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Part Number: [0873811800](#)
Status: **Active**
Description: 2.00mm (.079") Pitch Milli-Grid™ Receptacle, Surface Mount, Top Entry, 4.50mm (.177") Height, 0.38µm (15µ") Gold (Au) Plating, with Cap, without Locating Peg, 18 Circuits, Embossed Tap 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) 18
 Circuits (maximum) 18
 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
 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
 Voltage - Maximum 125V

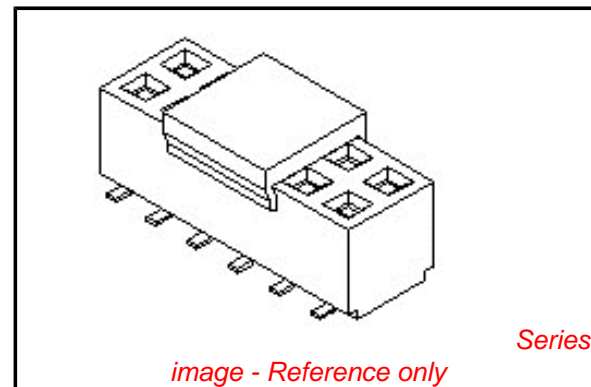


image - Reference only

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
 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

Solder Process Data

Duration at Max. Process Temperature (seconds)	14
Lead-free Process Capability	Reflow Capable (SMT only)
Max. Cycles at Max. Process Temperature	1
Process Temperature max. C	265

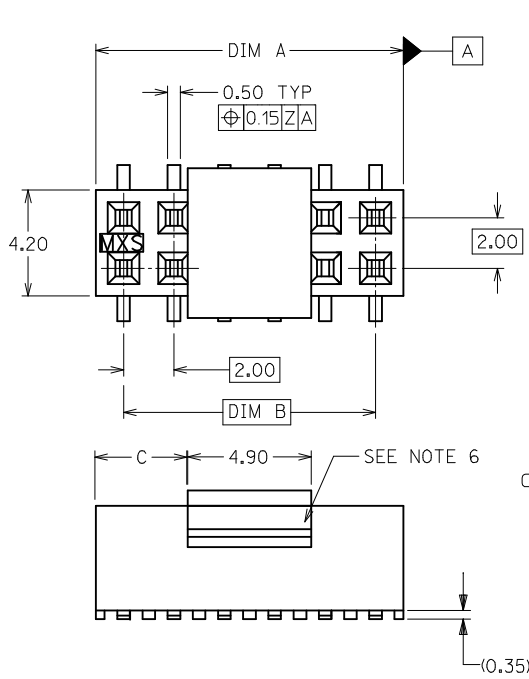
Material Info**Reference - Drawing Numbers**

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

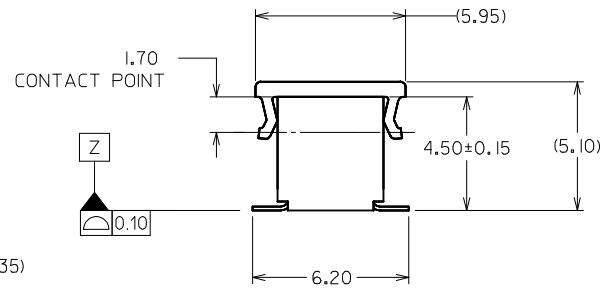
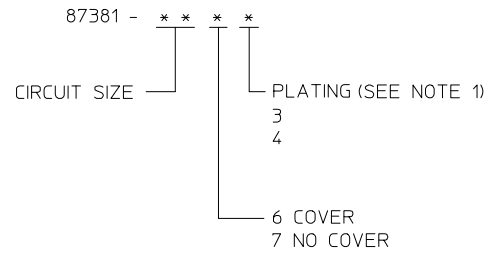
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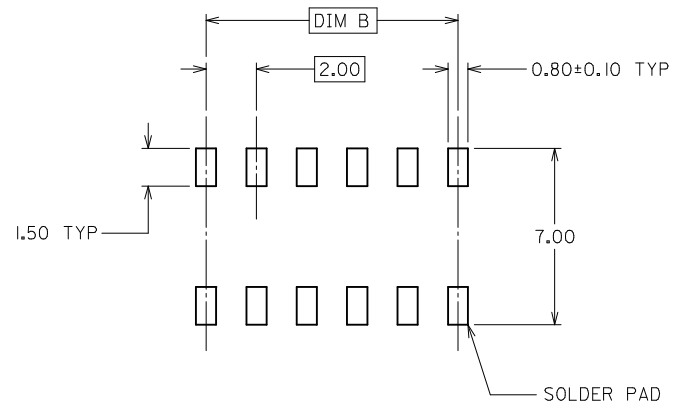
PART NO. LEGEND
FOR TUBE PACKAGING ONLY



