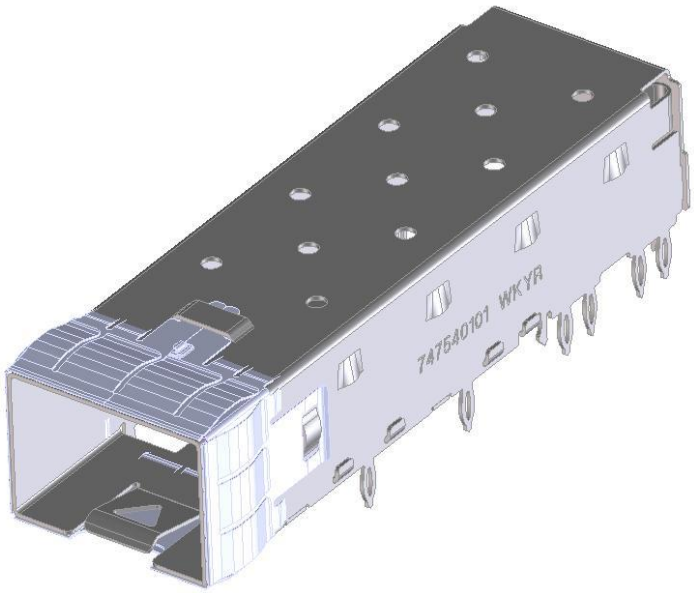
Molex 74754-0106 PDF

molex®

PRODUCT SPECIFICATION



SFP+ CAGES

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
J1	ECM No: 116984 DATE: 05/17/2017	PRODUCT SPECIFICATION FOR SFP+ CAGES	1 of 10

DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
747540001	DASH SUN	ROBBIE CHEN	NEIL CHEN

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

SFP+ (1X1)	

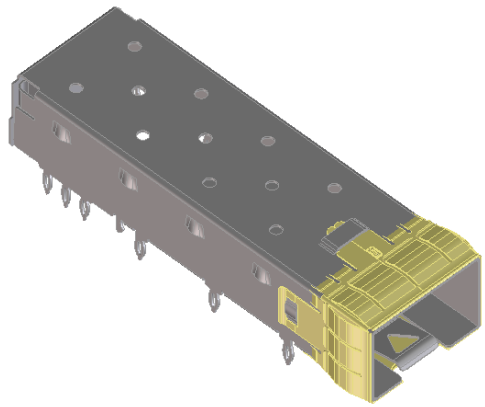
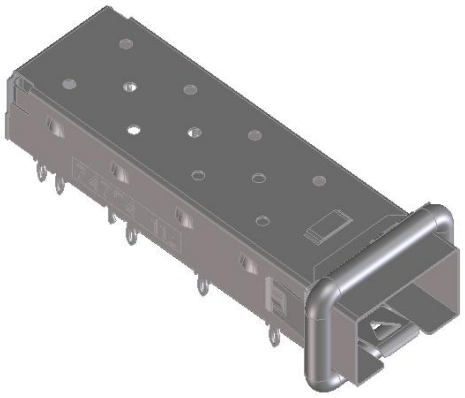

	

Figure – 1 Spring Finger Type	Figure – 2 Elastomeric Gasket

SFP+ (1X2)	

