

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

**Part Number:** [0878321221](#)  
**Status:** **Active**  
**Overview:** milligrid  
**Description:** 2.00mm (.079") Pitch Milli-Grid™ Header, Surface Mount, Vertical, Shrouded, Lead-free, 12 Circuits, 0.76µm (30µ") Gold (Au) Plating, without Locking Window, with Centre Polarization Slot, PCB Locator, Tube

**Documents:**

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

**Agency Certification**

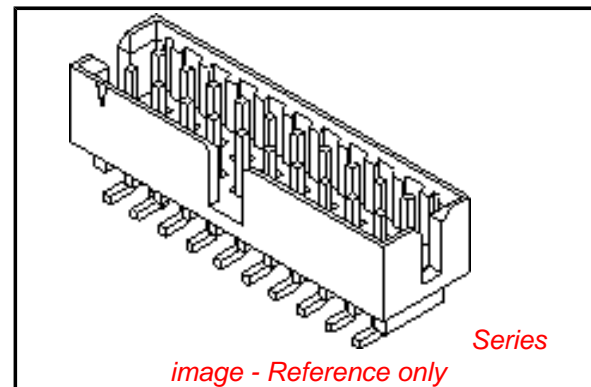
CSA LR19980  
 UL E29179

**General**

Product Family PCB Headers  
 Series [87832](#)  
 Application Wire-to-Board  
 Comments Without Cap; Contact Molex for application in automotive industry  
 Overview [milligrid](#)  
 Product Name Milli-Grid™

**Physical**

Breakaway No  
 Circuits (Loaded) 12  
 Circuits (maximum) 12  
 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 No  
 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) 30  
 Plating min: Mating (µm) 0.76  
 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



**EU 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.

**China RoHS**



**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

Temperature Range - Operating	-55°C to +105°C
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

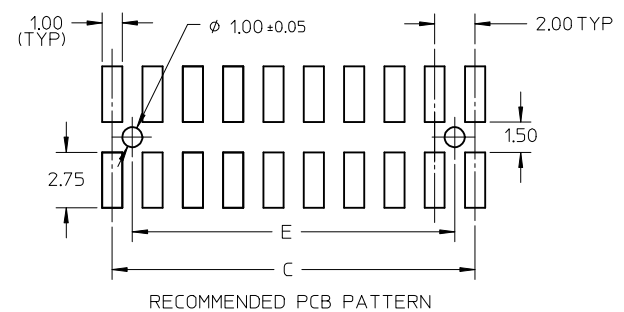
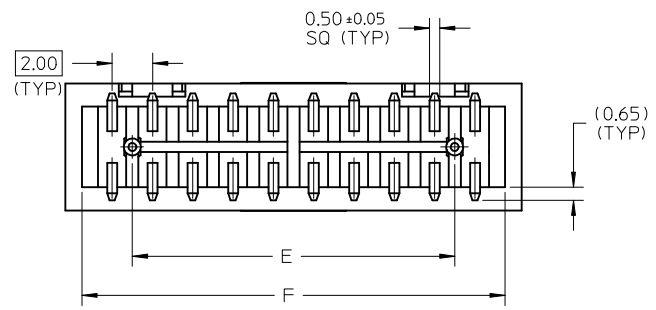
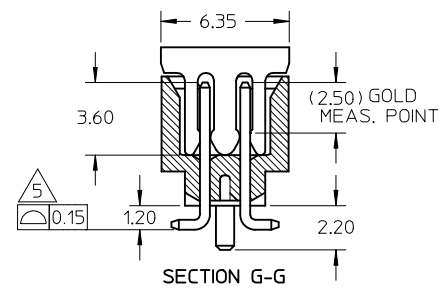
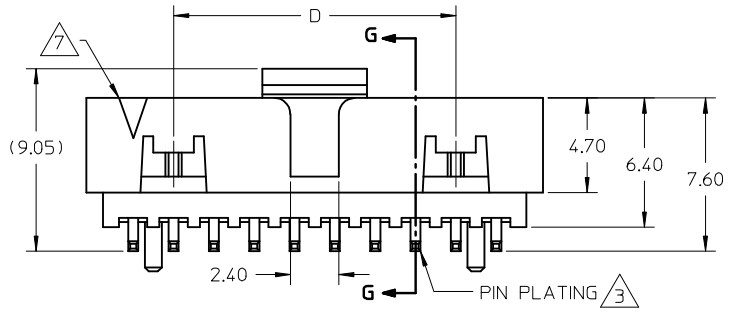
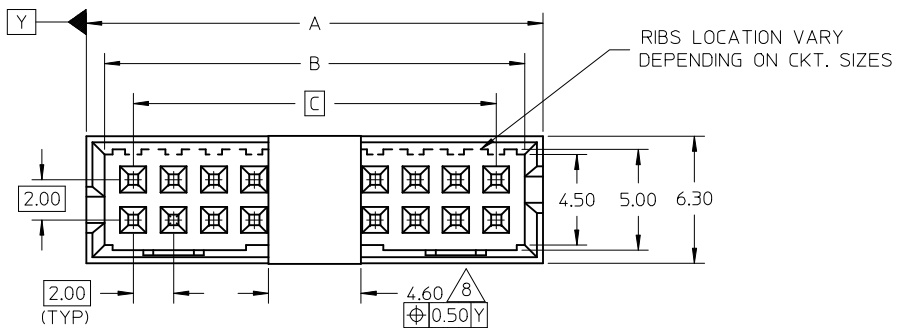
### **Material Info**