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:

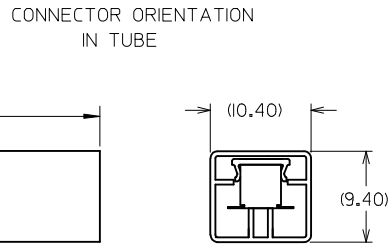
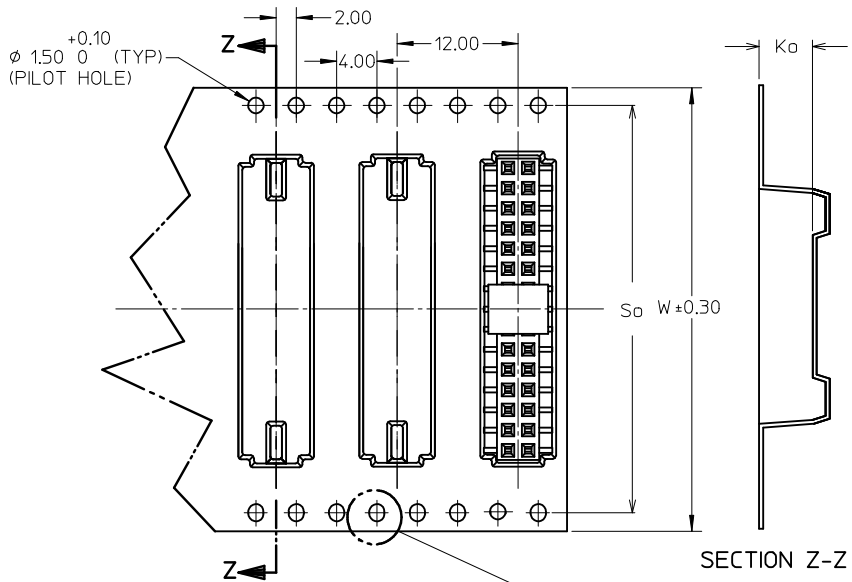
- PLATING FINISH:
3 - 0.76um MIN. GOLD IN CONTACT AREA 1.27um MIN. TIN
IN SOLDER TAIL AREA BOTH OVER 1.27um MIN. NICKEL OVERALL
4 - 0.38um MIN. GOLD IN CONTACT AREA 1.27um MIN. TIN
IN SOLDER TAIL AREA BOTH OVER 1.27um MIN. NICKEL OVERALL
- 12 CKT SIZE SHOWN FOR ASSY ILLUSTRATION ONLY. (SEE CHART FOR 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.



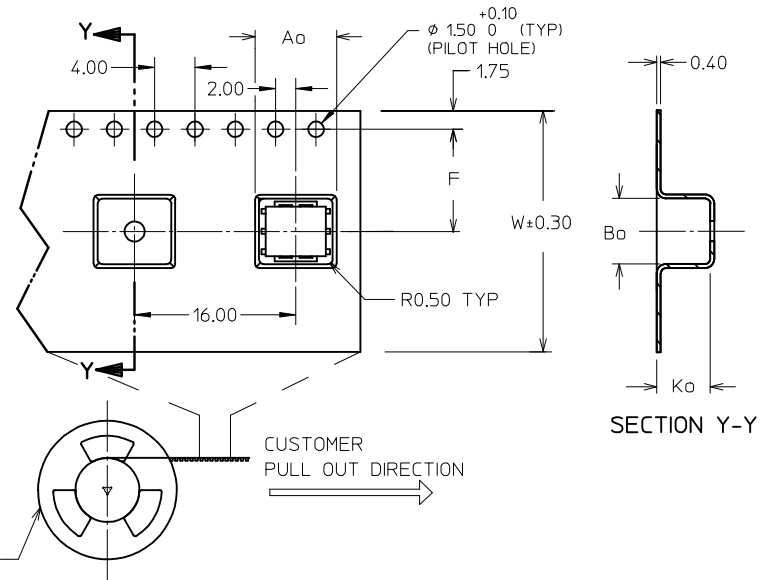
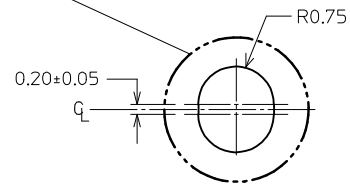
RECOMMENDED PCB LAYOUT

