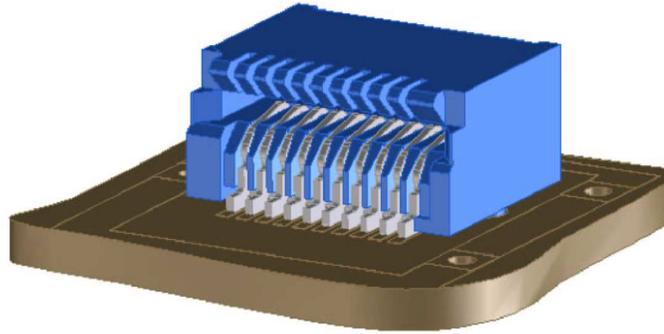




PRODUCT SPECIFICATION



SFP AND Z AXIS PLUGGABLE CONNECTORS

1.0 SCOPE

This specification covers the 0.80 mm (.031 inch) centerline Small Form-factor Pluggable (SFP) and Z Axis Pluggable connectors

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

Product Name

Small Form-factor Pluggable (SFP) Connector (20 ckt)
Z Axis Pluggable Connector (30, 40, and 70 ccts)

Part Number

74441 series
74441 series

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate Sales Drawing (SD-74441-001) for information on dimensions, materials, platings and markings, and footprint patterns.

2.3 SAFETY AGENCY APPROVALS

UL File: E29179

CSA File: 1310648

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

See the appropriate Sales Drawing (SD-74441-001) for information on specifications.

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4.0 RATINGS

4.1 VOLTAGE

30 Volts AC (RMS)/DC Max.

4.2 CURRENT

0.5 Amps Max.

4.3 TEMPERATURE

Operating: - 40°C to + 85°C

Nonoperating: - 55°C to + 105°C

5.0 PERFORMANCE

5.1 TEST GROUP 1: TEMPERATURE LIFE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	EIA-364-23 9 connectors tested	Baseline measurement Actual: 15.29 mOhms
2	Durability (Preconditioning)	EIA-364-09 (Perform 20 Cycles)	No evidence of physical damage Passed
3	Temperature Life	EIA-364-17 Method A 115°C, for 432 hours.	None
4	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase Actual: 3.24 mOhms max.
5	Reseating	Manually plug/unplug the connector 3 cycles	No evidence of physical damage Passed
6	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase Actual: 3.24 mOhms max.

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5.2 TEST GROUP 2: THERMAL SHOCK /CYCLIC HUMIDITY

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	EIA-364-23 7 connectors tested	Baseline measurement Actual: 41.35 mOhms
2	Durability (Preconditioning)	EIA-364-09 (Perform 20 Cycles)	No evidence of physical damage Passed
3	Shock (Thermal)	EIA-364-32 Test Condition I (10 cycles with the exception of exposure times).	None
4	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase MAX.: 0.79 mOhms.
5	Cyclic Temperature and Humidity	EIA-364-31 Cycle the connector at between 25°C±3°C at 80% RH and 65°C±3°C at 50% RH. Ramp times should be 0.5 hour and dwell should be 1.0 hour	None
6	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase MAX.: 0.65 mOhms
7	Reseating	Manually plug/unplug the connector 3 cycles	No evidence of physical damage Passed
8	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase MAX.: 3.58 mOhms

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5.3 TEST GROUP 3: VIBRATION

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	EIA-364-23 6 connectors tested	Baseline measurement Actual: 43.63 mOhms
2	Durability (Preconditioning)	EIA-364-09 (Perform 20 Cycles)	No evidence of physical damage Passed
3	Temperature Life	EIA-364-17 Method A 115°C, for 192 hours.	None
4	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase MAX.: 3.06 mOhms
5	Vibration	Mate connectors and vibrate per EIA 364-28, test condition VII, Test condition D 15 minutes in each of three mutually perpendicular directions.	No evidence of physical damage Passed
6	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase MAX.: 1.03 mOhms

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5.4 TEST GROUP 4: ENVIRONMENTAL TESTING

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	EIA-364-23	Baseline measurement Actual
2	Durability (Preconditioning)	EIA-364-09 (Perform 20 Cycles)	No evidence of physical damage Passed
3	Temperature Life	EIA-364-17 Method A 115°C, for 192 hours.	None
4	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase MAX.: 2.72 mOhms
5	Mixed Flowing Gas	EIA-364-65 Class II 20 Days	None
6	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase MAX.: 10.76 mOhms
7	Thermal Disturbance	Cycle the connector between 15°C and 85°C, as measured on the part 10 cycles	None
8	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase MAX.: 3.26 mOhms
9	Reseating	Manually plug/unplug the connector Perform 25 cycles	No evidence of physical damage Passed
10	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase MAX.: 6.21 mOhms.

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5.5 TEST GROUP 5: DURABILITY

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Dielectric Withstanding Voltage	EIA-364-20 300 Volts AC applied between adjacent contacts for 1 minute 6 connectors tested	No breakdown or flashover Passed
2	Contact Resistance (Low Level)	EIA-364-23 9 connectors tested	Baseline measurement Actual: 40.29 mOhms average
3	Durability (Preconditioning)	EIA-364-09 (Perform 250 Cycles) Receptacle contact interface to be 15 or 30 microinch gold Plug interface to be 30 microinch gold	No evidence of physical damage Passed
4	Contact Resistance (Low Level)	EIA-364-23	10 Milliohm max. increase Actual: 6.84 mOhms max. 1.30 mOhms Average
5	Dielectric Withstanding Voltage	EIA-364-20 300 Volts AC applied between adjacent contacts for 1 minute	No breakdown or flashover Passed

5.6 TEST GROUP 6: SOLDERABILITY

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	General Examination	1 connector tested	No evidence of physical damage Passed
2	Solderability	EIA-364-52 Category 1, no steam RMA class 1 flux Immerse in molten solder at 245°C at a rate of 25.4mm per second. Solder Duration: 5 ± 0.5 seconds;	Solderable area shall have a minimum of 95% solder coverage when testing 30 random loose contacts. Passed
3	General Examination		No evidence of physical damage Passed

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6.0 PACKAGING

6.1 METHOD

6.1.1 Product shall be packaged in tape and reel per the packaging specification as called out on the applicable assembly print

6.2 REQUIREMENTS

6.2.1 Packaging shall meet the requirements and be tested per Molex specification PK-70873-1201 and PK-70873-1202.

7.0 INSERTION FORCES

The following are the average insertion forces for inserting a nominal 1.0mm (.0394 inch) printed circuit board into the connector

PRODUCT DESCRIPTION	INSERTION FORCE
20 circuit SFP	25 N (5.6 lbs)
30 circuit Z Axis Pluggable	27 N (6.0 lbs)
40 circuit Z Axis Pluggable	28 N (6.3 lbs)
70 circuit Z Axis Pluggable	33 N (7.4 lbs)

8.0 PROCESSING GUIDELINES

PROCESSING STEP	RECOMMENDATION	COMMENTS
Resistance to Soldering Heat per Molex Document ES-40000-5013	Peak soldering temperature to be 260°C. Maximum time within 5°C of peak temperature to be 40 seconds. 3 cycle's maximum at maximum temperature.	Appearance: No physical damage.

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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9