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Part Number: [0879208147](#)
Status: **Active**
Overview: [milligrid](#)
Description: 2.54mm (.100") Pitch C-Grid® Header, Surface Mount, Dual Row, Vertical, 14 Circuits, 0.38µm (15µ") Gold (Au) Plating, with Pick-and-Place Cap, with Peg, Tube Packaging, Lead-free

Documents:
[3D Model](#) [Product Specification PS-87920-019 \(PDF\)](#)
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)

Agency Certification

UL E29179

General

Product Family PCB Headers
Series [87920](#)
Application Board-to-Board, Wire-to-Board
Overview [milligrid](#)
Product Name C-Grid®

Physical

Breakaway Yes
Circuits (Loaded) 14
Circuits (maximum) 14
Color - Resin Black
First Mate / Last Break No
Flammability 94V-0
Glow-Wire Compliant No
Guide to Mating Part No
Keying to Mating Part None
Lock to Mating Part None
Mated Height (in) 0.240 In
Mated Height (mm) 6.10 mm
Material - Metal Copper Alloy
Material - Plating Mating Gold
Material - Plating Termination Tin
Material - Resin High Temperature Thermoplastic
Number of Rows 2
Orientation Vertical
PCB Locator Yes
PCB Retention None
PCB Thickness Recommended (in) 0.063 In
PCB Thickness Recommended (mm) 1.60 mm
Packaging Type Tube
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
Plating min: Mating (µin) 15
Plating min: Mating (µm) 0.38
Plating min: Termination (µin) 79
Plating min: Termination (µm) 2.00
Polarized to Mating Part No
Polarized to PCB No
Robotic Placement Pick and Place Cap

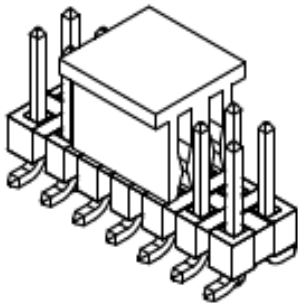


image - Reference only

Series

EU RoHS

**ELV and RoHS
Compliant**

REACH SVHC

Not Reviewed

Halogen-Free

Status

Not Reviewed

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

[87920Series](#)

Mates With

[7859 Shunts](#), [C-Grid® PCB Receptacles](#) like
[71850](#), [SL™ IDT Housing](#) like [70450](#)

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

Solder Process Data

Duration at Max. Process Temperature (seconds)	10
Lead-free Process Capability	Reflow Capable (SMT only)
Max. Cycles at Max. Process Temperature	3
Process Temperature max. C	260

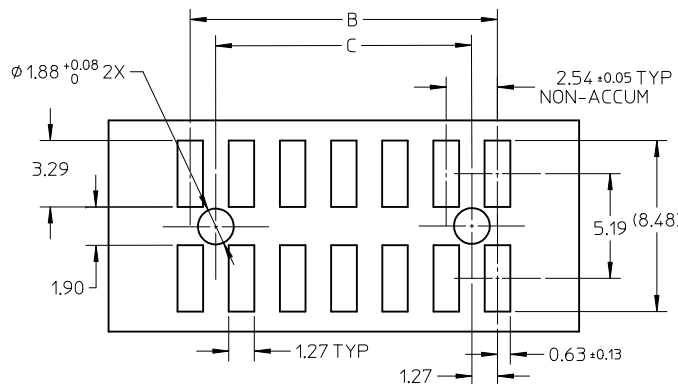
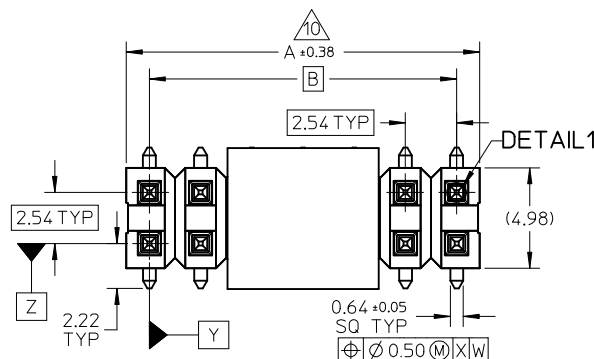
Material Info

