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Part Number:

0878980455

Status:

Active

Overview:

kk

Description:

2.54mm (.100") Pitch KK® Header, Surface Mount, Breakaway, Vertical, 4 Circuits, 0.38µm (15µ") Gold (Au) Plating, Embossed Tape on Reel Packaging, with Cap, Lead-free

Documents:

Drawing (PDF)

RoHS Certificate of Compliance (PDF)

General

Product Family	PCB Headers
Series	87898
Application	Board-to-Board, Wire-to-Board
Overview	kk
Product Name	KK®

Physical

Breakaway	Yes
Circuits (Loaded)	4
Circuits (maximum)	4
Color - Resin	Black
First Mate / Last Break	No
Glow-Wire Compliant	No
Guide to Mating Part	No
Keying to Mating Part	None
Lock to Mating Part	None
Material - Metal	Copper Alloy
Material - Plating Mating	Gold
Material - Plating Termination	Tin
Material - Resin	Nylon
Number of Rows	1
Orientation	Vertical
PCB Locator	No
PCB Retention	None
Packaging Type	Embossed Tape on Reel
Pitch - Mating Interface (in)	0.100 In
Pitch - Mating Interface (mm)	2.54 mm
Pitch - Term. Interface (in)	0.100 In
Pitch - Term. Interface (mm)	2.54 mm
Polarized to Mating Part	No
Polarized to PCB	No
Robotic Placement	Pick and Place Cap
Shrouded	No
Stackable	No
Temperature Range - Operating	-55°C to +105°C
Termination Interface: Style	Surface Mount

Electrical

Current - Maximum per Contact	3A
Voltage - Maximum	250V

Material Info

Reference - Drawing Numbers

Packaging Specification	PK-89990-486
Sales Drawing	SD-87898-001

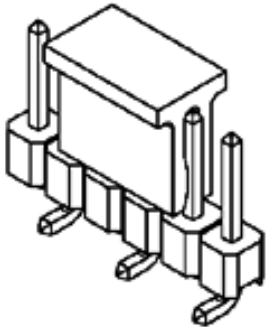


image - Reference only

Series

EU RoHS

ELV and RoHS Compliant

REACH SVHC

Not Reviewed

Halogen-Free

Status

Not Reviewed



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

87898Series

Mates With

KK® PCB Receptacles 4455. SL™ IDT Housings 70430 , 7720, 70400. C-Grid® PCB Receptacles 90147, 90148

This document was generated on 05/25/2010

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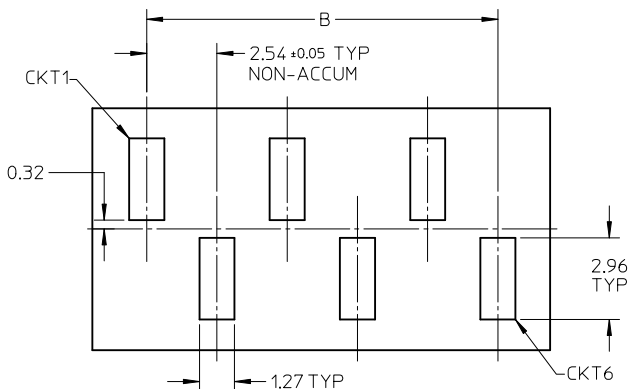
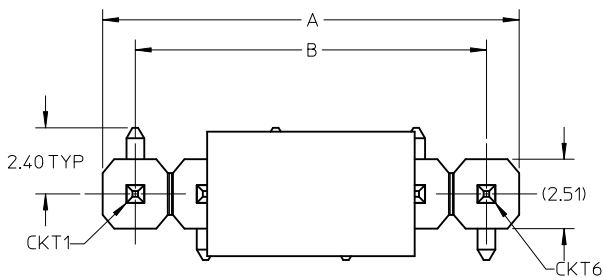
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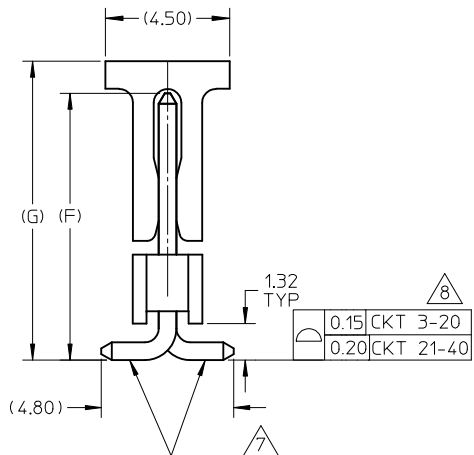
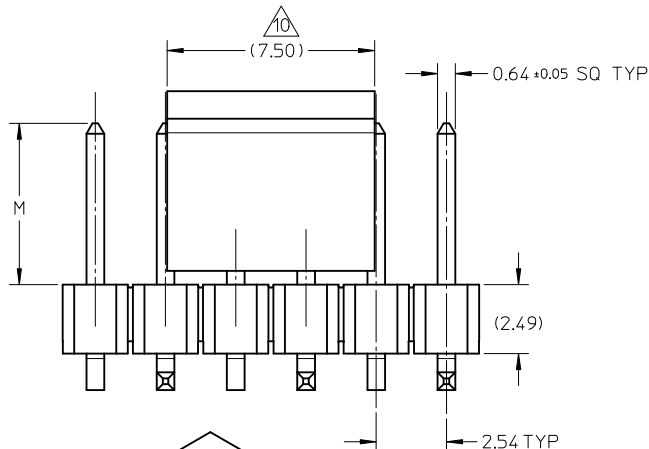
C

B

A



RECOMMENDED PCB LAYOUT: COMPONENT SIDE



NOTES:

1. MATERIAL:

HSG: NYLON, GLASS-FILLED, UL94V-0, COLOR: BLACK
CAP: NYLON, GLASS-FILLED, UL94V-0, COLOR: BLACK
PIN: 0.64MM SQ, COPPER ALLOY

2. PLATING TYPE:

- (1) GOLD FLASH OVER
1.25µm MIN. NICKEL OVERALL.
- (2) GOLD FLASH ON CONTACT AND
2.50µm MIN. TIN ON SOLDER TAIL OVER
1.25µm MIN. NICKEL OVERALL.
- (4) 0.38µm MIN. GOLD PLATE ON CONTACT AND
2.00µm MIN. TIN ON SOLDER TAIL OVER
1.25µm MIN. NICKEL OVERALL.
- (5) 0.75µm MIN. GOLD PLATE ON CONTACT AND
2.00µm MIN. TIN ON SOLDER TAIL OVER
1.25µm MIN. NICKEL OVERALL.
- (6) 2.50µm MIN. TIN OVERALL
1.25µm MIN. NICKEL OVERALL

