

**Molex 71741-0001 PDF**

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# PRODUCT SPECIFICATION

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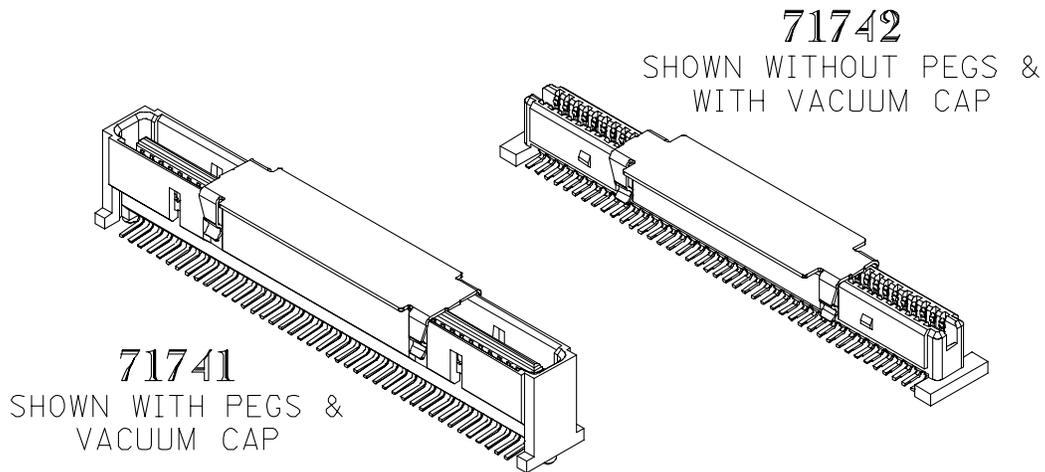
### 1.0 SCOPE

This Product Specification covers the 1.0mm pitch board-to-board plug and receptacle connectors.

### 2.0 PRODUCT DESCRIPTION

2.1 The 71741 plug and the 71742 receptacle connectors have been designed in accordance with EIA standard 700 AAAB for 1.0mm two-part connectors for use with parallel printed boards.

- 2.1.1 All 1.0mm connectors are available with or without locating pegs.
- 2.1.2 All 1.0mm connectors can be supplied with a vacuum cap for robotic placement.
- 2.1.3 The 71742 receptacle has ramps that hook into windows (two on each side) in the 71741 plug shroud to provide added retention.



REVISION: <b>B</b>	EGR/ECN INFORMATION: EC No: <b>UCP2007-1624</b> DATE: <b>2007/01/22</b>	TITLE: <b>PRODUCT SPECIFICATION FOR 1.0mm BOARD-TO-BOARD CONNECTORS</b>	SHEET No. <b>1 of 7</b>
DOCUMENT NUMBER: <b>PS-71741-9999</b>	CREATED / REVISED BY: <b>Bob Barker</b>	CHECKED BY: <b>Donald Morgan</b>	APPROVED BY: <b>Steve Miller</b>



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## 2.0 PRODUCT DESCRIPTION (CONT'D)