### **Reference - Drawing Numbers**

Product Specification	PS-87831-027
Sales Drawing	SD-87832-007

This document was generated on 05/25/2010

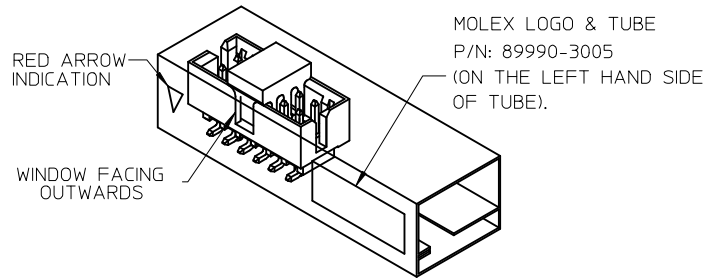
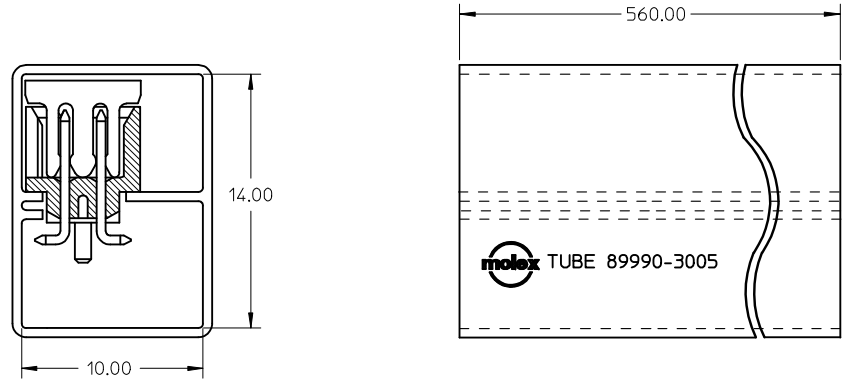
**PLEASE CHECK [WWW.MOLEX.COM](http://WWW.MOLEX.COM) FOR LATEST PART INFORMATION**



CKT SIZE	DIMENSION					
	A	B	C	D	E	F
4	6.65	4.85	2.00	---	---	5.00
6	8.65	6.85	4.00	---	2.00	7.00
8	10.65	8.85	6.00	---	4.00	9.00
10	12.65	10.85	8.00	---	6.00	11.00
12	14.65	12.85	10.00	---	8.00	13.00
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

ADD 34CKT T&R P/N EC NO: S2009-0642 DRWN:SKANG 2009/03/11 CHKD:ATSEE 2009/03/11 APPR:MLONG 2009/03/18	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	± ---	± ---	ATSEE	2003/10/14	MGRID, SHROUDED HEADER SMT, W/PEGS/CAP FOR PICK & PLACE IN TUBE AND T&R MOLEX INCORPORATED			
		3 PLACES	± ---	± ---	CHECKED BY	DATE				
2 PLACES	± 0.2	± ---	KCL ING	2003/11/07	APPROVED BY SKTOH 2003/11/07					
1 PLACE	± ---	± ---	ANGULAR ± 3 °		MATERIAL NO. SEE TABLE		DOCUMENT NO. SD-87832-007			
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						