3. PRODUCT SPECIFICATION: PS-87920-019

4. PACKAGING TYPE: SEE TABLE

5. PACKAGING SPEC:

TUBE WITH CAP VERSION: PK-89990-558
TUBE W/O CAP VERSION: PK-89990-545
EMBOSS TAPE WITH CAP: PK-89990-486

6. WAFER TO BE FLAT WITHIN 0.003 mm/mm

△ BEND DEPRESSION IS ACCEPTED SO LONG AS IT DOES NOT AFFECT THE OVERALL COPLANARITY OF TAIL

△ 8. COPLANARITY IS TO BE MEASURED BY RESTING THE SOLDER TAIL ON A FLAT SURFACE

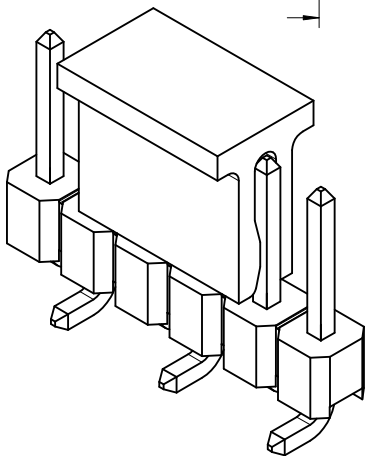
△ 9. IRREGULAR CIRCUIT CUTOFF WITHIN BREAKAWAY SECTION IS PERMISSIBLE. CUTTING OR CHIPPING OF THE MAIN BODY IS NOT ACCEPTABLE

△ 10. CAP LOCATION IS CENTERED ALONG THE MATING ENDS AS SHOWN. TOP SURFACE OF CAP TO BE FLAT FOR THE PURPOSE OF PICK & PLACE BY VACUUM SUCTION NOZZLE

11. RECOMMENDED PCB THICKNESS IS 1.60mm ± 0.10

12. THE ABOVE CKT 6 IS FOR ILLUSTRATION PURPOSE ONLY

13. TUBE LENGTH AS PER STANDARD 560mm



EWR#1228, +0209 EC NO: S2010-0966 DRWN:ATSEE 2010/05/20 CHKD:PTLIM 2010/03/29 APPR:MLONG 2010/06/08			DESCRIPTION REV	QUALITY SYMBOLS ▽_F=0 ▽_G=0 ▽_P=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
					mm INCH		DRAWN BY DATE		TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER				
					4 PLACES ± --- ± ---		YLOIAO 2005/03/14						
					3 PLACES ± --- ± ---		CHECKED BY DATE						
		2 PLACES ± 0.2 ± ---		PTLIM 2005/03/29									
		1 PLACE ± --- ± ---		APPROVED BY DATE		MOLEX MOLEX INCORPORATED							
		ANGULAR ± 3 °		MLONG 2010/03/10									
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				SEE TABLE		SD-87898-001					1 OF 20		
B3				SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION							

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	-----	-----	87898-1225	87898-1235	-----	87898-1255	12	-----	5	30.48	27.94	10.81	9.65	5.84																																																																																									
C	-----	-----	87898-1226	87898-1236	-----	87898-1256	12	-----	6	30.48	27.94	10.81	9.65	5.84																																																																																									
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<table><tr><td rowspan="5">EWR#1228, +0209 EC NO: S2010-0966 DRWN:ATSE 2010/05/20 CHKD:PTLM 2005/03/29 APPR:MLONG 2010/06/08 B3</td><td rowspan="5">REV DESCRIPTION</td><td>QUALITY SYMBOLS</td><td colspan="2">GENERAL TOLERANCES (UNLESS SPECIFIED)</td><td colspan="2">DIMENSION STYLE</td><td>SCALE</td><td>DESIGN UNITS</td><td colspan="2">THIRD ANGLE PROJECTION</td></tr><tr><td rowspan="4"> </td><td></td><td></td><td colspan="2">MM ONLY</td><td>NTS</td><td>METRIC</td><td colspan="2"></td></tr><tr><td></td><td>mm</td><td>INCH</td><td>DRAWN BY</td><td>DATE</td><td colspan="2">TITLE</td></tr><tr><td>4 PLACES</td><td>± ---</td><td>± ---</td><td>YLQIAO</td><td>2005/03/14</td><td colspan="2">CUSTOM HEADER</td></tr><tr><td>3 PLACES</td><td>± ---</td><td>± ---</td><td>CHECKED BY</td><td>DATE</td><td colspan="2">2.54MM PITCH SINGLE ROW</td></tr><tr><td>2 PLACES</td><td>± 0.2</td><td>± ---</td><td>PTLIM</td><td>2005/03/29</td><td colspan="2">SINGLE WAFER SMT HEADER</td></tr><tr><td>1 PLACE</td><td>± ---</td><td>± ---</td><td>APPROVED BY</td><td>DATE</td><td colspan="2">MOLEX INCORPORATED</td></tr><tr><td colspan="3">ANGULAR ± 3 °</td><td>MLONG</td><td>2010/03/10</td><td colspan="2">SD-87898-001</td></tr><tr><td colspan="3">DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS</td><td colspan="2">MATERIAL NO.</td><td colspan="2">DOCUMENT NO.</td><td colspan="2">SHEET NO.</td></tr><tr><td colspan="3"></td><td colspan="2">SEE TABLE</td><td colspan="2">SD-87898-001</td><td colspan="2">5 OF 20</td></tr><tr><td colspan="3"></td><td colspan="2">THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION</td><td colspan="2"></td><td colspan="2"></td></tr></table>															EWR#1228, +0209 EC NO: S2010-0966 DRWN:ATSE 2010/05/20 CHKD:PTLM 2005/03/29 APPR:MLONG 2010/06/08 B3	REV DESCRIPTION	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION		 			MM ONLY		NTS	METRIC				mm	INCH	DRAWN BY	DATE	TITLE		4 PLACES	± ---	± ---	YLQIAO	2005/03/14	CUSTOM HEADER		3 PLACES	± ---	± ---	CHECKED BY	DATE	2.54MM PITCH SINGLE ROW		2 PLACES	± 0.2	± ---	PTLIM	2005/03/29	SINGLE WAFER SMT HEADER		1 PLACE	± ---	± ---	APPROVED BY	DATE	MOLEX INCORPORATED		ANGULAR ± 3 °			MLONG	2010/03/10	SD-87898-001		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			MATERIAL NO.		DOCUMENT NO.		SHEET NO.					SEE TABLE		SD-87898-001		5 OF 20					THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					
EWR#1228, +0209 EC NO: S2010-0966 DRWN:ATSE 2010/05/20 CHKD:PTLM 2005/03/29 APPR:MLONG 2010/06/08 B3	REV DESCRIPTION	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION																																																																																														
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fb_frame_A3_P_AM_T Rev. F 2009/06/18	9	8	7	6	5	4	3	2	1																																																																																														