Reference - Drawing Numbers

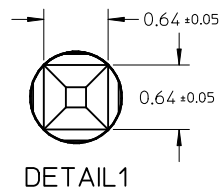
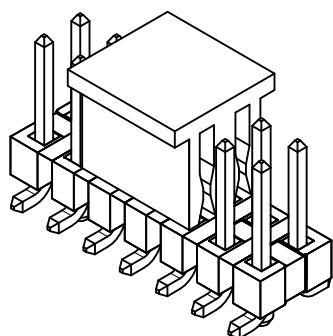
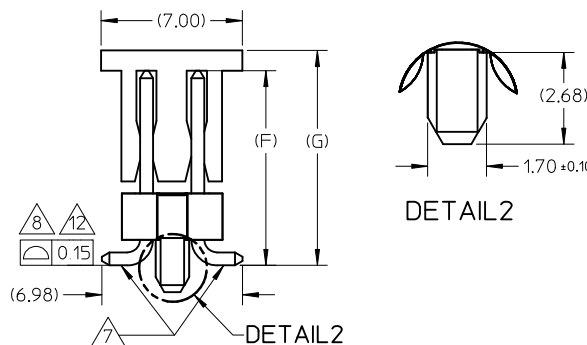
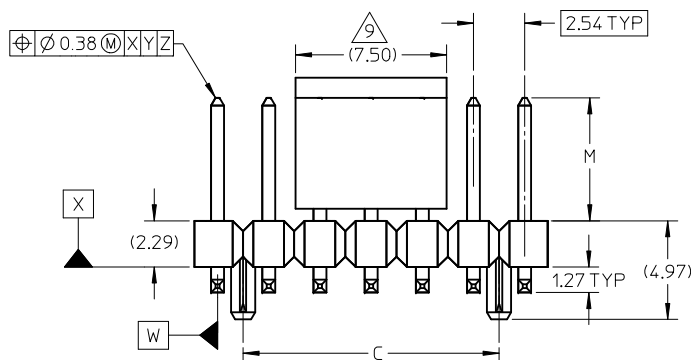
Packaging Specification	PK-89990-478
Product Specification	PS-87920-019
Sales Drawing	SD-87920-020

This document was generated on 05/26/2010

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RECOMMENDED PCB LAYOUT



NOTES:

1. MATERIAL:

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

2. PLATING TYPE:

- (1) 0.38 μ m MIN. GOLD PLATE ON CONTACT AND 2.00 μ m MIN. TIN ON SOLDER TAIL OVER 1.25 μ m MIN. NICKEL OVERALL.
- (2) 0.75 μ m MIN. GOLD PLATE ON CONTACT AND 2.00 μ m MIN. TIN ON SOLDER TAIL OVER 1.25 μ m MIN. NICKEL OVERALL.
- (3) 2.50 μ m MIN. TIN OVERALL 1.25 μ m MIN. NICKEL OVERALL

3. PACKAGING TYPE: SEE TABLE

4. PCB THICKNESS 1.60+/-0.10mm

5. PRODUCT SPECIFICATION: PS-87920-019

6. WAFER TO BE FLAT WITHIN 0.003 mm/mm

7. 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. 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

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

11. PARTS ARE NOT STACKABLE ON 2.54 CENTER

12. COPLANARITY FOR SIZES UP TO 40 IS 0.15MM.

13. THE ABOVE CKT 14 IS FOR ILLUSTRATION PURPOSE ONLY

14. TUBE LENGTH IS 560MM PER STANDARD

15. CKT 4 & 6 TO BE PACKED IN BULK/TRAY PACKING

16. PACKAGING SPECIFICATION: TUBE: PK-89990-478

TAPE & REEL : PK-89990-479

PG5.* CONNECTOR W/VOID ORIENTATION IN T&R EC NO: S2010-0642	2010/02/01	DESCRIPTION	QUALITY SYMBOLS F_A=0 F_C=0 F_P=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	2010/02/05					MM ONLY		NTS	METRIC	
	2010/02/05							TITLE		
	2010/02/09							CUSTOM HEADER		
								2.54MM PITCH DUAL ROW		
						HEADER SINGLE WAFER SMT				
						MOLEX INCORPORATED				
						SD-87920-020				
						1 OF 11				
	D5	REV			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION	

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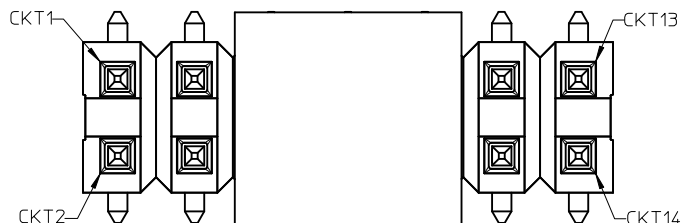
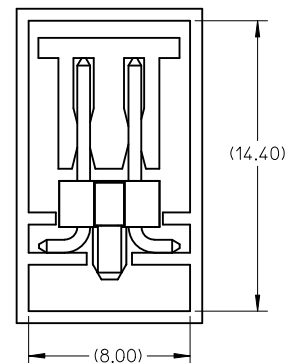
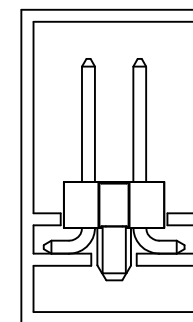
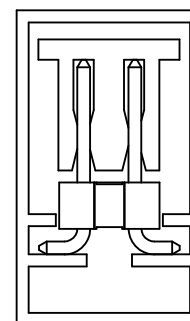
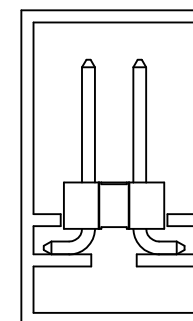
E