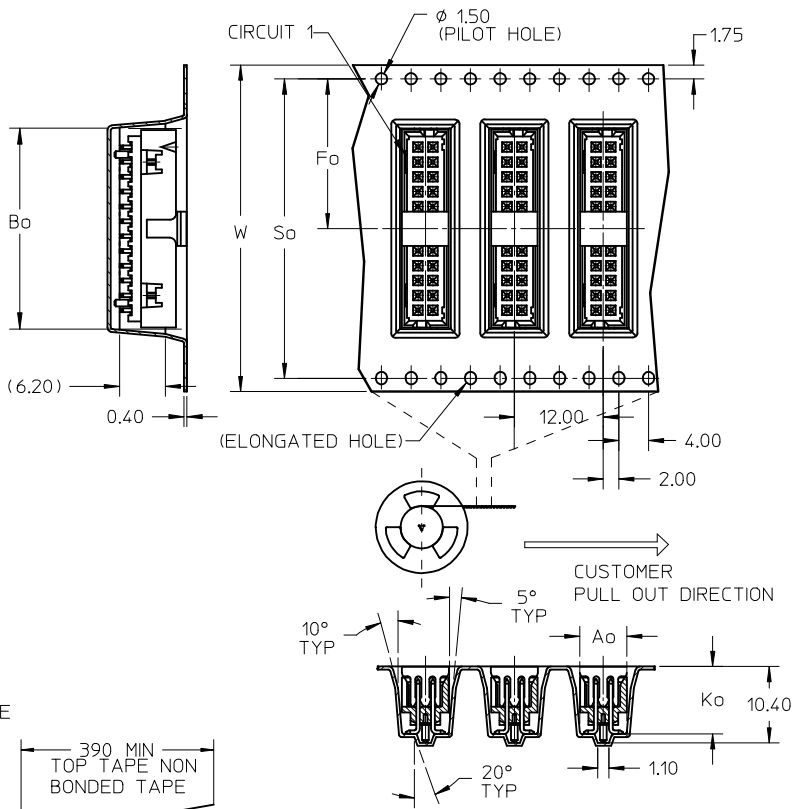
WITH CAP  
TUBE PACKAGING



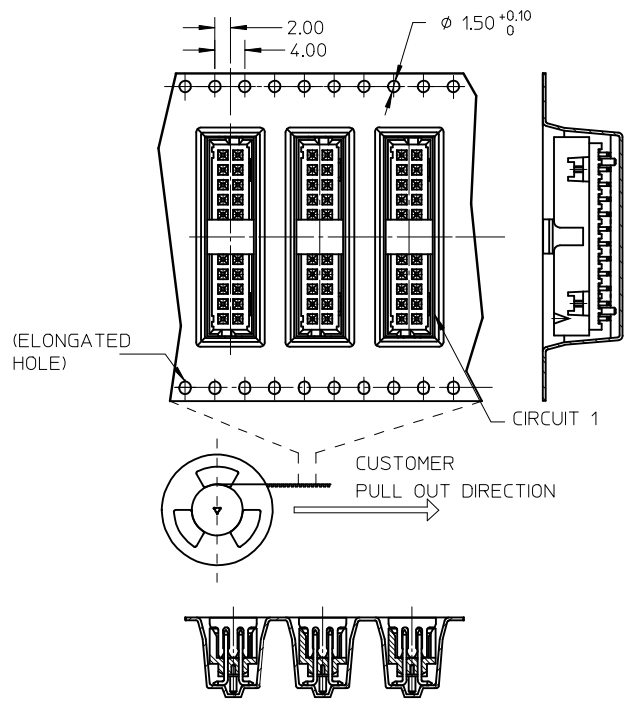
REF : ORIENTATION OF PART IN TUBE,  
(FOR THE REFERENCE OF PART/TUBE ASSEMBLY.)

ADD 34CKT T&R P/N EC NO: S2009-0642 DRWN:SKANG 2009/03/11 CHKD:ATSEE 2009/03/11 APPR:MLONG 2009/03/18	DESCRIPTION REV	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
			4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.2 ± --- 1 PLACE ± --- ± ---	mm INCH ± --- ± --- ± 0.2 ± --- ± --- ± ---	DRAWN BY ATSEE	DATE 2003/10/14	TITLE MGRID, SHROUDED HEADER SMT, W/PEGS/CAP FOR PICK & PLACE IN TUBE AND T&R				
			ANGULAR ± 3 °	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	CHECKED BY KCLING	DATE 2003/11/07	MOLEX INCORPORATED				
		A9			SEE TABLE	APPROVED BY SKTOH	DATE 2003/11/07	MATERIAL NO.	DOCUMENT NO.	SHEET NO.	2 OF 4

EMBOSSED CARRIER TAPE LAYOUT OPTION A  
24 CKT USE FOR ILLUSTRATION ONLY

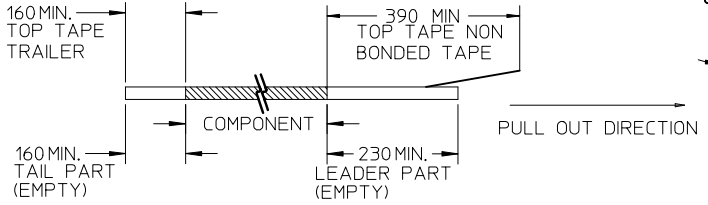


EMBOSSED CARRIER TAPE LAYOUT OPTION B  
24 CKT USE FOR ILLUSTRATION ONLY

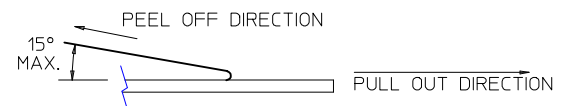


NOTES:

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.