tb_frame_A3_P_AM_T
Rev. F 2009/06/18

	10	9	8	7	6	5	4	3	2	1																																																																
F	PACKAGING OPTION PART NO.						CKT SIZE	VOID POSITION	PLATING TYPE	DIMENSION																																																																
	TRAY WITHOUT CAP	TRAY WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP	TAPE & REEL WITHOUT CAP	TAPE & REEL WITH CAP				A	B	G	F	M																																																												
	-----	-----	87898-1621	87898-1631	-----	87898-1651	16	-----	1	40.64	38.10	10.81	9.65	5.84																																																												
	-----	-----	87898-1622	87898-1632	-----	87898-1652	16	-----	2	40.64	38.10	10.81	9.65	5.84																																																												
E	-----	-----	87898-1624	87898-1634	-----	87898-1654	16	-----	4	40.64	38.10	10.81	9.65	5.84																																																												
	-----	-----	87898-1625	87898-1635	-----	87898-1655	16	-----	5	40.64	38.10	10.81	9.65	5.84																																																												
	-----	-----	87898-1626	87898-1636	-----	87898-1656	16	-----	6	40.64	38.10	10.81	9.65	5.84																																																												
D	-----	-----	87898-1721	87898-1731	-----	87898-1751	17	-----	1	43.18	40.64	10.81	9.65	5.84																																																												
	-----	-----	87898-1722	87898-1732	-----	87898-1752	17	-----	2	43.18	40.64	10.81	9.65	5.84																																																												
	-----	-----	87898-1724	87898-1734	-----	87898-1754	17	-----	4	43.18	40.64	10.81	9.65	5.84																																																												
	-----	-----	87898-1725	87898-1735	-----	87898-1755	17	-----	5	43.18	40.64	10.81	9.65	5.84																																																												
C	-----	-----	87898-1726	87898-1736	-----	87898-1756	17	-----	6	43.18	40.64	10.81	9.65	5.84																																																												
	-----	-----	87898-1821	87898-1831	-----	87898-1851	18	-----	1	45.72	43.18	10.81	9.65	5.84																																																												
B	-----	-----	87898-1822	87898-1832	-----	87898-1852	18	-----	2	45.72	43.18	10.81	9.65	5.84																																																												
	-----	-----	87898-1824	87898-1834	-----	87898-1854	18	-----	4	45.72	43.18	10.81	9.65	5.84																																																												
	-----	-----	87898-1825	87898-1835	-----	87898-1855	18	-----	5	45.72	43.18	10.81	9.65	5.84																																																												
	-----	-----	87898-1826	87898-1836	-----	87898-1856	18	-----	6	45.72	43.18	10.81	9.65	5.84																																																												
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	10	9	8	7	6	5	4	3	2	1																																																																

	10	9	8	7	6	5	4	3	2	1					
F	PACKAGING OPTION PART NO.						CKT SIZE	VOID POSITION	PLATING TYPE	DIMENSION					
	TRAY WITHOUT CAP	TRAY WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP	TAPE & REEL WITHOUT CAP	TAPE & REEL WITH CAP				A	B	G	F	M	
	-----	-----	87898-1921	87898-1931	-----	87898-1951	19	-----	1	48.26	45.72	10.81	9.65	5.84	
	-----	-----	87898-1922	87898-1932	-----	87898-1952	19	-----	2	48.26	45.72	10.81	9.65	5.84	
	-----	-----	87898-1924	87898-1934	-----	87898-1954	19	-----	4	48.26	45.72	10.81	9.65	5.84	
	-----	-----	87898-1925	87898-1935	-----	87898-1955	19	-----	5	48.26	45.72	10.81	9.65	5.84	
	-----	-----	87898-1926	87898-1936	-----	87898-1956	19	-----	6	48.26	45.72	10.81	9.65	5.84	
E															
	-----	-----	87898-2021	87898-2031	-----	87898-2051	20	-----	1	50.80	48.26	10.81	9.65	5.84	
	-----	-----	87898-2022	87898-2032	-----	87898-2052	20	-----	2	50.80	48.26	10.81	9.65	5.84	
	-----	-----	87898-2024	87898-2034	-----	87898-2054	20	-----	4	50.80	48.26	10.81	9.65	5.84	
	-----	-----	87898-2025	87898-2035	-----	87898-2055	20	-----	5	50.80	48.26	10.81	9.65	5.84	
	-----	-----	87898-2026	87898-2036	-----	87898-2056	20	-----	6	50.80	48.26	10.81	9.65	5.84	
D	-----	-----	87898-2121	87898-2131	-----	87898-2151	21	-----	1	53.34	50.80	10.81	9.65	5.84	
	-----	-----	87898-2122	87898-2132	-----	87898-2152	21	-----	2	53.34	50.80	10.81	9.65	5.84	
	-----	-----	87898-2124	87898-2134	-----	87898-2154	21	-----	4	53.34	50.80	10.81	9.65	5.84	
	-----	-----	87898-2125	87898-2135	-----	87898-2155	21	-----	5	53.34	50.80	10.81	9.65	5.84	
C	-----	-----	87898-2126	87898-2136	-----	87898-2156	21	-----	6	53.34	50.80	10.81	9.65	5.84	
B															
A															

10		9		8		7		6		5		4		3		2		1																			
PACKAGING OPTION PART NO.										CKT SIZE		VOID POSITION		PLATING TYPE		DIMENSION																					
TRAY WITHOUT CAP		TRAY WITH CAP		TUBE WITHOUT CAP		TUBE WITH CAP		TAPE & REEL WITHOUT CAP								TAPE & REEL WITH CAP		A		B											G		F		M		
-----		-----		87898-2221		87898-2231		-----		-----		22		-----		1		55.88		53.34											10.81		9.65		5.84		
-----		-----		87898-2222		87898-2232		-----		-----		22		-----		2		55.88		53.34											10.81		9.65		5.84		
-----		-----		87898-2224		87898-2234		-----		-----		22		-----		4		55.88		53.34											10.81		9.65		5.84		
-----		-----		87898-2225		87898-2235		-----		-----		22		-----		5		55.88		53.34											10.81		9.65		5.84		
-----		-----		87898-2226		87898-2236		-----		-----		22		-----		6		55.88		53.34											10.81		9.65		5.84		
-----		-----		87898-2321		87898-2331		-----		-----		23		-----		1		58.42		55.88											10.81		9.65		5.84		
-----		-----		87898-2322		87898-2332		-----		-----		23		-----		2		58.42		55.88											10.81		9.65		5.84		
-----		-----		87898-2324		87898-2334		-----		-----		23		-----		4		58.42		55.88											10.81		9.65		5.84		
-----		-----		87898-2325		87898-2335		-----		-----		23		-----		5		58.42		55.88											10.81		9.65		5.84		
-----		-----		87898-2326		87898-2336		-----		-----		23		-----		6		58.42		55.88											10.81		9.65		5.84		
-----		-----		87898-2421		87898-2431		-----		-----		24		-----		1		60.96		58.42		10.81		9.65		5.84											
-----		-----		87898-2422		87898-2432		-----		-----		24		-----		2		60.96		58.42		10.81		9.65		5.84											
-----		-----		87898-2424		87898-2434		-----		-----		24		-----		4		60.96		58.42		10.81		9.65		5.84											
-----		-----		87898-2425		87898-2435		-----		-----		24		-----		5		60.96		58.42		10.81		9.65		5.84											
-----		-----		87898-2426		87898-2436		-----		-----		24		-----		6		60.96		58.42		10.81		9.65		5.84											

