IN TUBE	PART NO. WITH CAP IN TAPE / REEL	W	So	Ao	F	Bo	Ko	T&R TYPE (SHT 2)	T&R QTY PER REEL
6	87381-0664	87381-9002	24	-	7.00	11.50	6.50	5.30	A	500
8	87381-0864	87381-9003	24	-	7.00	11.50	8.50	5.30	A	600
10	87381-1064	87381-9005	24	-	7.00	11.50	10.50	5.30	A	680
14	87381-1464	87381-9006	32	28.40	7.20	14.20	14.50	5.30	B	750
16	87381-1664	87381-9004	32	28.40	7.20	14.20	16.50	5.30	B	800
18	87381-1864	87381-1800	32	28.40	7.20	14.20	18.50	5.30	B	750
20	87381-2063	87381-2000	32	28.40	7.20	14.20	20.50	5.30	B	800
22	87381-2264	87381-2200	44	40.40	7.20	20.20	22.50	5.30	B	500
30	87381-3064	87381-3000	44	40.40	7.20	20.20	30.50	5.30	B	500
32	87381-3264	87381-3200	44	40.40	7.20	20.20	32.50	5.30	B	500
44	87381-4464	87381-4400	56	52.40	7.20	26.20	44.50	5.30	B	500
46	87381-4664	87381-4600	72	68.40	7.20	34.20	46.50	5.30	B	750
50	87381-5063	87381-5030	72	68.40	7.20	34.20	50.50	5.30	B	500
50	87381-5064	87381-5000	72	68.40	7.20	34.20	50.50	5.30	B	500

ADD P/N: 87381-3200 EC NO: S2009-0725 DRWN:SKANG CHKD:ATSEE APPR:MLONG	2009/04/07 2009/04/06 2009/04/07	DESCRIPTION REV	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION		
			$\nabla = 0$ $\square = 0$	mm    INCH	MM ONLY	NTS	METRIC	DRAWN BY    DATE JAMES        1998/01/08 CHECKED BY    DATE LCHANG        1999/04/23 APPROVED BY    DATE SQUEK          1999/04/26	TITLE	MGRID, TOP ENTRY RECEPT. 4.50MM HT., SMT
			4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.20 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3 °	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	SEE TABLE	MOLEX INCORPORATED SD-87381-***6*	SHEET NO. 3 OF 4			
			THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION	SIZE A3	DOCUMENT NO.	MOLEX				

9 8 7 6 5 4 3 2 1

CKT SIZE	PART NO. WITHOUT CAP IN TUBE	PART NO. WITHOUT CAP IN TAPE / REEL	W	So	Ao	F	Bo	Ko	T&R TYPE (SHT 2)	T&R QTY PER REEL
50	87381-5074	87381-6000 $\triangle/8$	72	68.40	6.80	34.20	50.50	8.00	B	500

$\triangle/8$  ILLUSTRATION FOR P/N: 87381-6000  
50 CKT IN T&R W/O CAP



SECTION X-X

ADD P/N: 87381-3200 EC NO: S2009-0725 DRWN:SKANG 2009/04/07 CHKD:ATSEE 2009/04/06 APPR:MLONG 2009/04/07	QUALITY SYMBOLS $\nabla=0$ $\triangle=0$	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
			mm	INCH	DRAWN BY JAMES	DATE 1998/01/08	TITLE MGRID, TOP ENTRY RECEPT. 4.50MM HT., SMT			
		4 PLACES	± ---	± ---	CHECKED BY LCHANG	DATE 1999/04/23	MOLEX INCORPORATED DOCUMENT NO. SD-87381-***6* SHEET NO. 4 OF 4			
		3 PLACES	± ---	± ---	APPROVED BY SQUEK	DATE 1999/04/26				
2 PLACES	± 0.20	± ---	ANGULAR ± 3 °		MATERIAL NO. SEE TABLE					
1 PLACE	± ---	± ---	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			