2.2 Product Name and Item Numbers  
See figure 1 and table 1.

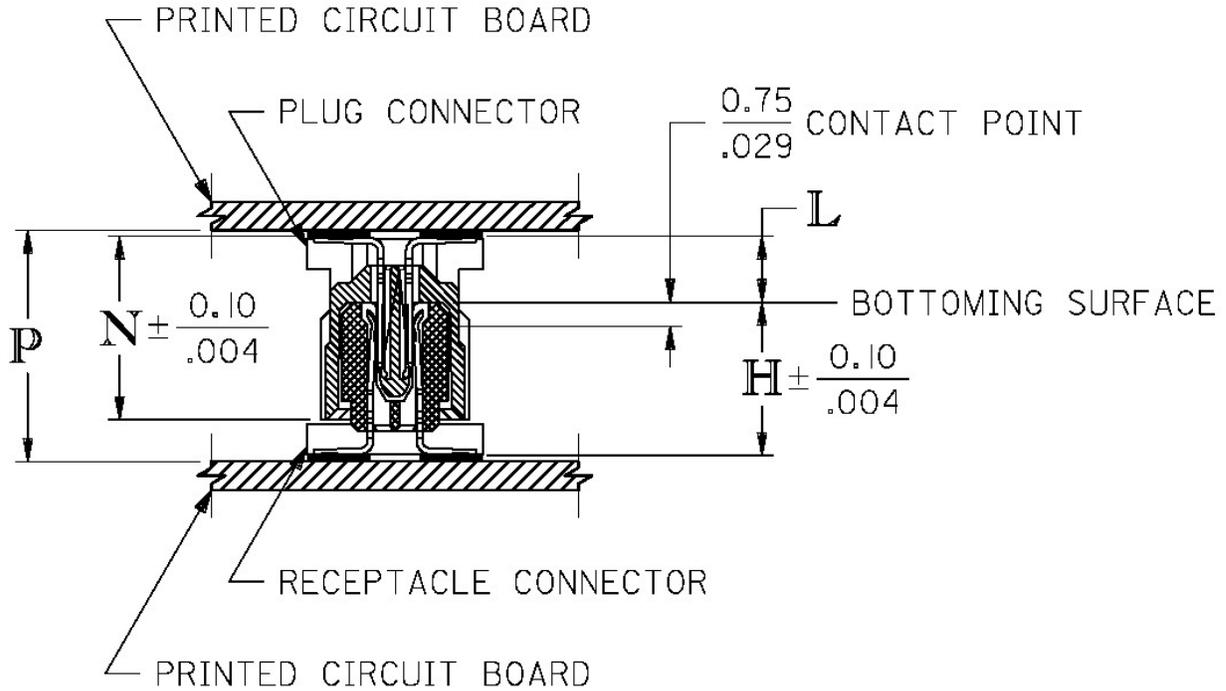


Figure 1

PLUG CONNECTOR			RECEPTACLE CONNECTOR		STACK HEIGHT DIMENSION P +0.00/-0.40 mm +.000/-0.016 Inch
ITEM NO.	DIM. N	DIM. L	ITEM NO.	DIM. H	
71741-2***	6.35/.250	2.30/.090	71742-0***	5.30/.209	8.00/.315
71741-0***	8.35/.329	4.30/.169	71742-0***	5.30/.209	10.00/.394
71741-0***	8.35/.329	4.30/.169	71742-2***	7.30/.287	12.00/.472
71741-0***	8.35/.329	4.30/.169	71742-3***	10.30/.406	15.00/.591

Table 1

## 2.3 Dimensions, Materials, and Platings:

See appropriate sales drawings for information on dimensions, materials, and platings.

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## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 See sales drawings and other sections of this specification for necessary referenced documents and specifications.

3.2 Recognized Agency Approvals:

3.2.1 Underwriters Laboratories Inc.: File Number E29179

## 4.0 RATINGS

4.1 VOLTAGE

250Volts AC (RMS) (contact to contact)

4.2 CURRENT (30°C Temperature rise)

0.5 Amps maximum, all circuits wired in series ; 1.0 Amps maximum, five adjacent circuits wired in series

4.3 TEMPERATURE

Operating: - 55°C to + 85°C

## 5.0 PERFORMANCE

### 5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	<b>Contact Resistance (Low Level)</b>	Mate connectors, measure by dry circuit: apply a maximum voltage of <b>20</b> mV and a current of <b>10</b> mA.	<b>30</b> milliohms MAXIMUM [initial]
2	<b>Contact Resistance @ Rated Current</b>	Mate connectors: apply a maximum voltage of <b>20</b> mV at rated current.	<b>15</b> milliohms MAXIMUM [initial]
3	<b>Insulation Resistance</b>	Apply 250±50 VDC, measure resistance between adjacent terminals.	<b>100</b> megaohms MINIMUM
4	<b>Dielectric Withstanding Voltage</b>	Apply 250VAC for 1 minute between adjacent terminals.	No breakdown;