D

C

B

A

CIRCUITS POSITION
CONFIGURATIONPART PACKED IN
TUBE ORIENTATIONPART WITH PEGS
WITH CAP IN TUBEPART WITH PEGS
WITHOUT CAP IN TUBEPART WITHOUT PEGS
WITH CAP IN TUBEPART WITHOUT PEGS
WITHOUT CAP IN TUBE

PG5.5 CONNECTOR W/VOID ORIENTATION IN T&R EC NO: S2010-0642	2010/02/01 DRWN:ATSEE	2010/02/05 CHKD:SKANG	2010/02/09 APPR:MLONG	DESCRIPTION	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	 THIRD ANGLE PROJECTION	
					$F_A=0$				DRAWN BY	DATE	TITLE CUSTOM HEADER 2.54MM PITCH DUAL ROW HEADER SINGLE WAFER SMT		
					$F_G=0$				CHECKED BY	DATE			
					$F_P=0$				PATEY	2006/02/16	MOLEX INCORPORATED		
									APPROVED BY	DATE			
									MLONG	2010/02/08	DOCUMENT NO.		SHEET NO.
								MATERIAL NO.		SD-87920-020		2 OF 11	
D5				REV		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				

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B

- A

- fb_frame_A3_P_AM_T
Rev. F 2009/06/18

F

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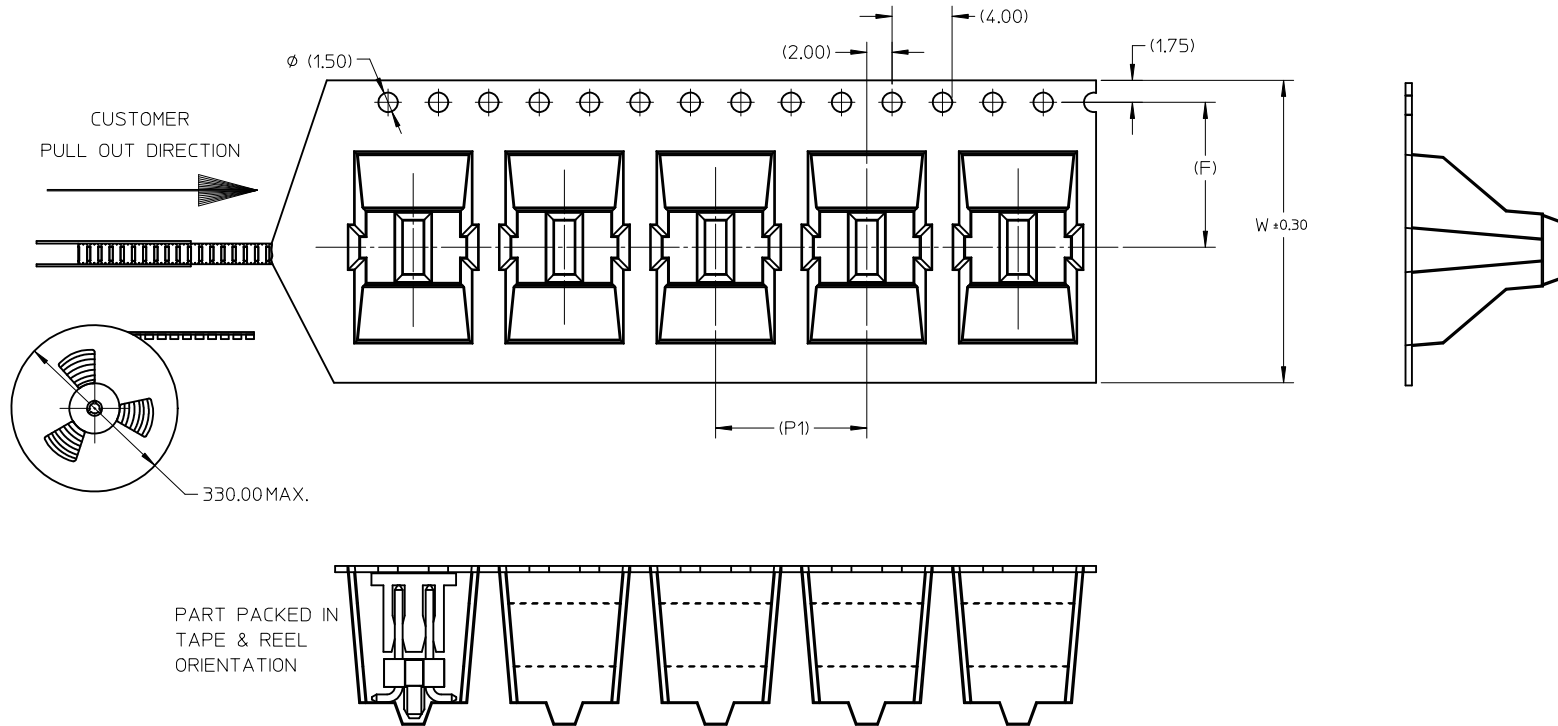
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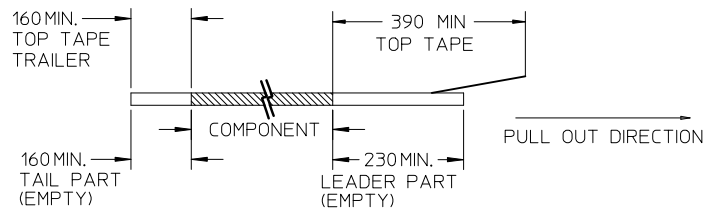
CKT	F	P1	W
06	11.50	12.00	24.00