10		9		8		7		6		5		4		3		2		1	
PACKAGING OPTION PART NO.										CKT SIZE	VOID POSITION	PLATING TYPE	DIMENSION						
F	TRAY WITHOUT CAP	TRAY WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP	TAPE & REEL WITHOUT CAP	TAPE & REEL WITH CAP	A	B	G				F	M					
	-----	-----	87898-2521	87898-2531	-----	-----	25	----	1	63.50	60.96	10.81	9.65	5.84					
	-----	-----	87898-2522	87898-2532	-----	-----	25	----	2	63.50	60.96	10.81	9.65	5.84					
	-----	-----	87898-2524	87898-2534	-----	-----	25	----	4	63.50	60.96	10.81	9.65	5.84	E				
	-----	-----	87898-2525	87898-2535	-----	-----	25	----	5	63.50	60.96	10.81	9.65	5.84					
	-----	-----	87898-2526	87898-2536	-----	-----	25	----	6	63.50	60.96	10.81	9.65	5.84					
	-----	-----	87898-2621	87898-2631	-----	-----	26	----	1	66.04	63.50	10.81	9.65	5.84					
	-----	-----	87898-2622	87898-2632	-----	-----	26	----	2	66.04	63.50	10.81	9.65	5.84					
	-----	-----	87898-2624	87898-2634	-----	-----	26	----	4	66.04	63.50	10.81	9.65	5.84					
	-----	-----	87898-2625	87898-2635	-----	-----	26	----	5	66.04	63.50	10.81	9.65	5.84					
	-----	-----	87898-2626	87898-2636	-----	-----	26	----	6	66.04	63.50	10.81	9.65	5.84					
D															D				
	-----	-----	87898-2721	87898-2731	-----	-----	27	----	1	68.58	66.04	10.81	9.65	5.84					
	-----	-----	87898-2722	87898-2732	-----	-----	27	----	2	68.58	66.04	10.81	9.65	5.84					
	-----	-----	87898-2724	87898-2734	-----	-----	27	----	4	68.58	66.04	10.81	9.65	5.84	C				
	-----	-----	87898-2725	87898-2735	-----	-----	27	----	5	68.58	66.04	10.81	9.65	5.84					
	-----	-----	87898-2726	87898-2736	-----	-----	27	----	6	68.58	66.04	10.81	9.65	5.84					
															B				
A																A			

	10	9	8	7	6	5	4	3	2	1									
F	PACKAGING OPTION PART NO.					CKT SIZE	VOID POSITION	PLATING TYPE	DIMENSION										
	TRAY WITHOUT CAP	TRAY WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP	TAPE & REEL WITHOUT CAP				TAPE & REEL WITH CAP	A	B	G	F		M				
	-----	-----	87898-2821	87898-2831	-----	-----	28	-----	1	71.12	68.58	10.81	9.65	5.84					
	-----	-----	87898-2822	87898-2832	-----	-----	28	-----	2	71.12	68.58	10.81	9.65	5.84					
	-----	-----	87898-2824	87898-2834	-----	-----	28	-----	4	71.12	68.58	10.81	9.65	5.84					
	-----	-----	87898-2825	87898-2835	-----	-----	28	-----	5	71.12	68.58	10.81	9.65	5.84					
	-----	-----	87898-2826	87898-2836	-----	-----	28	-----	6	71.12	68.58	10.81	9.65	5.84					
E																			
	-----	-----	87898-2921	87898-2931	-----	-----	29	-----	1	73.66	71.12	10.81	9.65	5.84					
	-----	-----	87898-2922	87898-2932	-----	-----	29	-----	2	73.66	71.12	10.81	9.65	5.84					
	-----	-----	87898-2924	87898-2934	-----	-----	29	-----	4	73.66	71.12	10.81	9.65	5.84					
	-----	-----	87898-2925	87898-2935	-----	-----	29	-----	5	73.66	71.12	10.81	9.65	5.84					
D	-----	-----	87898-2926	87898-2936	-----	-----	29	-----	6	73.66	71.12	10.81	9.65	5.84					
	-----	-----	87898-3021	87898-3031	-----	-----	30	-----	1	76.20	73.66	10.81	9.65	5.84					
	-----	-----	87898-3022	87898-3032	-----	-----	30	-----	2	76.20	73.66	10.81	9.65	5.84					
	-----	-----	87898-3024	87898-3034	-----	-----	30	-----	4	76.20	73.66	10.81	9.65	5.84					
C	-----	-----	87898-3025	87898-3035	-----	-----	30	-----	5	76.20	73.66	10.81	9.65	5.84					
	-----	-----	87898-3026	87898-3036	-----	-----	30	-----	6	76.20	73.66	10.81	9.65	5.84					
B																B			
A																A			
						B3	DESCRIPTION	QUALITY SYMBOLS		GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION			
								$\nabla_F=0$ $\nabla_G=0$ $\nabla_P=0$		mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.2 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3 °		DRAWN BY DATE YLQIAO 2005/03/14 CHECKED BY DATE PTLIM 2005/03/29 APPROVED BY DATE MLONG 2010/03/10 MATERIAL NO.		TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER MOLEX INCORPORATED DOCUMENT NO.		SHEET NO. 11 OF 20			
EWR#1228, +0209 EC NO: S2010-0966 2010/05/20 DRWN:ATSEE CHKD:PTLIM 2005/03/29 APPR:MLONG 2010/06/08								DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					
fb_frame_A3_P_AM_T Rev. F 2009/06/18		9	8	7	6	5	4	3	2	1									