ADD 34CKT T&R P/N	2009/03/11	2009/03/11	2009/03/18
EC NO: S2009-0642	DRWN:SKANG	CHKD:ATSEE	APPR:MLONG
REV	DESCRIPTION		
A9			

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

DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
MM ONLY		NTS	METRIC	
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		
KCL ING	2003/11/07	SD-87832-007		
APPROVED BY	DATE	SHEET NO.		
SKTOH	2003/11/07	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		

REG OPTION	P/N W/O CAP IN TUBE	P/N W/CAP IN TUBE (SHEET 2)	P/N W/CAP TAPE & REEL (SHEET 3)	CKT SIZE	DIMENSION						PACKAGING OPTION (SHEET 3)
					W	Fo	Bo	So	Ao	Ko	
NO	87832-0421	87832-0423	87832-5123	04	16.00	7.50	7.15	-	6.40	9.30	A
YES	87832-0621	87832-0623	87832-5223	06	24.00	11.50	9.15	-	6.40	9.30	A
YES	87832-0821	87832-0823	87832-5323	08	24.00	11.50	11.05	-	6.40	9.30	A
YES	87832-1021	87832-1023	87832-5423	10	24.00	11.50	13.05	-	6.40	9.30	A
YES	87832-1221	87832-1223	87832-5523	12	32.00	14.20	15.15	28.40	6.40	9.30	A
YES	87832-1421	87832-1423	87832-5623	14	32.00	14.20	17.05	28.40	6.40	9.30	A
YES	87832-1621	87832-1623	87832-5723	16	32.00	14.20	19.05	28.40	6.40	9.30	A
YES	87832-1821	87832-1823	87832-5823	18	44.00	20.20	21.05	40.40	6.40	9.30	A
YES	87832-2021	87832-2023	87832-5923	20	44.00	20.20	23.05	40.40	6.40	9.30	A
YES	87832-2221	87832-2223	87832-6023	22	44.00	20.20	25.05	40.40	6.40	9.30	A
YES	87832-2421	87832-2423	87832-6123	24	44.00	20.20	27.05	40.40	6.40	9.30	A
YES	87832-2621	87832-2623	87832-6223	26	44.00	20.20	29.05	40.40	6.40	9.30	A
YES	87832-2821	87832-2823	87832-6323	28	56.00	26.20	31.05	52.40	6.40	9.30	A
YES	87832-3021	87832-3023	87832-6423	30	56.00	26.20	33.05	52.40	6.40	9.30	A
YES	87832-3221	87832-3223	--	32	--	--	--	--	--	--	-
YES	87832-3421	87832-3423	87832-6623	34	56.00	26.20	37.05	52.40	6.40	9.30	A
YES	87832-3621	87832-3623	--	36	--	--	--	--	--	--	-
YES	87832-3821	87832-3823	--	38	--	--	--	--	--	--	-
YES	87832-4021	87832-4023	87832-6923	40	56.00	26.20	43.05	52.40	6.40	9.30	A
YES	87832-4221	87832-4223	--	42	--	--	--	--	--	--	-
YES	87832-4421	87832-4423	87832-7123	44	56.00	26.20	46.80	52.40	6.40	9.30	A
YES	87832-4621	87832-4623	--	46	--	--	--	--	--	--	-
YES	87832-4821	87832-4823	--	48	--	--	--	--	--	--	-
YES	87832-5021	87832-5023	87832-7423	50	72.00	34.20	53.05	68.40	6.40	9.30	A
YES	--	--	87832-9423	10	24.00	11.50	13.05	-	6.40	9.30	B

PLS REFER TO PART  
87832-\*\*\*09 FOR CENTER  
LOCKING SLOT OPTION.

- NOTES:
- FOR ILLUSTRATION PURPOSES, 20 CIRCUIT SIZE WAFER IS SHOWN.
  - MATERIAL :  
HOUSING & CAP : 30% G.F., NYLON 46, UL94V-0, COLOR BLACK.  
PIN : 0.50MM SQ.PHOSPHOR BRONZE.
  - PLATING : 0.76um/30uin GOLD IN CONTACT AREA AND 1.88um/75uin MIN.TIN  
IN SOLDER TAIL AREA OVER 1.27um/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.

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		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				
A9	REV	4 PLACES	± ---	± ---	CHECKED BY KCLING	DATE 2003/11/07	MOLEX INCORPORATED			
		3 PLACES	± ---	± ---	APPROVED BY SKTOH	DATE 2003/11/07	DOCUMENT NO. SD-87832-007			
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		ANGULAR ± 3 °		SEE TABLE		SHEET NO. 4 OF 4				
				SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				