Molex 74754-0106 **PDF**



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PRODUCT SPECIFICATION



SFP+ CAGES

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DOCUMENT NUMBER: 747540001		CREATED / REVISED BY: DASH SUN	CHECKED BY: ROBBIE CHEN	APPRO NEIL	OVED BY: CHEN
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PRODUCT SPECIFICATION

1.0 SCOPE

This product specification covers SFP+ (small form factor pluggable) cages. The cage is connected to the host pc board by press-fit compliant legs or solder posts.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME

SFP+ single port and 1x ganged cages (small form factor pluggable)

2.1.1 PART NUMBER

74754 & 111112 series





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molex **PRODUCT SPECIFICATION** SFP+ (1X4) Figure – 1 Spring Finger Type Figure – 2 Elastomeric Gasket SFP+(1X6) Figure – 1 Spring Finger Type Figure – 2 Elastomeric Gasket **REVISION:** ECR/ECN INFORMATION: TITLE: SHEET No. **PRODUCT SPECIFICATION** ECM No: 116984 **J1** 3 of 10 FOR SFP+ CAGES DATE: 05/17/2017 DOCUMENT NUMBER: CREATED / REVISED BY: CHECKED BY: APPROVED BY: 747540001 DASH SUN **ROBBIE CHEN NEIL CHEN**

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2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawing for information on dimensions, materials, plating and markings and footprint patterns.

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

See the appropriate sales drawing for information concerning specifications.

3.1 MOLEX DOCUMENTS

Cosmetic specification: Molex WI-HP7-2774 Application specification: AS-74754-001

4.0 RATINGS

4.1 VOLTAGE

120 volts ac

4.2 CURRENT

0.5 amps max.

4.3 TEMPERATURE Operating: - <u>40</u>°C to +<u>85</u>°C Non-operating: - <u>55</u>°C to +<u>105</u>°C

4.4 DURABILITY

See section 5.1 durability and module retention in cage testing.

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5.0 PERFORMANCE

5.1 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	RESULTS	
1	Random Vibration	EIA-364-28, Test Condition VII, Condition Letter D. Subject mated specimens to 3.13G's RMS between 20 to 500Hz. Fifteen minutes in each of 3 mutually perpendicular planes. Test to include board fully populated without connector's and modules.	No components of cage assembly come apart, off, or loose	PASS	
2	Mechanical Shock	EIA-364-27, Condition H. Subject mated specimens to 30G's Half- sine shock pulses of 11 milliseconds duration. Three shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks. Test to include board fully populated without connector's and modules.	No components of cage assembly come apart, off, or loose	PASS	
3	Module Insertion	EIA-364-13 Measure force necessary to insert Module into cage at a Maximum rate of 25.4 mm/min.	18N Max. Per SFF-8432	PASS	
4	Module Extraction	EIA-364-13 Measure force necessary to extract Module from cage at a Maximum rate of 25.4 mm/min.	-13 e force necessary to extract from cage at a Maximum rate of n/min. 12.5N Max. Per SFF-8432		
5	Cage Retention (Latch strength)	EIA-364-98 Force applied in vertical direction on cable assembly plugged into cage At a maximum rate of 25.4 mm per minute.	170N Max No functional damage to module below 90 N. Per SFF-8432	PASS	
6	Cage Durability	Mate and unmated modules with cages for 100 cycles with the latch retention feature operable Test rate: 500 cycles/hour	No functional damage to cage	PASS	
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ITEM	DESCRIPTION	т	EST CONDITION	REQUIREMENT	RESUL	тѕ
7			1x1 Cage (747540101)	N/A	Max. insertion for when using imme plated boards: 46 When using OSP boards the max. i force: 370 N.	ce is seen rsion TIN 50 N. plated nsertion
			1x2 Cage 747540210, 0220	N/A	Max. insertion for when using imme plated boards: 33 When using OSP boards the max. i force: 290N.	ce is seen ersion TIN 36N. plated nsertion
	Cage Press-Fit Insertion Force (See Note)		1x4 Cage (747540414)	N/A	Max. insertion for when using imme plated boards: 6 When using OSP boards the max. i force: 481 N.	ce is seen ersion TIN 72 N. plated nsertion
		(747	1x4 Cage 7540410 / 747540420)	nge N/A Max. insertion force i when using immersion plated boards 616 N. When using OSP plated boards the max. insertion force i plated boards 616 N. When using OSP plated boards the max. insertion force i plated boards 616 N.	ce is seen ersion TIN 3 N. plated nsertion	
			1x6 Cage (747540610)	N/A	Max. insertion for when using : OSP plated boards TIN plated boards SILVER plated boards GOLD plated boards	ce is seen ds: 909N. s: 940N bards: 844N ards: 720N
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ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	RESULTS
8		1x1 Cage (747540101)	N/A	Min. extraction force is seen when using immersion GOLD plated boards: 49 N. When using OSP plated boards the min. extraction force: 91 N.
		1x2 Cage N/A 747540210, 0220	N/A	Min. extraction force is seen when using immersion GOLD plated boards: 58N. When using OSP plated boards the min. extraction force: 71N
	Cage Press-Fit Extraction Force (See Note)	1x4 Cage (747540414)	N/A	Min. extraction force is seen when using OSP plated boards: 168 N. When using immersion GOLD plated boards the min. extraction force: 172 N.
		1x4 Cage (747540410 / 747540420)	N/A	Min. extraction force is seen when using OSP plated boards: 94 N. When using immersion GOLD plated boards the min. extraction force: 169 N.
		1x6 Cage (747540610)	N/A	Min. extraction force is seen when using : OSP plated boards: 273 N. TIN plated boards: 373N SILVER plated boards: 301N GOLD plated boards: 209N