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
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5	<b>Terminal Retention Force</b>	Apply axial force on terminal in housing at rate of 25±6mm (1 ± ¼ inch) per minute.	3.9 N (0.4 Kgf) MINIMUM retention force
6	<b>Connector Mate and Unmate Forces</b>	Mate and unmate connectors (male to female) at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	Mate Force: 60g X no. of circuits maximum & Un-Mate Force: 23g X no. of circuits, minimum
7	<b>Durability</b>	Mate connectors up to 100 cycles at a maximum rate of 10mm (0.40in) per second; rest 30 seconds minimum (when unmated).	Maximum contact resistance change: 15 milliohms
8	<b>Vibration (Random)</b>	Amplitude: 1.9mm (.076in) peak-to-peak; Sweep: 10-55-10 Hz in one minute; Duration: 2 hours in each axis x, y and z.	Maximum contact resistance change: 15 milliohms & Discontinuity < 1 microsecond
10	<b>Shock (Mechanical)</b>	490 m/s <sup>2</sup> (50g) peak saw-tooth, 11 milliseconds duration; one shock each direction in each axis x, y and z.	Maximum contact resistance change: 15 milliohms & Discontinuity < 1 microsecond

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT						
11	<b>Shock (Thermal)</b>	Mate connectors; expose to 5 cycles of: <table border="1"> <tr> <td><u>Temperature °C</u></td> <td><u>Duration (Minutes)</u></td> </tr> <tr> <td>-40 +0/-3</td> <td>30</td> </tr> <tr> <td>+105 +3/-0</td> <td>30</td> </tr> </table>	<u>Temperature °C</u>	<u>Duration (Minutes)</u>	-40 +0/-3	30	+105 +3/-0	30	Maximum contact resistance change: 15 milliohms & Visual: No Damage
<u>Temperature °C</u>	<u>Duration (Minutes)</u>								
-40 +0/-3	30								
+105 +3/-0	30								
12	<b>Thermal Aging</b>	Mate connectors; expose to: 250 hours at 85 ± 2°C	Maximum contact resistance change: 15 milliohms & Visual: No Damage						

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## 5.3 ENVIRONMENTAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
27	Humidity (Steady State)	Mate connectors: expose to a temperature of 40 ± 2°C with a relative humidity of 90-95% for 240 hours. Per MIL-STD-202F, Method 103B, Test Condition A.	Maximum contact resistance change: 15 milliohms & Visual: No Damage
28	Humidity (Cyclic)	Test mated connectors per MIL-STD-202F, Method 106E, excluding steps 7a and 7b.	Maximum contact resistance change: 15 milliohms & Visual: No Damage
30	Temperature Rise and Current Cycling	Measure Temperature rise of mated connectors at rated current after 96 hours, then after 45 minutes ON, 15 minutes OFF for 240 hours, and finally after 96 hours at rated current.	Maximum Temperature rise: 30°C over ambient Maximum contact resistance change: 15 milliohms
36	Mixed Flowing Gas	Environmental Class II, 7 days unmated.	Maximum contact resistance change: 15 milliohms

## 6.0 PROCESSING GUIDLINES

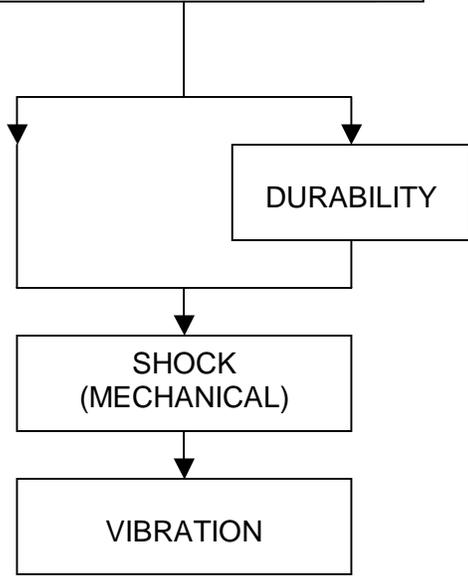
<u>PROCESSING STEPS</u>	<u>RECOMMENDATION</u>	<u>COMMENTS</u>
Resistance to Soldering Heat	Peak soldering temperature to be 265 degrees C. Maximum time within 5 degrees of peak temperature to be 40 seconds.  Note: Connectors must be dried for 1 hour @ 100°C prior to processing at temperatures over 245°C.	Appearance: No Physical Damage