THIS TYPE OF CARRIER TAPE IS FOR CKT SIZE 06 ONLY

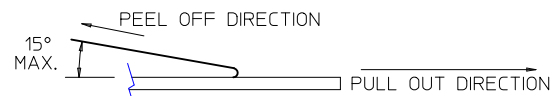


NOTES:

1. LEADER AND TRAILER TAPE



2. 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 = 440PCS/REEL
- THE TAPE IS TREATED FOR ANTI-STATIC.

PG5+ CONNECTOR W/VOID ORIENTATION IN T&R EC NO: S2010-0642 DRWN:ATSEE CHKD:SKANG APPR:MLONG REV D5	DESCRIPTION 2010/02/01 2010/02/05 2010/02/09	QUALITY SYMBOLS F_A=0 F_G=0 F_P=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION				
				mm	INCH	DRAWN BY SKLIM01	DATE 2006/02/09	CUSTOM HEADER 2.54MM PITCH DUAL ROW HEADER SINGLE WAFER SMT					
			4 PLACES	±---	±---	CHECKED BY	DATE						
			3 PLACES	±---	±---	PATEY	2006/02/16						
			2 PLACES	±0.2	±---	APPROVED BY	DATE	MOLEX INCORPORATED					
			1 PLACE	±---	±---	MLONG	2010/02/08						
						ANGULAR ± 3 °		MATERIAL NO.		DOCUMENT NO.		SHEET NO.	
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		SD-87920-020		4 OF 11				
					SIZE A3	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION							