ADD P/N: 87381-3200 EC NO: S2009-0725 DRWN:SKANG 2009/04/07 CHKD:ATSEE 2009/04/06 APPR:MLONG 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	MOLEX INCORPORATED			
	2 PLACES	± 0.20	± ---	LCHANG	1999/04/23	DOCUMENT NO.				
	1 PLACE	± ---	± ---	APPROVED BY	DATE	SHEET NO.				
	ANGULAR ± 3 °		MATERIAL NO.		DOCUMENT NO.		SHEET NO.			
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		SD-87381-**6*		1 OF 4				
		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		
DOCUMENT NO.	SHEET NO.	
SD-87381-***6*	2 OF 4	

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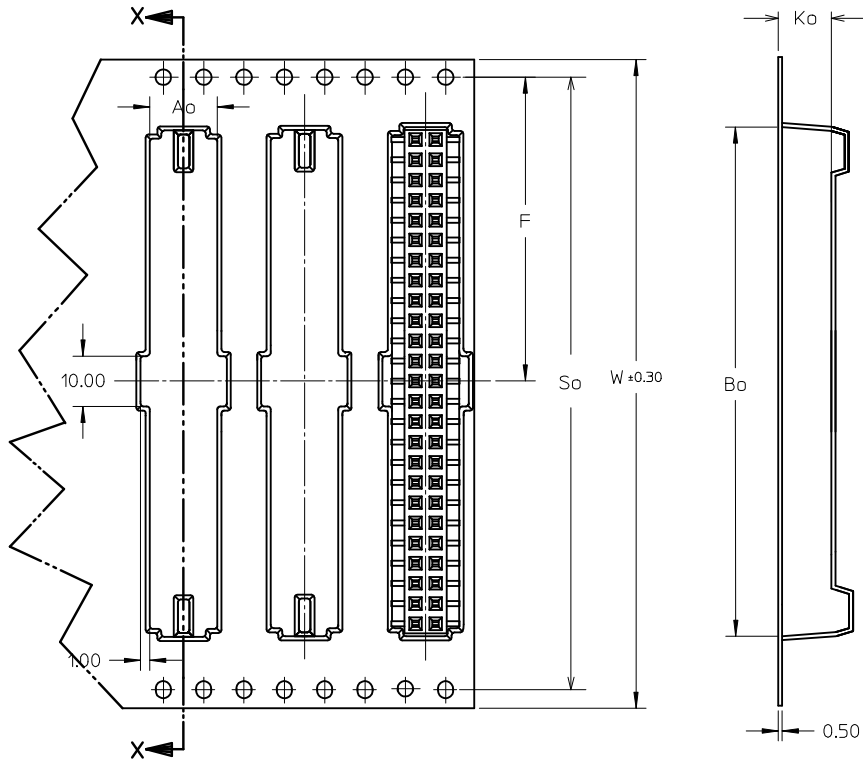
CKT SIZE	PART NO. WITH CAP IN TUBE	PART NO. WITH CAP IN TAPE / REEL	W	So	Ao	F	Bo	Ko	T&R TYPE (SHT 2)	T&R QTY PER REEL
6	87381-0664	87381-9002	24	-	7.00	11.50	6.50	5.30	A	500
8	87381-0864	87381-9003	24	-	7.00	11.50	8.50	5.30	A	600
10	87381-1064	87381-9005	24	-	7.00	11.50	10.50	5.30	A	680
14	87381-1464	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		
			$\nabla = 0$ $\sphericalcap = 0$	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							

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