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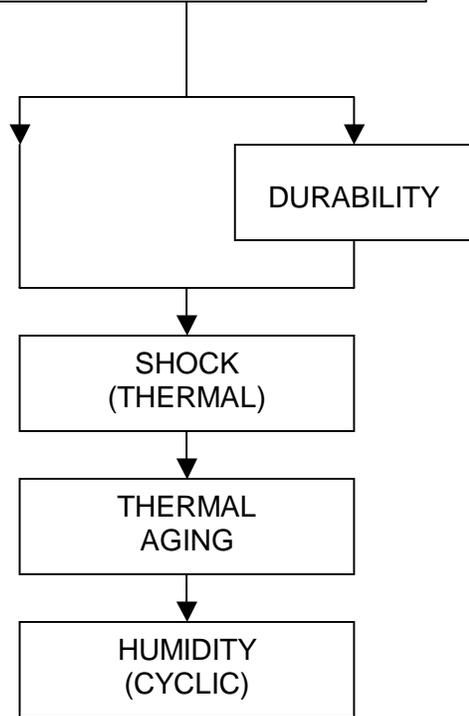


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MATED ENVIRONMENTAL AND MECHANICAL



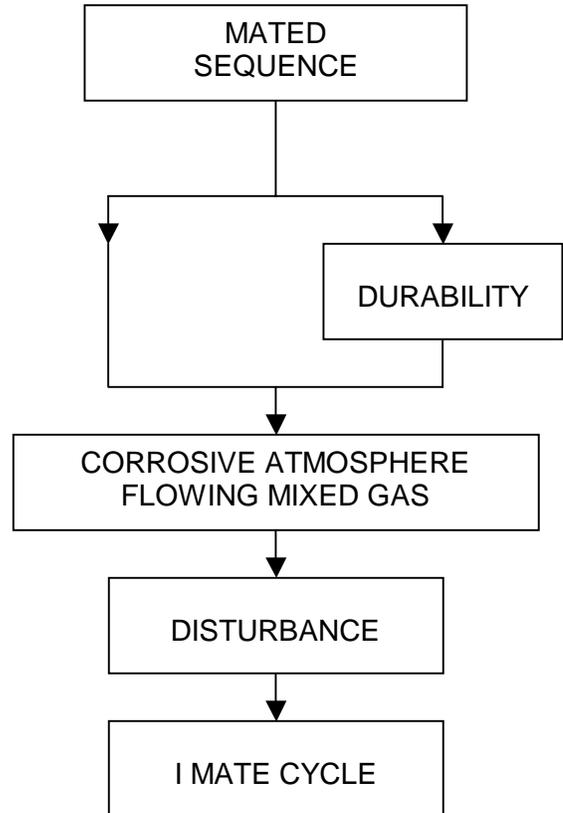
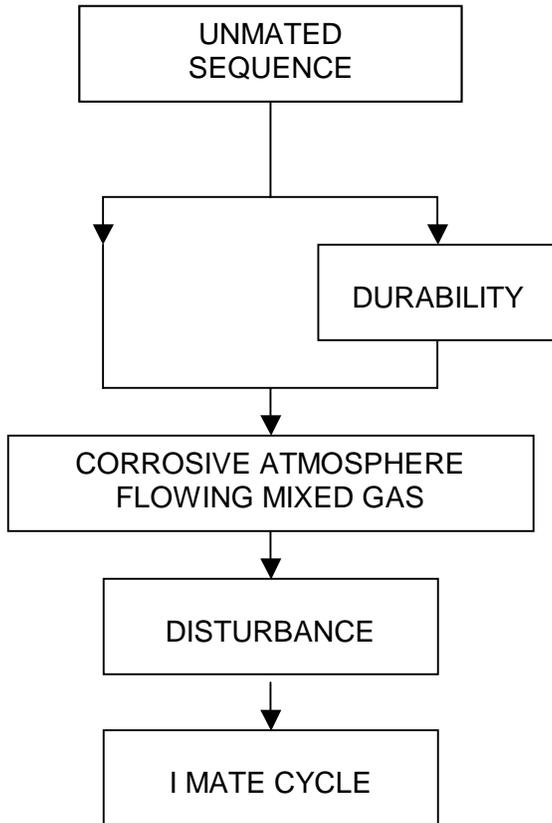
MATED ENVIRONMENTAL