	10	9	8	7	6	5	4	3	2	1						
F	PACKAGING OPTION PART NO.						CKT SIZE	VOID POSITION	PLATING TYPE	DIMENSION						
	TRAY WITHOUT CAP	TRAY WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP	TAPE & REEL WITHOUT CAP	TAPE & REEL WITH CAP				A	B	G	F	M		
	-----	-----	87898-3121	87898-3131	-----	-----	31	-----	1	78.74	76.20	10.81	9.65	5.84		
	-----	-----	87898-3122	87898-3132	-----	-----	31	-----	2	78.74	76.20	10.81	9.65	5.84		
	-----	-----	87898-3124	87898-3134	-----	-----	31	-----	4	78.74	76.20	10.81	9.65	5.84		
	-----	-----	87898-3125	87898-3135	-----	-----	31	-----	5	78.74	76.20	10.81	9.65	5.84		
	-----	-----	87898-3126	87898-3136	-----	-----	31	-----	6	78.74	76.20	10.81	9.65	5.84		
E																
	-----	-----	87898-3221	87898-3231	-----	-----	32	-----	1	81.28	78.74	10.81	9.65	5.84		
	-----	-----	87898-3222	87898-3232	-----	-----	32	-----	2	81.28	78.74	10.81	9.65	5.84		
D	-----	-----	87898-3224	87898-3234	-----	-----	32	-----	4	81.28	78.74	10.81	9.65	5.84		
	-----	-----	87898-3225	87898-3235	-----	-----	32	-----	5	81.28	78.74	10.81	9.65	5.84		
	-----	-----	87898-3226	87898-3236	-----	-----	32	-----	6	81.28	78.74	10.81	9.65	5.84		
	-----	-----	87898-3321	87898-3331	-----	-----	33	-----	1	83.82	81.28	10.81	9.65	5.84		
	-----	-----	87898-3322	87898-3332	-----	-----	33	-----	2	83.82	81.28	10.81	9.65	5.84		
	-----	-----	87898-3324	87898-3334	-----	-----	33	-----	4	83.82	81.28	10.81	9.65	5.84		
C	-----	-----	87898-3325	87898-3335	-----	-----	33	-----	5	83.82	81.28	10.81	9.65	5.84		
	-----	-----	87898-3326	87898-3336	-----	-----	33	-----	6	83.82	81.28	10.81	9.65	5.84		
B															B	
A	EWR#1228, +0209 EC NO: S2010-0966 DRWN:ATSEE 2010/05/20 CHKD:PTLIM 2005/03/29 APPR:MLONG 2010/06/08 B3						DESCRIPTION	REV	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
											mm	INCH	DRAWN BY YLQIAO	DATE 2005/03/14	TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER	
										4 PLACES	± ---	± ---	CHECKED BY PTLIM	DATE 2005/03/29		MOLEX INCORPORATED
										3 PLACES	± ---	± ---	APPROVED BY MLONG	DATE 2010/03/10	DOCUMENT NO. SD-87898-001	
	2 PLACES	± 0.2	± ---	MATERIAL NO. SEE TABLE		SHEET NO. 12 OF 20										
	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													

fb_frame_A3_P_AM_T
Rev. F 2009/06/18

987654321

	10	9	8	7	6	5	4	3	2	1														
F	PACKAGING OPTION PART NO.						CKT SIZE	VOID POSITION	PLATING TYPE	DIMENSION														
	TRAY WITHOUT CAP	TRAY WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP	TAPE & REEL WITHOUT CAP	TAPE & REEL WITH CAP				A	B	G	F	M										
	-----	-----	87898-3421	87898-3431	-----	-----				34	----	1	86.36	83.82		10.81	9.65	5.84						
	-----	-----	87898-3422	87898-3432	-----	-----	34	----	2	86.36	83.82	10.81	9.65	5.84										
	-----	-----	87898-3424	87898-3434	-----	-----	34	----	4	86.36	83.82	10.81	9.65	5.84										
	-----	-----	87898-3425	87898-3435	-----	-----	34	----	5	86.36	83.82	10.81	9.65	5.84										
	-----	-----	87898-3426	87898-3436	-----	-----	34	----	6	86.36	83.82	10.81	9.65	5.84										
E																								
	-----	-----	87898-3521	87898-3531	-----	-----	35	----	1	88.90	86.36	10.81	9.65	5.84										
	-----	-----	87898-3522	87898-3532	-----	-----	35	----	2	88.90	86.36	10.81	9.65	5.84										
	-----	-----	87898-3524	87898-3534	-----	-----	35	----	4	88.90	86.36	10.81	9.65	5.84										
	-----	-----	87898-3525	87898-3535	-----	-----	35	----	5	88.90	86.36	10.81	9.65	5.84										
	-----	-----	87898-3526	87898-3536	-----	-----	35	----	6	88.90	86.36	10.81	9.65	5.84										
D																								
	-----	-----	87898-3621	87898-3631	-----	-----	36	----	1	91.44	88.90	10.81	9.65	5.84										
	-----	-----	87898-3622	87898-3632	-----	-----	36	----	2	91.44	88.90	10.81	9.65	5.84										
	-----	-----	87898-3624	87898-3634	-----	-----	36	----	4	91.44	88.90	10.81	9.65	5.84										
	-----	-----	87898-3625	87898-3635	-----	-----	36	----	5	91.44	88.90	10.81	9.65	5.84										
	-----	-----	87898-3626	87898-3636	-----	-----	36	----	6	91.44	88.90	10.81	9.65	5.84										
C																								
B																								
A																								
EWB#1228, +0209 EC NO: S2010-0966 2010/05/20 DRW:NATSEE CHKD:PTLIM 2005/03/29 APPR:MLONG 2010/06/08							QUALITY SYMBOLS F _A =0 F _G =0 F _P =0	DESCRIPTION	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER MOLEX INCORPORATED SD-87898-001 13 OF 20							
B3	REV	4 PLACES	± ---	± ---	DRAWN BY	DATE			TITLE	YLOIAO	2005/03/14	CHECKED BY	DATE	PTLIM	2005/03/29	APPROVED BY		DATE	MLONG	2010/03/10	MATERIAL NO.	SEE TABLE	DOCUMENT NO.	SHEET NO.
		3 PLACES	± ---	± ---	mm	INCH																		
ib_frame_A3_P_AM_T Rev. F 2009/06/18							9	8	7	6	5	4	3	2	1									