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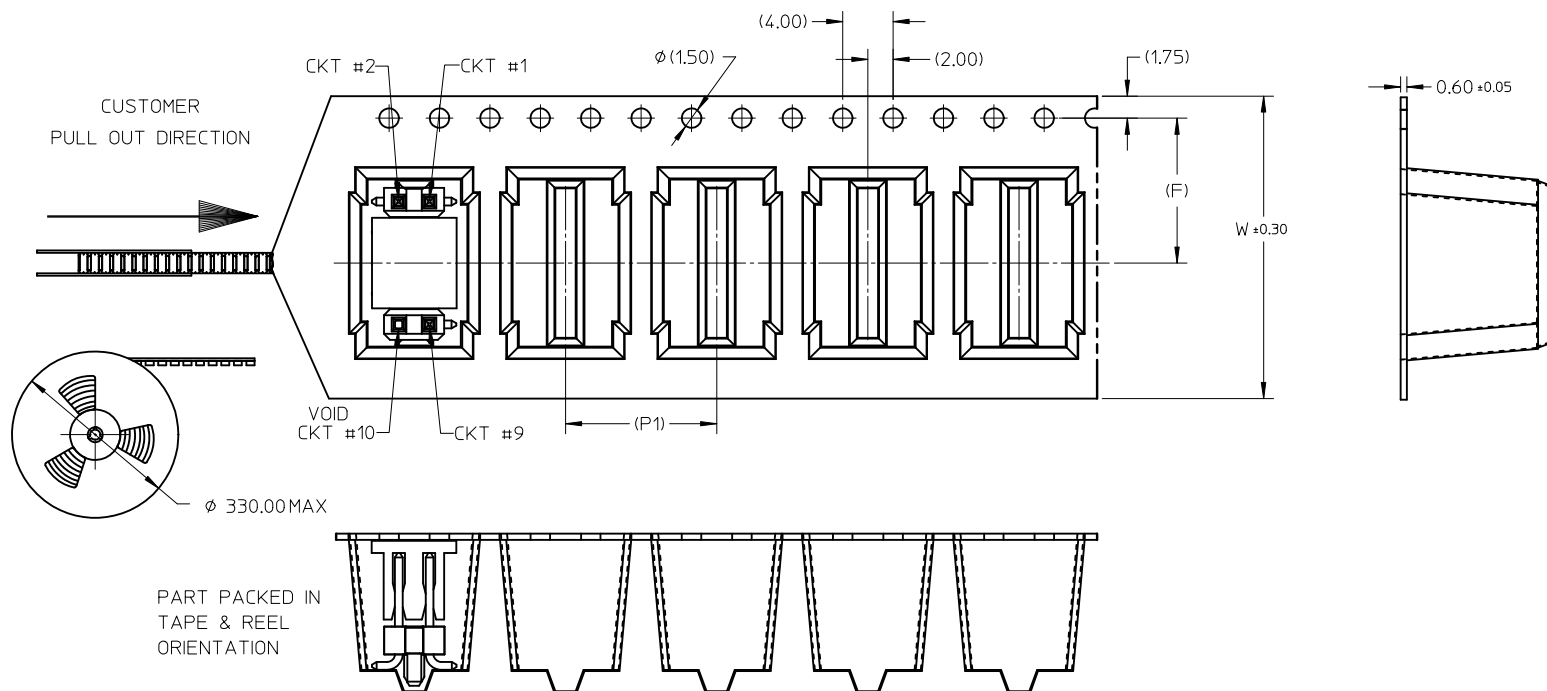
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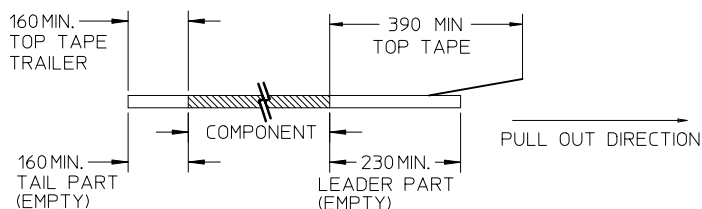
CKT	F	P1	W
08	11.50	12.00	24.00
10	11.50	12.00	24.00

THIS TYPE OF CARRIER TAPE IS FOR CKT SIZE 08 AND 10 ONLY

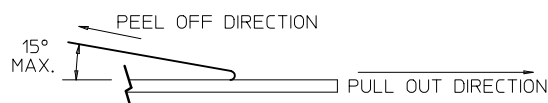


NOTES:

1. LEADER AND TRAILER TAPE



2. 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 = 440PCS/REEL.
- THE TAPE IS TREATED FOR ANTI-STATIC.
- ATTACHED ABOVE CONNECTOR IN T&R VOID CKT#10 IS FOR ILLUSTRATION ONLY.