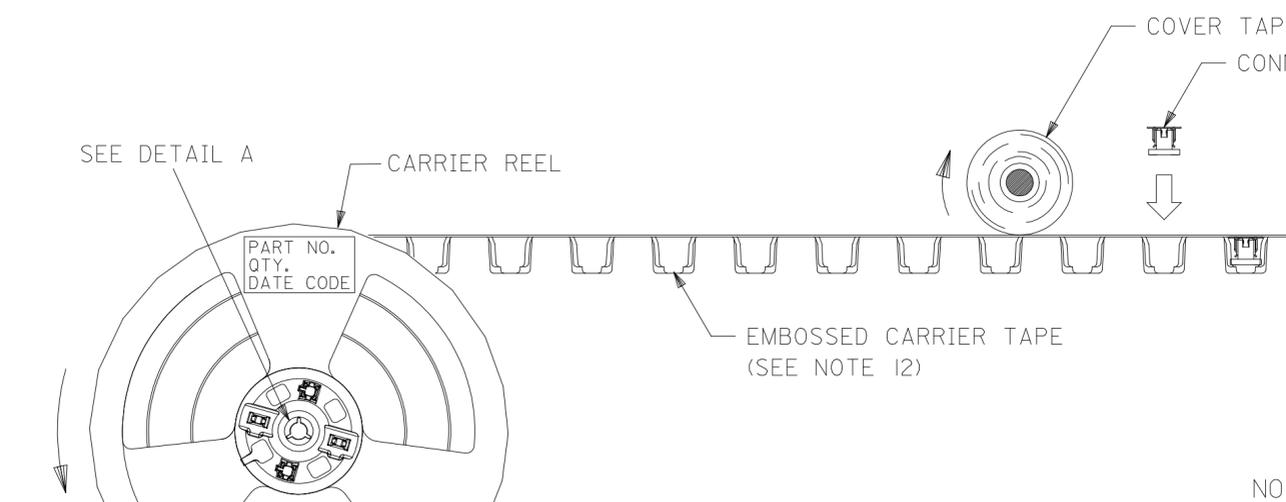
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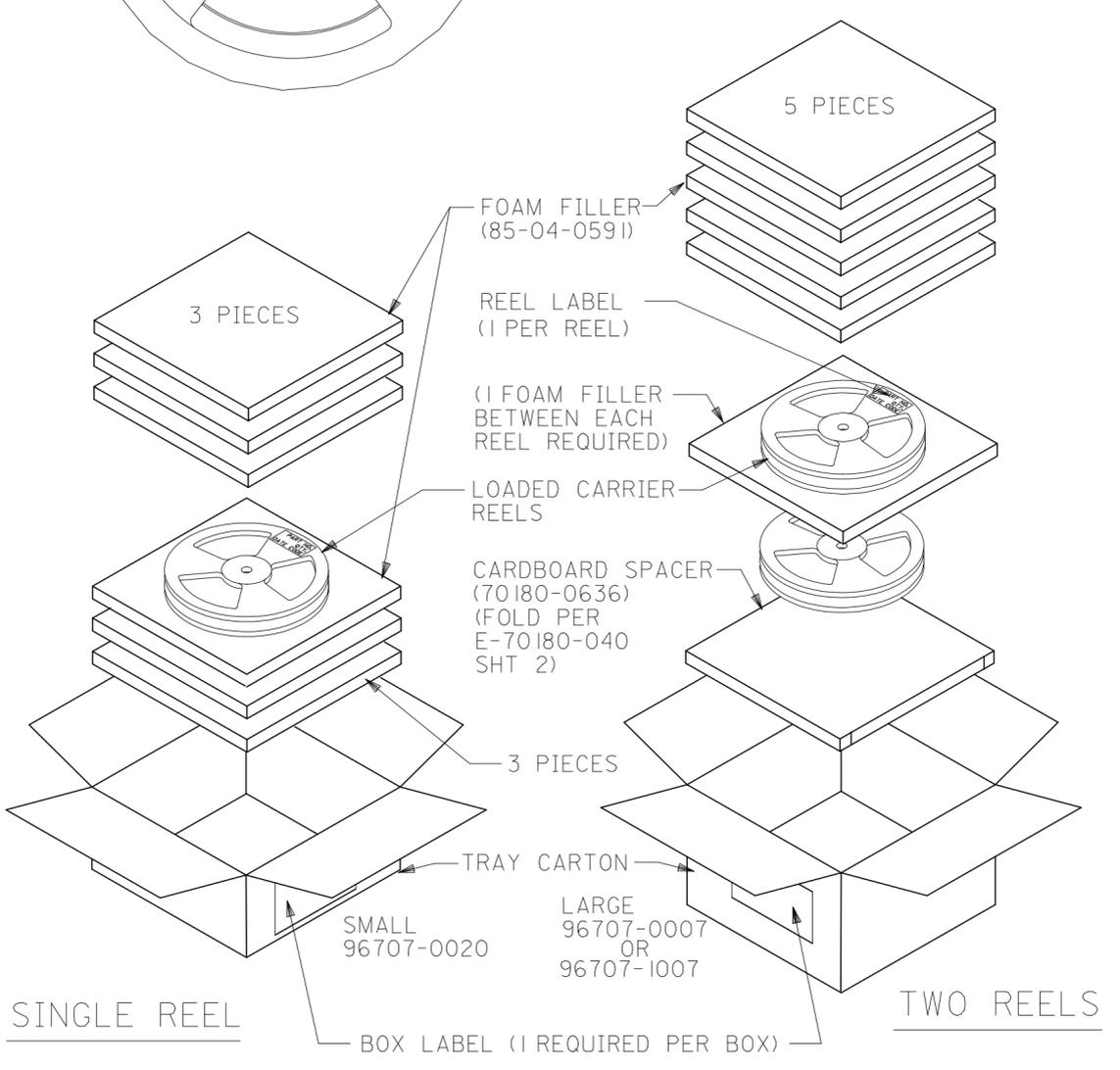


