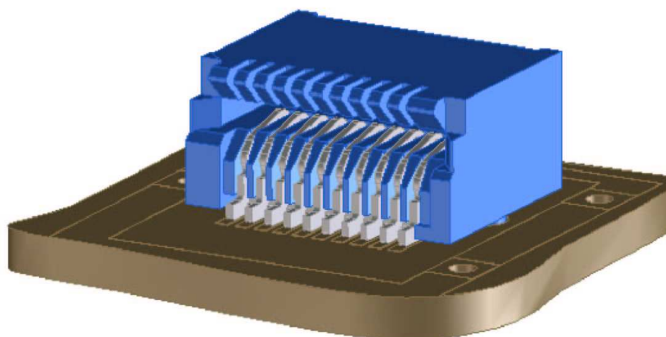




# PRODUCT SPECIFICATION



## 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 ckts)

##### 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.

|                                         |                                                                                   |                                                                                        |                                |
|-----------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------|
| REVISION:<br><b>F</b>                   | ECR/ECN INFORMATION:<br>EC No: <b>UCP2009-0124</b><br>DATE: <b>2008 / 07 / 15</b> | TITLE:<br><b>PRODUCT SPECIFICATION<br/>FOR SFP AND Z AXIS<br/>PLUGGABLE CONNECTORS</b> | SHEET No.<br><b>1 of 7</b>     |
| DOCUMENT NUMBER:<br><b>PS-74441-001</b> | CREATED / REVISED BY:<br><b>KAS/MIBARRA</b>                                       | CHECKED BY:<br><b>BBARKER</b>                                                          | APPROVED BY:<br><b>SMILLER</b> |



# PRODUCT SPECIFICATION

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

|                                         |                                                                                   |                                                                                        |                                |
|-----------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------|
| REVISION:<br><b>F</b>                   | ECR/ECN INFORMATION:<br>EC No: <b>UCP2009-0124</b><br>DATE: <b>2008 / 07 / 15</b> | TITLE:<br><b>PRODUCT SPECIFICATION<br/>FOR SFP AND Z AXIS<br/>PLUGGABLE CONNECTORS</b> | SHEET No.<br><b>2 of 7</b>     |
| DOCUMENT NUMBER:<br><b>PS-74441-001</b> | CREATED / REVISED BY:<br><b>KAS/MIBARRA</b>                                       | CHECKED BY:<br><b>BBARKER</b>                                                          | APPROVED BY:<br><b>SMILLER</b> |



# PRODUCT SPECIFICATION

## 5.2 TEST GROUP 2: THERMAL SHOCK /CYCLIC HUMIDITY

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

|                     |                                             |                                                                              |                |
|---------------------|---------------------------------------------|------------------------------------------------------------------------------|----------------|
| REVISION:           | ECR/ECN INFORMATION:                        | TITLE:                                                                       | SHEET No.      |
| <b>F</b>            | EC No: UCP2009-0124<br>DATE: 2008 / 07 / 15 | <b>PRODUCT SPECIFICATION<br/>FOR SFP AND Z AXIS<br/>PLUGGABLE CONNECTORS</b> | <b>3 of 7</b>  |
| DOCUMENT NUMBER:    | CREATED / REVISED BY:                       | CHECKED BY:                                                                  | APPROVED BY:   |
| <b>PS-74441-001</b> | <b>KAS/MIBARRA</b>                          | <b>BBARKER</b>                                                               | <b>SMILLER</b> |



# PRODUCT SPECIFICATION

## 5.3 TEST GROUP 3: VIBRATION

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

|                     |                                             |                                                                              |                |
|---------------------|---------------------------------------------|------------------------------------------------------------------------------|----------------|
| REVISION:           | ECR/ECN INFORMATION:                        | TITLE:                                                                       | SHEET No.      |
| <b>F</b>            | EC No: UCP2009-0124<br>DATE: 2008 / 07 / 15 | <b>PRODUCT SPECIFICATION<br/>FOR SFP AND Z AXIS<br/>PLUGGABLE CONNECTORS</b> | <b>4 of 7</b>  |
| DOCUMENT NUMBER:    | CREATED / REVISED BY:                       | CHECKED BY:                                                                  | APPROVED BY:   |
| <b>PS-74441-001</b> | <b>KAS/MIBARRA</b>                          | <b>BBARKER</b>                                                               | <b>SMILLER</b> |



# PRODUCT SPECIFICATION

## 5.4 TEST GROUP 4: ENVIRONMENTAL TESTING

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

|                     |                                             |                                                                              |                |
|---------------------|---------------------------------------------|------------------------------------------------------------------------------|----------------|
| REVISION:           | ECR/ECN INFORMATION:                        | TITLE:                                                                       | SHEET No.      |
| <b>F</b>            | EC No: UCP2009-0124<br>DATE: 2008 / 07 / 15 | <b>PRODUCT SPECIFICATION<br/>FOR SFP AND Z AXIS<br/>PLUGGABLE CONNECTORS</b> | <b>5 of 7</b>  |
| DOCUMENT NUMBER:    | CREATED / REVISED BY:                       | CHECKED BY:                                                                  | APPROVED BY:   |
| <b>PS-74441-001</b> | <b>KAS/MIBARRA</b>                          | <b>BBARKER</b>                                                               | <b>SMILLER</b> |



# PRODUCT SPECIFICATION

## 5.5 TEST GROUP 5: DURABILITY

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

## 5.6 TEST GROUP 6: SOLDERABILITY

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

|                     |                                                           |                                                                              |                |
|---------------------|-----------------------------------------------------------|------------------------------------------------------------------------------|----------------|
| REVISION:           | ECR/ECN INFORMATION:                                      | TITLE:                                                                       | SHEET No.      |
| <b>F</b>            | EC No: <b>UCP2009-0124</b><br>DATE: <b>2008 / 07 / 15</b> | <b>PRODUCT SPECIFICATION<br/>FOR SFP AND Z AXIS<br/>PLUGGABLE CONNECTORS</b> | <b>6 of 7</b>  |
| DOCUMENT NUMBER:    | CREATED / REVISED BY:                                     | CHECKED BY:                                                                  | APPROVED BY:   |
| <b>PS-74441-001</b> | <b>KAS/MIBARRA</b>                                        | <b>BBARKER</b>                                                               | <b>SMILLER</b> |



# PRODUCT SPECIFICATION

## 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                        |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>Resistance to Soldering Heat per Molex Document ES-40000-5013</b> | Peak soldering temperature to be 260°C.<br>Maximum time within 5°C of peak temperature to be 40 seconds.<br>3 cycle's maximum at maximum temperature. | Appearance: No physical damage. |

|                                         |                                                                                   |                                                                                        |                                |
|-----------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------|
| REVISION:<br><b>F</b>                   | ECR/ECN INFORMATION:<br>EC No: <b>UCP2009-0124</b><br>DATE: <b>2008 / 07 / 15</b> | TITLE:<br><b>PRODUCT SPECIFICATION<br/>FOR SFP AND Z AXIS<br/>PLUGGABLE CONNECTORS</b> | SHEET No.<br><b>7 of 7</b>     |
| DOCUMENT NUMBER:<br><b>PS-74441-001</b> | CREATED / REVISED BY:<br><b>KAS/MIBARRA</b>                                       | CHECKED BY:<br><b>BBARKER</b>                                                          | APPROVED BY:<br><b>SMILLER</b> |

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А