	10	9	8	7	6	5	4	3	2	1																																															
	PACKAGING OPTION PART NO.						CKT SIZE	VOID POSITION	PLATING TYPE	DIMENSION																																															
	TRAY WITHOUT CAP	TRAY WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP	TAPE & REEL WITHOUT CAP	TAPE & REEL WITH CAP				A	B	G	F	M																																											
F	-----	-----	87898-3721	87898-3731	-----	-----	37	----	1	93.98	91.44	10.81	9.65	5.84	F																																										
	-----	-----	87898-3722	87898-3732	-----	-----	37	----	2	93.98	91.44	10.81	9.65	5.84																																											
	-----	-----	87898-3724	87898-3734	-----	-----	37	----	4	93.98	91.44	10.81	9.65	5.84																																											
	-----	-----	87898-3725	87898-3735	-----	-----	37	----	5	93.98	91.44	10.81	9.65	5.84																																											
	-----	-----	87898-3726	87898-3736	-----	-----	37	----	6	93.98	91.44	10.81	9.65	5.84																																											
E															E																																										
	-----	-----	87898-3821	87898-3831	-----	-----	38	----	1	96.52	93.98	10.81	9.65	5.84																																											
	-----	-----	87898-3822	87898-3832	-----	-----	38	----	2	96.52	93.98	10.81	9.65	5.84																																											
	-----	-----	87898-3824	87898-3834	-----	-----	38	----	4	96.52	93.98	10.81	9.65	5.84																																											
	-----	-----	87898-3825	87898-3835	-----	-----	38	----	5	96.52	93.98	10.81	9.65	5.84																																											
D	-----	-----	87898-3826	87898-3836	-----	-----	38	----	6	96.52	93.98	10.81	9.65	5.84	D																																										
	-----	-----	87898-3921	87898-3931	-----	-----	39	----	1	99.06	96.52	10.81	9.65	5.84																																											
	-----	-----	87898-3922	87898-3932	-----	-----	39	----	2	99.06	96.52	10.81	9.65	5.84																																											
	-----	-----	87898-3924	87898-3934	-----	-----	39	----	4	99.06	96.52	10.81	9.65	5.84																																											
C	-----	-----	87898-3925	87898-3935	-----	-----	39	----	5	99.06	96.52	10.81	9.65	5.84	C																																										
	-----	-----	87898-3926	87898-3936	-----	-----	39	----	6	99.06	96.52	10.81	9.65	5.84																																											
B															B																																										
A															A																																										
<table><tr><td rowspan="5">EWR#1228, +0209 EC NO: S2010-0966 DRWN:ATSEE 2010/05/20 CHKDPTLIM 2005/03/29 APPR:MLONG 2010/06/08 B3</td><td rowspan="5">DESCRIPTION REV</td><td>QUALITY SYMBOLS</td><td colspan="2">GENERAL TOLERANCES (UNLESS SPECIFIED)</td><td colspan="2">DIMENSION STYLE MM ONLY</td><td>SCALE NTS</td><td>DESIGN UNITS METRIC</td><td colspan="2">THIRD ANGLE PROJECTION</td></tr><tr><td rowspan="4">$\nabla=0$ $\nabla=0$ $\nabla=0$</td><td></td><td></td><td>DRAWN BY YLQIAO</td><td>DATE 2005/03/14</td><td rowspan="4">TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER MOLEX INCORPORATED SD-87898-001</td></tr><tr><td>4 PLACES</td><td>$\pm \text{---}$</td><td>$\pm \text{---}$</td><td>CHECKED BY PTLIM</td><td>DATE 2005/03/29</td></tr><tr><td>3 PLACES</td><td>$\pm \text{---}$</td><td>$\pm \text{---}$</td><td>APPROVED BY MLONG</td><td>DATE 2010/03/10</td></tr><tr><td>2 PLACES</td><td>± 0.2</td><td>$\pm \text{---}$</td><td>MATERIAL NO.</td><td>DOCUMENT NO.</td></tr><tr><td colspan="3">DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS</td><td colspan="2"></td><td>SIZE A3</td><td colspan="5">THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION</td></tr></table>															EWR#1228, +0209 EC NO: S2010-0966 DRWN:ATSEE 2010/05/20 CHKDPTLIM 2005/03/29 APPR:MLONG 2010/06/08 B3	DESCRIPTION REV	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		$\nabla=0$ $\nabla=0$ $\nabla=0$			DRAWN BY YLQIAO	DATE 2005/03/14	TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER MOLEX INCORPORATED SD-87898-001	4 PLACES	$\pm \text{---}$	$\pm \text{---}$	CHECKED BY PTLIM	DATE 2005/03/29	3 PLACES	$\pm \text{---}$	$\pm \text{---}$	APPROVED BY MLONG	DATE 2010/03/10	2 PLACES	± 0.2	$\pm \text{---}$	MATERIAL NO.	DOCUMENT NO.	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				
EWR#1228, +0209 EC NO: S2010-0966 DRWN:ATSEE 2010/05/20 CHKDPTLIM 2005/03/29 APPR:MLONG 2010/06/08 B3	DESCRIPTION REV	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION																																																
		$\nabla=0$ $\nabla=0$ $\nabla=0$			DRAWN BY YLQIAO	DATE 2005/03/14	TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER MOLEX INCORPORATED SD-87898-001																																																		
			4 PLACES	$\pm \text{---}$	$\pm \text{---}$	CHECKED BY PTLIM		DATE 2005/03/29																																																	
			3 PLACES	$\pm \text{---}$	$\pm \text{---}$	APPROVED BY MLONG		DATE 2010/03/10																																																	
			2 PLACES	± 0.2	$\pm \text{---}$	MATERIAL NO.		DOCUMENT NO.																																																	
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																																																			
fb_frame_A3_P_AM_T Rev. F 2009/06/18	9	8	7	6	5	4	3	2	1																																																

tb_frame_A3_P_AM_T
Rev. F 2009/06/18

10

9

8

7

6

5

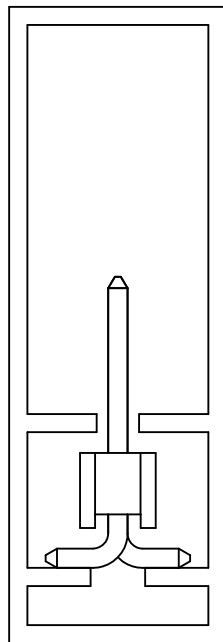
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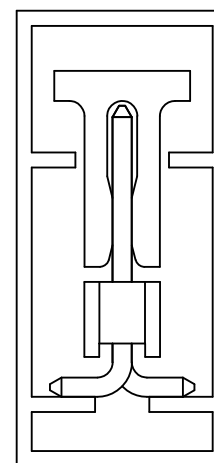
2

1

PART WITHOUT CAP
IN TUBE ORIENTATION



PART WITH CAP
IN TUBE ORIENTATION



EWR#1228, +0209 EC NO: S2010-0966 2010/05/20 DRWN:ATSEE CHKD:PTLIM 2005/03/29 APPR:MLONG 2010/06/08	DESCRIPTION REV	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
		=0 =0 =0		mm	INCH	DRAWN BY YLQIAO	DATE 2005/03/14	TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER		
			4 PLACES	± ---	± ---	CHECKED BY PTLIM	DATE 2005/03/29			
			3 PLACES	± ---	± ---	APPROVED BY MLONG		DATE 2010/03/10	MOLEX INCORPORATED	
			2 PLACES	± 0.2	± ---			MATERIAL NO.		DOCUMENT NO. SD-87898-001
		1 PLACE	± ---	± ---	SEE TABLE					
		ANGULAR ± 3 °		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		

9

8

7

6

5

4

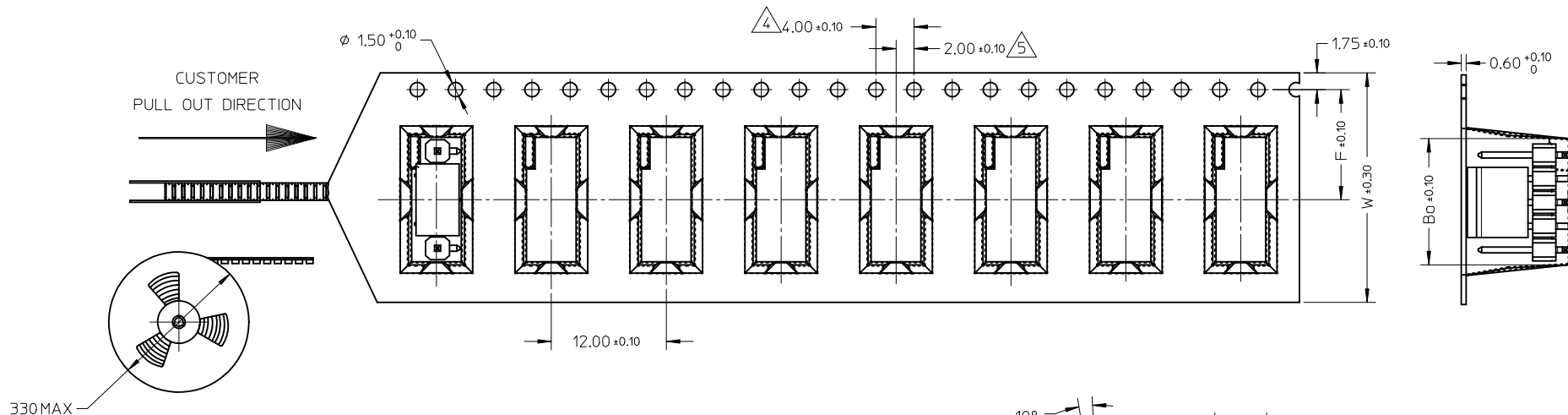
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2