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NOTES

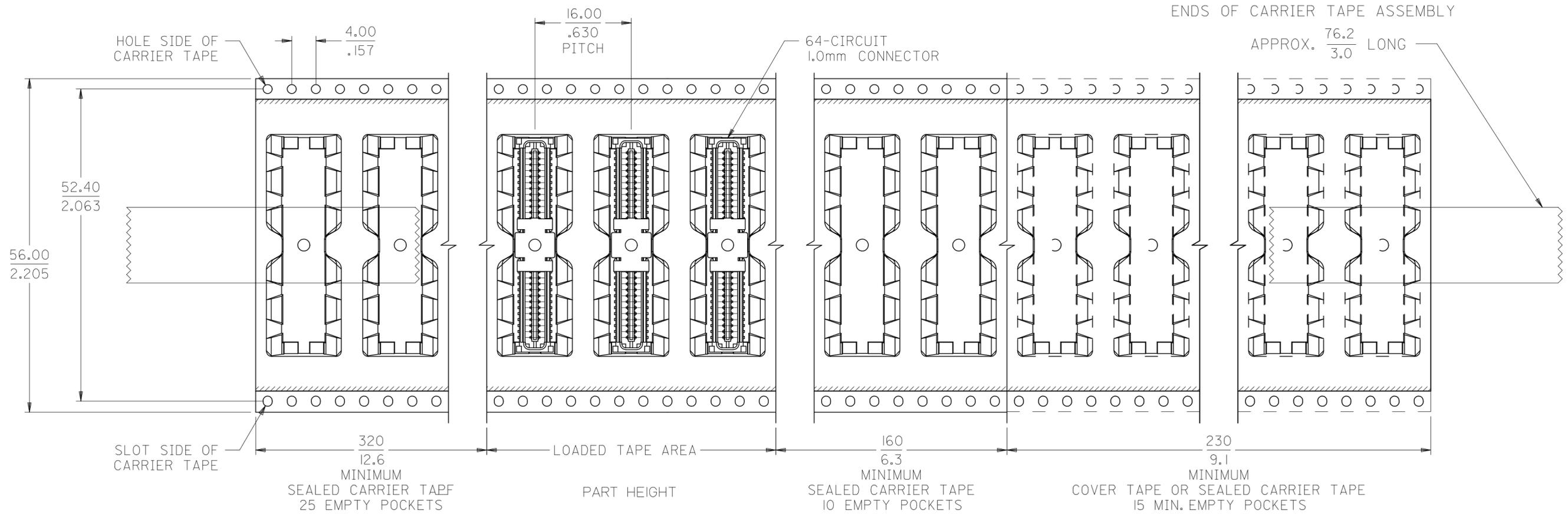
1. PLEASE REFER TO EIA STANDARD E-481-D FOR ALL ITEMS NOT COVERED BY THIS PACKAGING SPECIFICATION.
2. THE COVER TAPE MUST NOT EXTEND OVER THE EDGES OF THE EMBOSSSED CARRIER TAPE AND THE COVER TAPE NOT TO COVER MORE THAN HALF THE DIAMETER OF THE SPROCKET HOLES
3. EACH REEL AND EACH CARTON MUST HAVE A LABEL AFFIXED TO IT WITH THE FOLLOWING INFORMATION: CONNECTOR ITEM NO., QUANTITY, AND DATE CODE.
4. ALL PACKAGING COMPONENT MATERIALS (COVER TAPE, EMBOSSSED CARRIER TAPE, AND CARRIER REEL) ARE 100% ANTI-STATIC
5. ABSOLUTELY NO TAPE SPLICES ARE PERMITTED ON FINISHED REELS.
6. PACKAGING MATERIALS:  
 COVER TAPE - COMPOSITE OF POLYETHYLENE TEREPHTHALATE (PET), POLYETHYLENE (PE), AND POLYFILM (PEF)  
 EMBOSSSED CARRIER TAPE - POLYSTYRENE (PS)  
 CARRIER REEL - POLYSTYRENE (PS)
7. THE COVER TAPE MUST HAVE A PEEL STRENGTH BETWEEN 10 AND 65 GRAMS PER SIDE WHEN PULLED OPPOSITE THE DIRECTION OF THE CARRIER TAPE TRAVEL SUCH THAT THE COVER TAPE MAKES AN ANGLE OF 0°/15° AS SHOWN IN DETAIL B. THE EMBOSSSED CARRIER TAPE OR COVER TAPE MUST BE PULLED WITH A VELOCITY OF 300±10MM PER MINUTE.