PG5.5 CONNECTOR W/VOID
ORIENTATION IN T&R
EC NO: S2010-0642
DRAWN BY: CHYNATSEE
CHKD BY: SKANG
APPR: MLONG
REV: D5

QUALITY
SYMBOLS
 $F_A=0$
 $F_G=0$
 $F_P=0$

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
MM ONLY

DRAWN BY	DATE
SKLIM01	2006/02/09
CHECKED BY	DATE
PATEY	2006/02/16
APPROVED BY	DATE
MLONG	2010/02/08

MATERIAL NO.
SEE TABLE

SCALE
NTS

DESIGN UNITS
METRIC

THIRD ANGLE
PROJECTION

CUSTOM HEADER
2.54MM PITCH DUAL ROW
HEADER SINGLE WAFER SMT

MOLEX INCORPORATED

DOCUMENT NO.
SD-87920-020

SHEET NO.
5 OF 11

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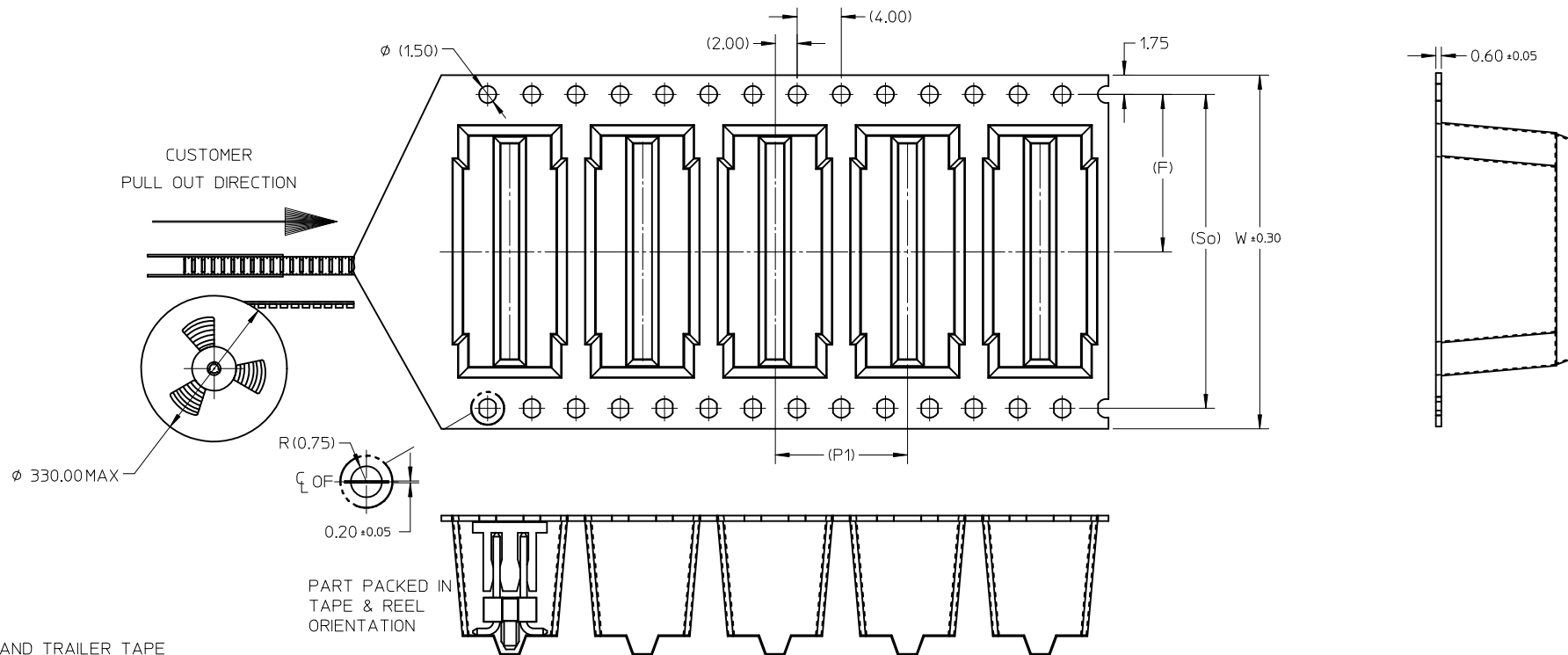
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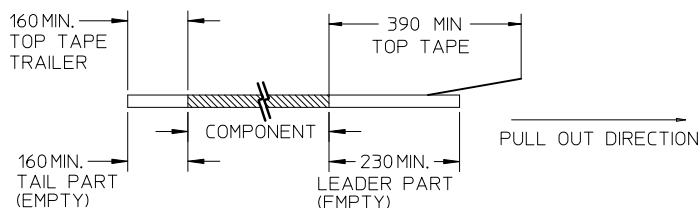
CKT	F	P1	So	W
12	14.20	12.00	28.40	32.00
14	14.20	12.00	28.40	32.00
16	14.20	12.00	28.40	32.00
20	20.20	12.00	40.40	44.00

THIS TYPE OF CARRIER TAPE IS FOR CKT SIZE 12, 14, 16 AND 20

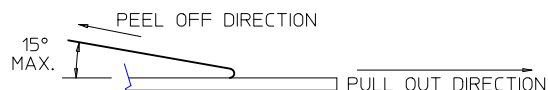


NOTES:

1. LEADER AND TRAILER TAPE



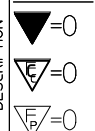
2. PEELING OFF FORCE OF THE TOP TAPE: 20-80gf. (PEELING DIRECTION AS SHOWN IN FOLLOWING FIGURE)



- PACKAGING STANDARD IS AS PER EIA-481.
- TAPE & REEL QUANTITY = 440PCS/REEL
- THE TAPE IS TREATED FOR ANTI-STATIC.