1

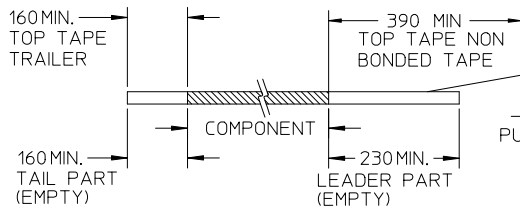
10 9 8 7 6 5 4 3 2 1

CKT	DIMENSION				
	Bo	Ao	Ko	F	W
5	13.10	5.20	11.30	11.50	24.00

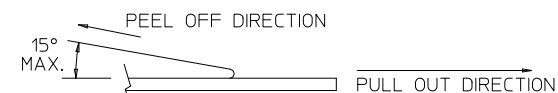


NOTES:

1. LEADER AND TRAILER TAPE



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



3. MATERIAL: BLACK P.S CONDUCTIVE, BLACK
4. MEASURED FROM CENTRELINE OF SPROCKET HOLE TO CENTRELINE OF SPOCKET
5. CUMULATIVE TOLERANCE OF 10 SPROCKET HOLE IS $\pm 0.20\text{mm}$
6. A0 AND B0 ARE MEASURED FROM ABOVE POCKET BASE 0.30mm
7. TAPE AND REEL SPECIFICATION IS AS PER EIA-481.
8. TAPE AND REEL QUANTITY : 440PCS/REEL
9. THE TAPE IS TREATED FOR ANTI-STATIC.
10. ALL RADIUS ARE 0.30mm UNLESS SPECIFY
11. SURFACE RESISTIVITY 10^3 TO 10^9 OHMS.

**PART PACK
IN E/TAPE
ORIENTATION
(FOR REF USE)**

EWR#1228, +0209 EC NO: S2010-0966 DRWN:ATSEE CHKD:PTLIM APPR:MLONG REV B3	2010/05/20	2010/03/29	2010/06/08
	QUALITY SYMBOLS	DESCRIPTION	REV
	$F=0$		
	$F=0$		

QUALITY SYMBOLS
$F=0$
$F=0$
$F=0$

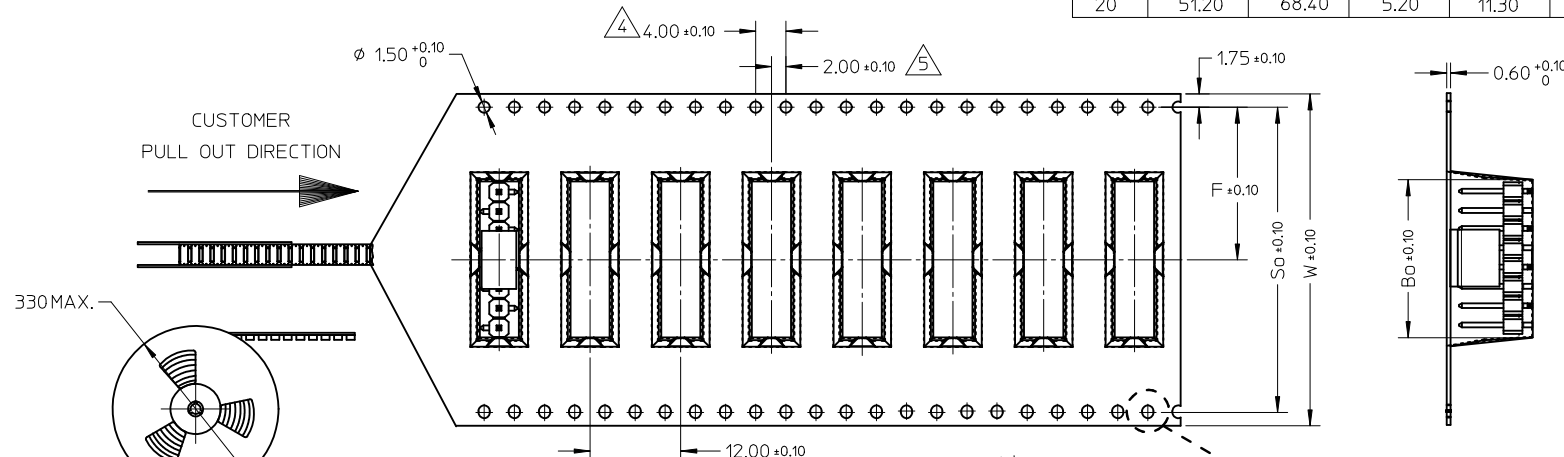
GENERAL TOLERANCES (UNLESS SPECIFIED)	
4 PLACES	± 0.2
3 PLACES	± 0.1
2 PLACES	± 0.05
1 PLACE	± 0.02
ANGULAR $\pm 3^\circ$	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	

DIMENSION STYLE MM ONLY	
DRAWN BY	DATE
YLO1A0	2005/03/14
CHECKED BY	DATE
PTLIM	2005/03/29
APPROVED BY	DATE
MLONG	2010/03/10
MATERIAL NO.	
SEE TABLE	
SIZE	
A3	

SCALE NTS	DESIGN UNITS METRIC	 THIRD ANGLE PROJECTION
TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER		
 MOLEX INCORPORATED		
DOCUMENT NO. SD-87898-001		SHEET NO. 18 OF 20
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		

9 8 7 6 5 4 3 2 1

CKT	DIMENSION					
	Bo	So	Ao	Ko	F	W
6	15.65	28.40	5.20	11.30	14.20	32.00
8	20.70	40.40	5.20	11.30	20.20	44.00
10	25.80	40.40	5.20	11.30	20.20	44.00
12	30.90	52.40	5.20	11.30	26.20	56.00
14	35.95	52.40	5.20	11.30	26.20	56.00
16	41.05	52.40	5.20	11.30	26.20	56.00
18	46.20	68.40	5.20	11.30	34.20	72.00
20	51.20	68.40	5.20	11.30	34.20	72.00