Note: Test result may vary based on test equipment, PCB thickness, plated through hole dimensions and finished plating type.

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5.2 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	RESULTS
9	Thermal Shock	EIA-364-32, Test Condition VII Subject specimens to 5 cycles between -55 and 105°C with 30 minute dwells at temperature extremes and 1 minute transition between temperatures	Shall meet visual requirements and show no physical damage and meet cosmetic spec WI-HP-7-2774	PASS
10	Humidity/Temperature Cycling	EIA-364-31,Method III Cycle between 25°C±3°C at 80% RH and 65°C±3°C at 95% RH. For 10 cycles. (10 days).	Shall meet visual requirements and show no physical damage and meet cosmetic spec WI-HP-7-2774	PASS
11	Temperature Life	EIA-364-17B, Method A, Test Condition 4. Subject mated specimens to 105°C for 240 hours.	Shall meet visual requirements and show no physical damage and meet cosmetic spec WI-HP-7-2774	PASS
		EIA-364-56C, Procedure 2, (Manual soldering) Soldering Time: 5 seconds MAX Solder Temperature: 360±10°C		
12	Resistance to Soldering Heat (For Solder Post/Tin plated of legs only)	EIA-364-56C, Procedure 3, Condition C Wave Soldering (with flux) Temperature: 260±5°C Soldering Time: 10±2 sec	Show no physical damage and meet cosmetic spec WI-HP-7-2774	See [Note 1]
		EIA-364-56C, Procedure 5 & 6, Test level 3 Reflow Soldering (without flux) Temperature: 250+10/-0°C (See Figure-1)		

Note 1: The cage assembly with gasket is not allowed to perform the wave or reflow soldering process. The EMI performance of gasket will be downgrade after soldering process.

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molex **PRODUCT SPECIFICATION** 260 ° Peak temp. 218°C Time above liquidous Slope < 3°C/sec 60-100 sec Slope < 3°C/sec Soak time 150°C 60 - 120 sec Figure-1 Recommended Reflow Curve 6.0 PACKAGING Parts shall be packaged in trays to protect against damage during handling, transit and storage. 7.0 ADVICE Different flux and storage environment may have impact to solderability. Tin plated product could provide better solderability as well. **REVISION:** ECR/ECN INFORMATION: TITLE: SHEET No. **PRODUCT SPECIFICATION** ECM No: 116984 **J1** 9 of 10 FOR SFP+ CAGES DATE: 05/17/2017 DOCUMENT NUMBER: CREATED / REVISED BY: CHECKED BY: APPROVED BY: 747540001 DASH SUN **NEIL CHEN ROBBIE CHEN** TEMPLATE FILENAME: PRODUCT_SPEC[SIZE_A4](V.2).DOC

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8.0 GAGES AND FIXTURES

5KN load frame with 1000n load cell Instron 5565



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