REV	DESCRIPTION	DATE	BY	CHKD	APPD
01	PG5+ CONNECTOR W/VOID ORIENTATION IN T&R	2010/02/01	DRW:WATSEE	2010/02/05	2010/02/09
02	EC NO: S2010-0642		CHYKD:SKANG		
03			APPR:MLONG		
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QUALITY SYMBOLS



GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	$\pm$ ---	$\pm$ ---
3 PLACES	$\pm$ ---	$\pm$ ---
2 PLACES	± 0.2	$\pm$ ---
1 PLACE	$\pm$ ---	$\pm$ ---
ANGULAR	$\pm 3^\circ$	

DRAFT WHERE APPLICABLE
MUST REMAIN
WITHIN DIMENSIONS

DIMENSION STYLE MM ONLY

DRAWN BY	DATE
SKL IM01	2006/02/09
CHECKED BY	DATE
PATEY	2006/02/16
APPROVED BY	DATE
MLONG	2010/02/08

MATERIAL NO.
SEE TABLE

SIZE
A3

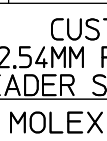
SCALE NTS

TITLE
**CUSTOM HEADER
2.54MM PITCH DUAL ROW
HEADER SINGLE WAFER SMT**

DOCUMENT NO.
SD-87920-020

SHEET NO.
6 OF 11

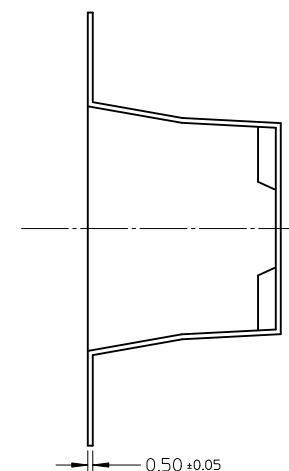
DESIGN UNITS METRIC



MOLEX INCORPORATED

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THIS TYPE OF CARRIER TAPE IS FOR CKT SIZE 40



Technical drawing of a tail fin assembly. The drawing shows a cross-section of the fin with various dimensions and labels. The labels include: PAIR, TAIL, ORI, and a dimension of 1/2". The drawing is a technical sketch of a tail fin assembly, showing a cross-section with various dimensions and labels. The labels include: PAIR, TAIL, ORI, and a dimension of 1/2".

3. PACKAGING STANDARD IS AS PER EIA-481.
4. TAPE & REEL QUANTITY = 250PCS/REEL
5. THE TAPE IS TREATED FOR ANTI-STATIC.

tb_frame_A3_P_AM_T
Rev. F 2009/06/18

tb_frame_A3_P_AM_T
Rev. F 2009/06/18

	10		9		8		7		6		5		4		3		2		1												
F	PART NUMBER IN PACKAGING OPTION			CKT SIZE	PEG	PLATE OPT.	DIMENSION						PART NUMBER IN PACKAGING OPTION			CKT SIZE	PEG	PLATE OPT.	DIMENSION						F						
	TAPE & REEL WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP				A	B	C	F	G	M	TAPE & REEL WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP				A	B	C	F	G	M							
	89720-9119	87920-9124	87920-9127				12	N	1	15.24	12.70	-----	9.66	10.66	6.10				-----	87920-8124	87920-8127	12	Y	1		15.24	12.70	10.16	9.66	10.66	6.10
	-----	87920-9125	87920-9128				12	N	2	15.24	12.70	-----	9.66	10.66	6.10				-----	87920-8125	87920-8128	12	Y	2		15.24	12.70	10.16	9.66	10.66	6.10
	-----	87920-9126	87920-9129	12	N	3	15.24	12.70	-----	9.66	10.66	6.10	-----	87920-8126	87920-8129	12	Y	3	15.24	12.70	10.16	9.66	10.66	6.10							
E																															
	87920-9115	87920-9144	87920-9147	14	N	1	17.78	15.24	-----	9.66	10.66	6.10	87920-8115	87920-8144	87920-8147	14	Y	1	17.78	15.24	12.70	9.66	10.66	6.10							
	87920-9215	87920-9145	87920-9148	14	N	2	17.78	15.24	-----	9.66	10.66	6.10	87920-8215	87920-8145	87920-8148	14	Y	2	17.78	15.24	12.70	9.66	10.66	6.10							
	87920-9315	87920-9146	87920-0014	14	N	3	17.78	15.24	-----	9.66	10.66	6.10	87920-8315	87920-8146	87920-8149	14	Y	3	17.78	15.24	12.70	9.66	10.66	6.10							
D																															
	87920-9116	87920-9164	87920-9167	16	N	1	20.32	17.78	-----	9.66	10.66	6.10	87920-8116	87920-8164	87920-8167	16	Y	1	20.32	17.78	15.24	9.66	10.66	6.10							
	87920-9216	87920-9165	87920-9168	16	N	2	20.32	17.78	-----	9.66	10.66	6.10	87920-8216	87920-8165	87920-8168	16	Y	2	20.32	17.78	15.24	9.66	10.66	6.10							
	87920-9316	87920-9166	87920-9169	16	N	3	20.32	17.78	-----	9.66	10.66	6.10	87920-8316	87920-8166	87920-8169	16	Y	3	20.32	17.78	15.24	9.66	10.66	6.10							
C																															
	-----	87920-9184	87920-9187	18	N	1	22.86	20.32	-----	9.66	10.66	6.10	-----	87920-8184	87920-8187	18	Y	1	22.86	20.32	17.78	9.66	10.66	6.10							
	-----	87920-9185	87920-9188	18	N	2	22.86	20.32	-----	9.66	10.66	6.10	-----	87920-8185	87920-8188	18	Y	2	22.86	20.32	17.78	9.66	10.66	6.10							
	-----	87920-9186	87920-9189	18	N	3	22.86	20.32	-----	9.66	10.66	6.10	-----	87920-8186	87920-8189	18	Y	3	22.86	20.32	17.78	9.66	10.66	6.10							
	87920-9117	87920-9204	87920-9207	20	N	1	25.40	22.86	-----	9.66	10.66	6.10	87920-8117	87920-8204	87920-8207	20	Y	1	25.40	22.86	20.32	9.66	10.66	6.10							
	87920-9217	87920-9205	87920-9208	20	N	2	25.40	22.86	-----	9.66	10.66	6.10	87920-8217	87920-8205	87920-8208	20	Y	2	25.40	22.86	20.32	9.66	10.66	6.10							
	87920-9317	87920-9206	87920-9209	20	N	3	25.40	22.86	-----	9.66	10.66	6.10	87920-8317	87920-8206	87920-8209	20	Y	3	25.40	22.86	20.32	9.66	10.66	6.10							