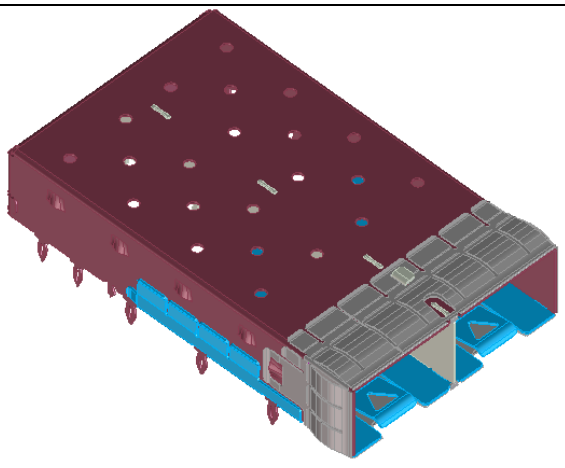
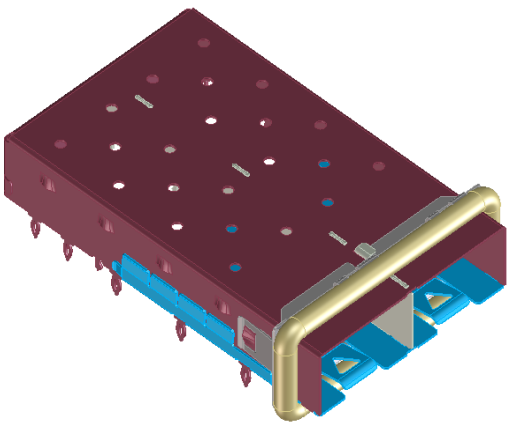

	

Figure – 1 Spring Finger Type	Figure – 2 Elastomeric Gasket

SFP+ (1X4)	

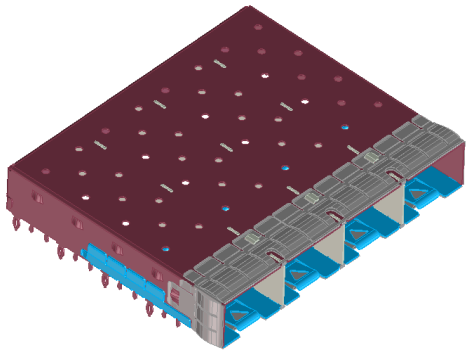
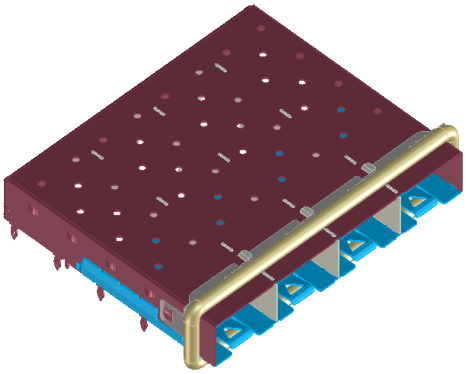

	

Figure – 1 Spring Finger Type	Figure – 2 Elastomeric Gasket

SFP+(1X6)	

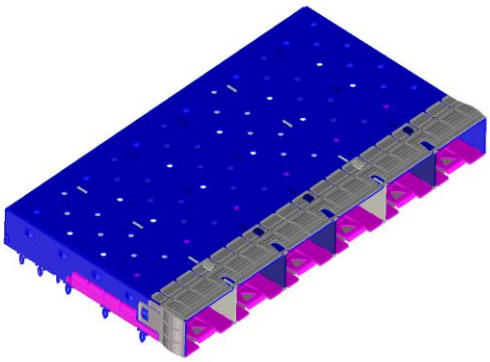
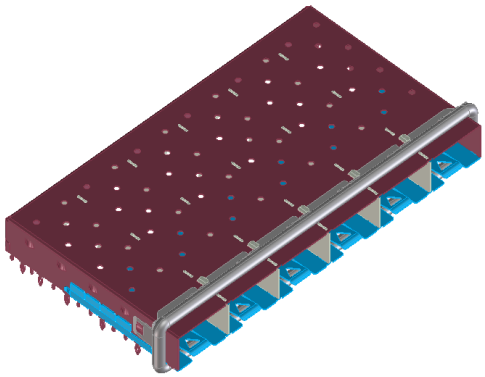

	

Figure – 1 Spring Finger Type	Figure – 2 Elastomeric Gasket

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: - 40°C to +85°C
Non-operating: - 55°C to +105°C

4.4 DURABILITY

See section 5.1 durability and module retention in cage testing.