8. THERE ARE TO BE NO SKIPS IN THE COVER TAPE BOND.
9. REFER TO PACKAGING MATRIX FOR NUMBER OF CONNECTORS PER REEL.
10. MUST HAVE A MINIMUM OF 25 EMPTY POCKETS OF CARRIER TAPE TO COVER SLOTS IN HUB.
11. SEE DRAWING E-70180-028 FOR 1/2 HUB WITH FLANGE NUMBERS NEEDED FOR CARRIER REELS.



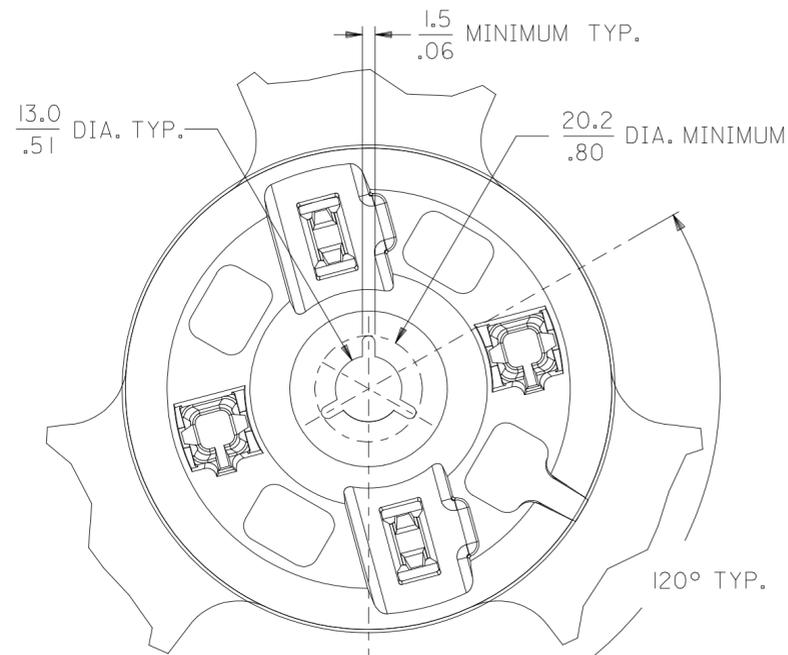
UPDATE NOTES EC NO: UCP2009-2150 DRWN:BBARKER 2009/02/25 CH'KD:MIBARRA 2009/04/29 APPR:SMILLER 2009/04/29	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± --- ± --- 1 PLACE ± --- ± --- ANGULAR ±1/2°	DIMENSION STYLE MM/IN DRAWN BY MIBARRA DATE 2005/11/07 CHECKED BY BBARKER DATE 2005/11/07 APPROVED BY SMILLER DATE 2005/11/07	SCALE DESIGN UNITS METRIC THIRD ANGLE PROJECTION	TITLE TAPE AND REEL PACKAGING FOR 1MM MEZZANINE BOARD-TO-BOARD ASSY'S MOLEX INCORPORATED	MATERIAL NO. SEE TABLE	DOCUMENT NO. PK-70873-063	SHEET NO. 1 OF 2		
	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							