PART NUMBER IN PACKAGING OPTION			CKT SIZE	PEG	PLATE OPT.	DIMENSION					
TAPE & REEL WITH CAP	TUBE WITHOUT CAP	TUBE WITH CAP				A	B	C	F	G	M
-----	87920-8124	87920-8127	12	Y	1	15.24	12.70	10.16	9.66	10.66	6.10
-----	87920-8125	87920-8128	12	Y	2	15.24	12.70	10.16	9.66	10.66	6.10
-----	87920-8126	87920-8129	12	Y	3	15.24	12.70	10.16	9.66	10.66	6.10
87920-8115	87920-8144	87920-8147	14	Y	1	17.78	15.24	12.70	9.66	10.66	6.10
87920-8215	87920-8145	87920-8148	14	Y	2	17.78	15.24	12.70	9.66	10.66	6.10
87920-8315	87920-8146	87920-8149	14	Y	3	17.78	15.24	12.70	9.66	10.66	6.10
87920-8116	87920-8164	87920-8167	16	Y	1	20.32	17.78	15.24	9.66	10.66	6.10
87920-8216	87920-8165	87920-8168	16	Y	2	20.32	17.78	15.24	9.66	10.66	6.10
87920-8316	87920-8166	87920-8169	16	Y	3	20.32	17.78	15.24	9.66	10.66	6.10
-----	87920-8184	87920-8187	18	Y	1	22.86	20.32	17.78	9.66	10.66	6.10
-----	87920-8185	87920-8188	18	Y	2	22.86	20.32	17.78	9.66	10.66	6.10
-----	87920-8186	87920-8189	18	Y	3	22.86	20.32	17.78	9.66	10.66	6.10
87920-8117	87920-8204	87920-8207	20	Y	1	25.40	22.86	20.32	9.66	10.66	6.10
87920-8217	87920-8205	87920-8208	20	Y	2	25.40	22.86	20.32	9.66	10.66	6.10
87920-8317	87920-8206	87920-8209	20	Y	3	25.40	22.86	20.32	9.66	10.66	6.10

PG5.* CONNECTOR W/VOID ORIENTATION IN T&R EC NO: S2010-0642 DRW: NAISEE 2010/02/01 CHKD: SKANG 2010/02/05 APPR: MLONG 2010/02/09 REV	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
	$F_A=0$ $F_G=0$ $F_P=0$		mm	INCH	DRAWN BY SKLIM01	DATE 2006/02/09	CUSTOM HEADER 2.54MM PITCH DUAL ROW HEADER SINGLE WAFER SMT			
		4 PLACES	± ---	± ---	CHECKED BY PATEY	DATE 2006/02/16				
		3 PLACES	± ---	± ---	APPROVED BY MLONG	DATE 2010/02/08	MOLEX INCORPORATED SD-87920-020			
		2 PLACES	± 0.2	± ---	MATERIAL NO.					
	1 PLACE	± ---	± ---	SEE TABLE		SHEET NO. 9 OF 11				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION								

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Rev. F 2009/06/18