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.	12.5N Max. Per SFF-8432	PASS
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

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	RESULTS
7	Cage Press-Fit Insertion Force (See Note)	1x1 Cage (747540101)	N/A	Max. insertion force is seen when using immersion TIN plated boards: 460 N. When using OSP plated boards the max. insertion force: 370 N.
		1x2 Cage 747540210, 0220	N/A	Max. insertion force is seen when using immersion TIN plated boards: 336N. When using OSP plated boards the max. insertion force: 290N.
		1x4 Cage (747540414)	N/A	Max. insertion force is seen when using immersion TIN plated boards: 672 N. When using OSP plated boards the max. insertion force: 481 N.
		1x4 Cage (747540410 / 747540420)	N/A	Max. insertion force is seen when using immersion TIN plated boards 616 N. When using OSP plated boards the max. insertion force: 538 N.
		1x6 Cage (747540610)	N/A	Max. insertion force is seen when using : OSP plated boards: 909N. TIN plated boards: 940N SILVER plated boards: 844N GOLD plated boards: 720N

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT	RESULTS
8	Cage Press-Fit Extraction Force (See Note)	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 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
		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.

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
12	Resistance to Soldering Heat (For Solder Post/Tin plated of legs only)	EIA-364-56C, Procedure 2, (Manual soldering) Soldering Time: 5 seconds MAX Solder Temperature: 360±10°C	Show no physical damage and meet cosmetic spec WI-HP-7-2774	See **[Note 1]**
		EIA-364-56C, Procedure 3, Condition C Wave Soldering (with flux) Temperature: 260±5℃ Soldering Time: 10±2 sec		
		EIA-364-56C, Procedure 5 & 6, Test level 3 Reflow Soldering (without flux) Temperature: 250+10/-0℃ (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.

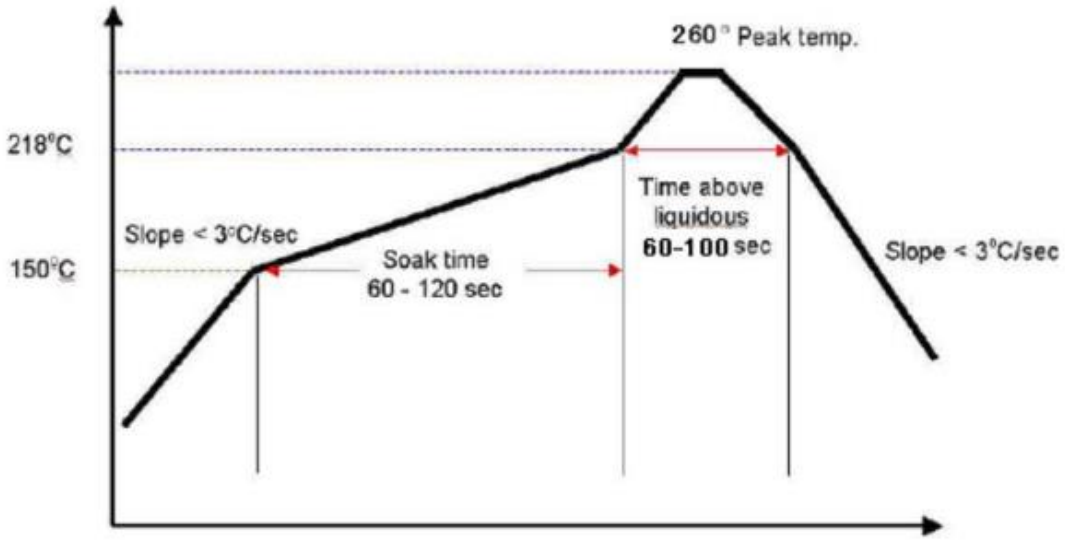


Figure-1 Recommended Reflow Curve

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 solderabiltiy as well.

8.0 GAGES AND FIXTURES

5KN load frame with 1000n load cell
Instron 5565