



40GBASE SR4 QSFP+ Optical Engine Preliminary

Features:

High-speed and high-performance Data Communication applications
Fiber Channel Networking/Storage applications

Applications:

40GBASE SR4 QSFP+ Transceiver and Active Optical Cable

Specifications:

Absolute Maximum Ratings

| Parameter | Symbol | Min | Max. | Unit |
|-------------------------|-------------|-----|------|------|
| LD Reverse Voltage | $V_{r(LD)}$ | -- | 5 | V |
| LD Forward Current | $I_{f(LD)}$ | -- | 12 | mA |
| Operating Temperature | T_{op} | -0 | 70 | |
| Storage Temperature | T_{stg} | -40 | 85 | |
| Lead Solder Temperature | -- | -- | 260 | |
| Lead Soldering Time | -- | -- | 2 | s |

Transmitter Optical & Electrical Characteristics (T=25°C)

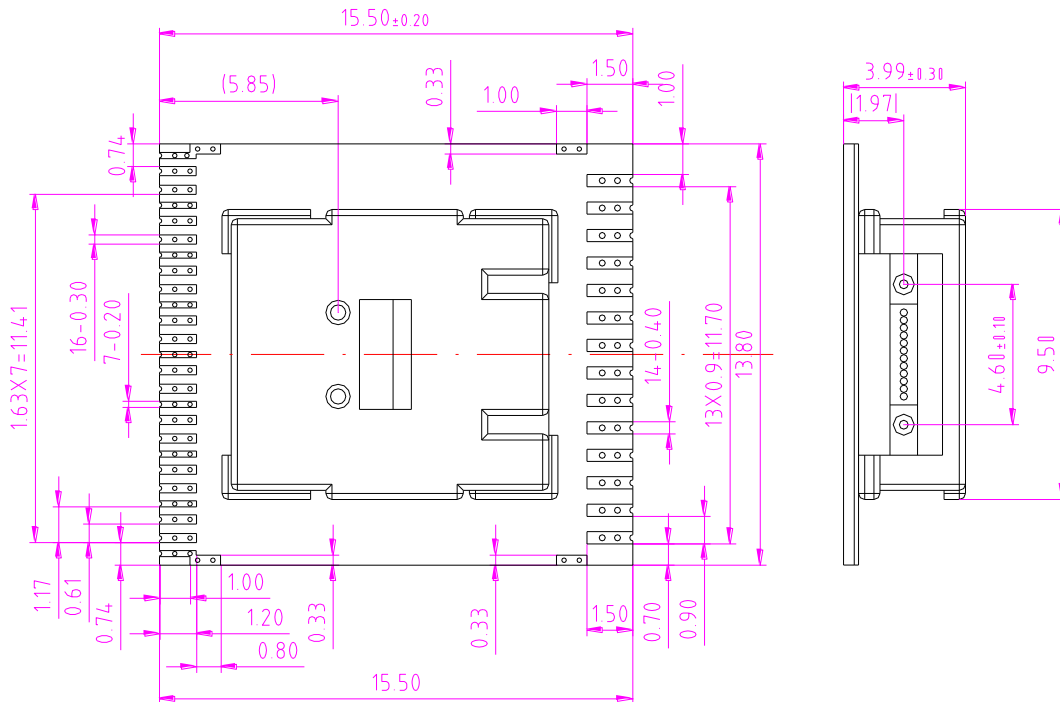
| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|-----------|--------|----------------|-----|-----|-----|------|
|-----------|--------|----------------|-----|-----|-----|------|



Receiver Optical/Electrical Characteristics

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|--------|--|------|-----|-----|------|
| Damage threshold | -- | | 3.4 | -- | -- | dBm |
| Average power at receiver input, each lane | | 10.3125Gbps, PRBS31, BER=1*E-12 , ER=4.5dB, Output Differential Voltage = Min.290mV | -9.5 | -- | 2.4 | dBm |
| Optical Return Loss | ORL | -- | -- | -- | -12 | dB |
| Optical Modulation Amplitude (OMA), each lane | -- | -- | -- | -- | 3 | dBm |
| Peak Power, each lane | -- | -- | -- | -- | 4 | dBm |

Outline Dimension(mm) :





Electrical IO Assignment:

Optical IO Assignment:

Top View

Front View

| Pin Number | Pin Name | Description |
|------------|----------|--|
| 1 | DOUT4N | Differential high-speed Data Output pads, P is the positive (non- inverted) node and N is the negative (inverted) node. |
| 2 | DOUT4P | |
| 3 | DOUT3N | |
| 4 | DOUT3P | |
| 5 | DOUT2N | |
| 6 | DOUT2P | |
| 7 | DOUT1N | |
| 8 | DOUT1P | |
| 9 | DIN1P | Differential high- speed Data Input pin P is the positive (non- inverted) node and N is the negative (inverted) node. The positive (non- inverted) node and pin N is the negative (inverted) node. |
| 10 | DIN1N | |
| 11 | DIN2P | |
| 12 | DIN2N | |
| 13 | DIN3P | |
| 14 | DIN3N | |
| 15 | DIN4P | |
| 16 | DIN4N | |



| | | |
|----|---------|--|
| 21 | LDIS | <p>The Laser Disable pin (LDIS) is a global output disable signal that will set Iavg and Imod to 0 when it is high, regardless of other settings.</p> <p>The pin can be left unconnected and the device will operate normally. The state of the pin may be read through the management interface.</p> |
| 22 | VCCT | Positive supply of driver stages and VCSEL anodes |
| 23 | GNDT | Negative supply, substrate |
| 24 | GNDR | Negative supply, substrate |
| 25 | | |
| 26 | VCCR | Positive supply of TIA stage and Limiting amplifier stage |
| 27 | RSSI | <p>The Receiver Signal Strength Indicator output (RSSI) pad is an analog output that sources a current proportional to the average photo-detector current on the selected channels. The output is used during manufacturing for active alignment.</p> <p>As well, the output can be configured to produce a temperature proportional output.</p> |
| 28 | NOTINTR | <p>The active- low Interrupt (NOTINT) signals notifies the microcontroller about signal detect events such as signal detect and loss of signal when the events are unmasked.</p> <p>In systems using polling-based firmware, this input may be left unconnected.</p> |
| 29 | SCLR | The Serial Clock pad (SCL) is the clock input signal of the serial interface. The pad can be tied to VDD of 3.3V or 2.5V via a resistor. The SCL input is I ² C-bus compatible and operates at up to 1000kHz. If the serial interface is unused, this pad should be left unconnected. |
| 30 | SDAR | The Serial Data pad (SDA) is a bidirectional pad for the serial data signal. The pad can be tied to VDD of 3.3V or 2.5V via a resistor. The SDA pad is I ² C-bus compatible and operates at up to 1000kHz. If the serial interface is unused, this pad should be left unconnected. |



| | | |
|----|------|----------------------------|
| 31 | GNDR | Negative supply, substrate |
| 32 | | |
| 33 | | |
| 34 | | |
| 35 | | |
| 36 | GNDT | Negative supply, substrate |
| 37 | | |
| 38 | | |
| 39 | | |
| 40 | | |
| 41 | | |

Order Information:

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Statement:

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Contact Information:

Address: N501-505 Weiye Bldg., Xiamen Pioneering Park For Overseas Chinese Scholars, Xiamen, Fujian, China

Tel: +86-592-3898601, 3898608, 5318000

Fax: +86-592-5703588

Email: sales@san-u.com

<http://www.san-u.com>