FEED DIRECTION WHEN REMOVING PARTS FROM TAPE 

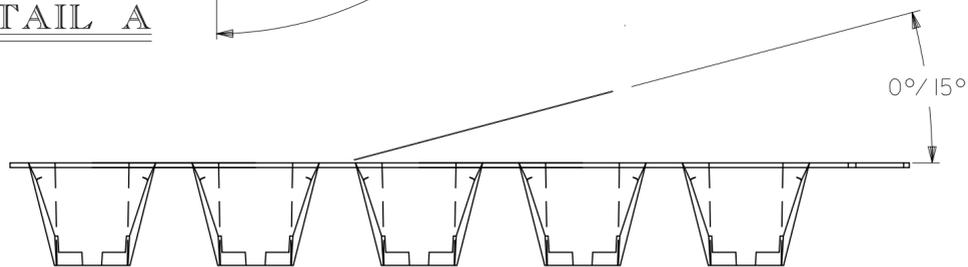
70180-5301 ADHESIVE TAPE USED TO SECURE ENDS OF CARRIER TAPE ASSEMBLY



 FEED DIRECTION WHEN LOADING TAPE WITH PARTS



DETAIL A



DETAIL B

CIRCUIT SIZE	PART HEIGHT (IN MILLIMETERS)	PARTS PER REEL	PARTS PER 2 REEL CARTON	EMBOSSED TAPE ITEM NUMBER	COVER TAPE ITEM NUMBER	CARRIER REEL ITEM NUMBER SEE NOTE 13
64	5.30	550	1100	70180-3826	43655-0003	70180-6514
	6.30	480	960	70180-3827		
	7.30	420	840	70180-3828		
	8.30	380	760	70180-3829		
	10.30	310	620	70180-3830		
84	5.30	550	1100	70180-3876	43655-0010	
	6.30	480	960	70180-3877		
	7.30	420	840	70180-3878		
	8.30	380	760	70180-3879		
	10.30	310	620	70180-3880		

SEE SHEET 1 EC NO: UCP2009-2150 DRWN: BBARKER 2009/02/25 CHKD: MIBARRA 2009/04/29 APPR: SMILLER 2009/04/29	QUALITY SYMBOLS ▼=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM/IN		SCALE	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
		4 PLACES ± ---    ± ---	DRAWN BY MIBARRA	DATE 2005/11/07	TITLE TAPE AND REEL PACKAGING FOR 1MM MEZZANINE BOARD-TO-BOARD ASSY'S				
		3 PLACES ± ---    ± ---	CHECKED BY BBARKER	DATE 2005/11/07	MOLEX INCORPORATED				
		2 PLACES ± ---    ± --- 1 PLACE ± ---    ± ---	APPROVED BY SMILLER	DATE 2005/11/07	MOLEX INCORPORATED				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		MATERIAL NO. SEE TABLE		DOCUMENT NO. PK-70873-063		SHEET NO. 1 OF 2			
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