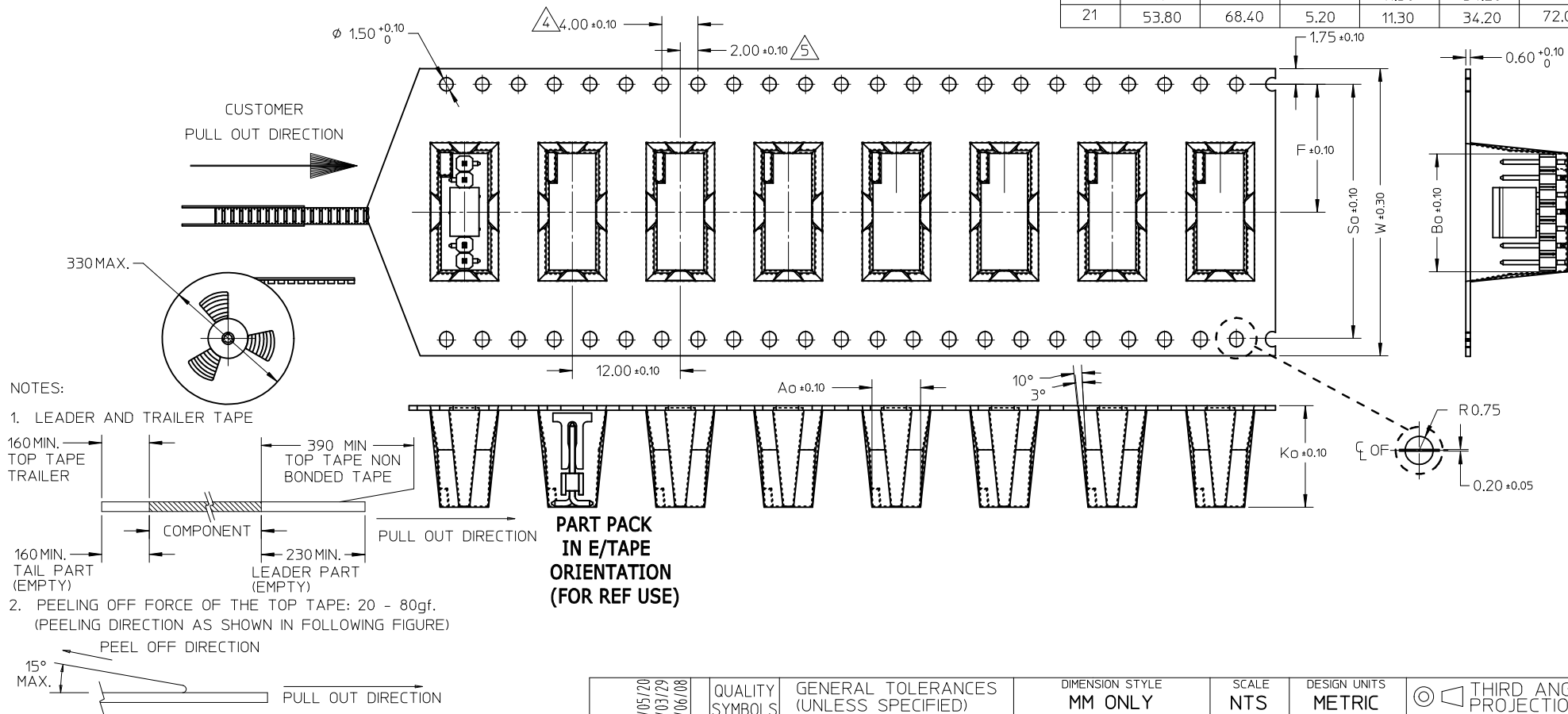


- NOTES:
- LEADER AND TRAILER TAPE
160 MIN. TOP TAPE TRAILER
390 MIN. TOP TAPE NON BONDED TAPE
160 MIN. TAIL PART (EMPTY)
230 MIN. LEADER PART (EMPTY)
PULL OUT DIRECTION
 - PEELING OFF FORCE OF THE TOP TAPE: 20 - 80gf.
(PEELING DIRECTION AS SHOWN IN FOLLOWING FIGURE)
PEEL OFF DIRECTION
15° MAX.
 - MATERIAL: BLACK P.S CONDUCTIVE, BLACK
 - MEASURED FROM CENTRELINE OF SPROCKET HOLE TO CENTRELINE OF SPOCKET
 - CUMULATIVE TOLERANCE OF 10 SPROCKET HOLE IS ± 0.20 mm
 - A0 AND B0 ARE MEASURED FROM ABOVE POCKET BASE 0.30mm
 - TAPE AND REEL SPECIFICATION IS AS PER EIA-481.
 - TAPE AND REEL QUANTITY : 440PCS/REEL
 - THE TAPE IS TREATED FOR ANTI-STATIC.
 - ALL RADIUS ARE 0.30MM UNLESS SPECIFY
 - SURFACE RESISTIVITY 10^3 TO 10^9 OHMS.

PART PACK
IN E/TAPE
ORIENTATION
(FOR REF USE)

EWR#1228, +0209 EC NO: S2010-0966 DRW: N1SEE CHKD: PTLIM APPR: MLONG 2010/05/20 2005/03/29 2010/06/08		DESCRIPTION	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION			
			$\nabla F=0$	4 PLACES	$\pm$ ---	$\pm$ ---	DRAWN BY YLQIAO	DATE 2005/03/14	TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER				
			$\nabla F=0$	3 PLACES	$\pm$ ---	$\pm$ ---	CHECKED BY PTLIM	DATE 2005/03/29					
			$\nabla F=0$	2 PLACES	± 0.2	$\pm$ ---	APPROVED BY	DATE	MOLEX INCORPORATED				
				1 PLACE	$\pm$ ---	$\pm$ ---	MLONG	2010/03/10					
B3		REV	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				MATERIAL NO. SEE TABLE		DOCUMENT NO. SD-87898-001		SHEET NO. 19 OF 20		
			SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION								

CKT	DIMENSION					
	Bo	So	Ao	Ko	F	W
7	18.20	40.40	5.20	11.30	20.20	44.00
9	23.25	40.40	5.20	11.30	20.20	44.00
11	28.35	40.40	5.20	11.30	20.20	44.00
13	33.40	52.40	5.20	11.30	26.20	56.00
15	38.50	52.40	5.20	11.30	26.20	56.00
17	43.60	68.40	5.20	11.30	34.20	72.00
19	48.70	68.40	5.20	11.30	34.20	72.00
21	53.80	68.40	5.20	11.30	34.20	72.00



EWR#1228, +0209 EC NO: S2010-0966 DRW/ATSEE CHKD:PTLIM APPR:MLONG REV B3	DESCRIPTION	QUALITY SYMBOLS F_A=0 F_C=0 F_P=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION			
			mm	INCH	DRAWN BY YLOIAO	DATE 2005/03/14	TITLE CUSTOM HEADER 2.54MM PITCH SINGLE ROW SINGLE WAFER SMT HEADER					
			4 PLACES	± ---	± ---	CHECKED BY						DATE
			3 PLACES	± ---	± ---	PTLIM						2005/03/29
			2 PLACES	± 0.2	± ---	APPROVED BY						DATE
			1 PLACE	± ---	± ---	MLONG						2010/03/10
			ANGULAR ± 3 °		MATERIAL NO.		DOCUMENT NO.		SHEET NO.			
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		SD-87898-001		20 OF 20			
					SIZE A3	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION						