# 850 nm 2.5 G ROSA

## PL-SxR-00-S23-Cx

**Key Features**

- **Multi-rate capable up to 2.5 Gbps**
- **Low power consumption with 15mA typical operating current at 3.3 V**
- **Optimized for -40 °C to 85 °C Transceiver Applications**
- **Differential output**
- **Optional 5th lead for Received Signal Strength Indicator (RSSI)**
- **Connectorized PIN plus preamplifier**

**Benefits**

- RSSI for digital diagnostics transceiver applications
- Excellent sensitivity
- Fully tested for optimum alignment and performance
- Industrial temperature operation
- Industry standard form factor and size

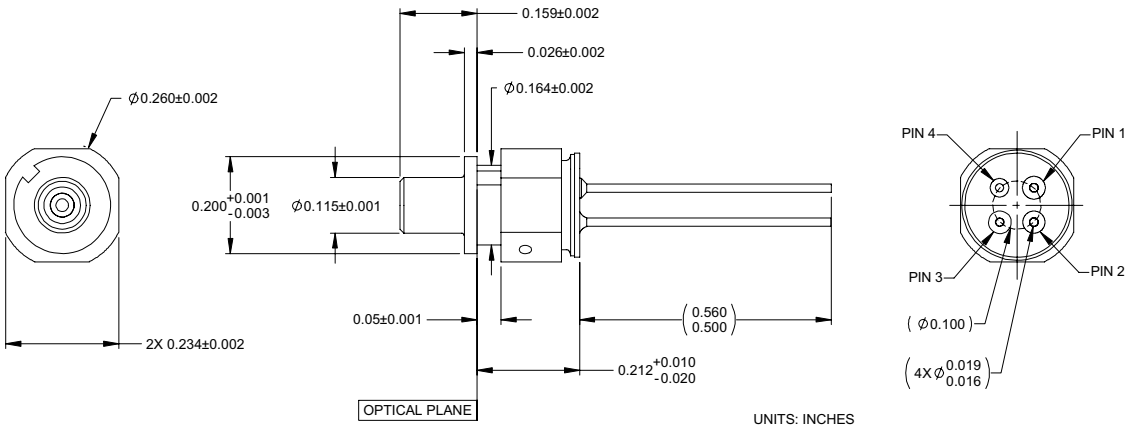
The JDSU 850 nm 2.5 Gbps LC/SC connectorized ROSA (Receiver Optical Sub-Assembly) is designed for high-speed data communication applications in Fibre Channel, Gigabit Ethernet transceiver modules. The product utilizes a PIN/TIA integrated in a TO-46 package aligned to a precision plastic barrel. Each part is electro-optically tested to ensure optimum performance and yield in the application.

The PL-SxR-00-S23-Cx converts optical power into an electrical signal at data rates up to 2.5 Gbps and is engineered for performance over extended operating temperature and power conditions with high reliability. It can be used with 50/125 µm and 62.5/125 µm multi-mode fiber.

# 2

## Mounting Dimensions

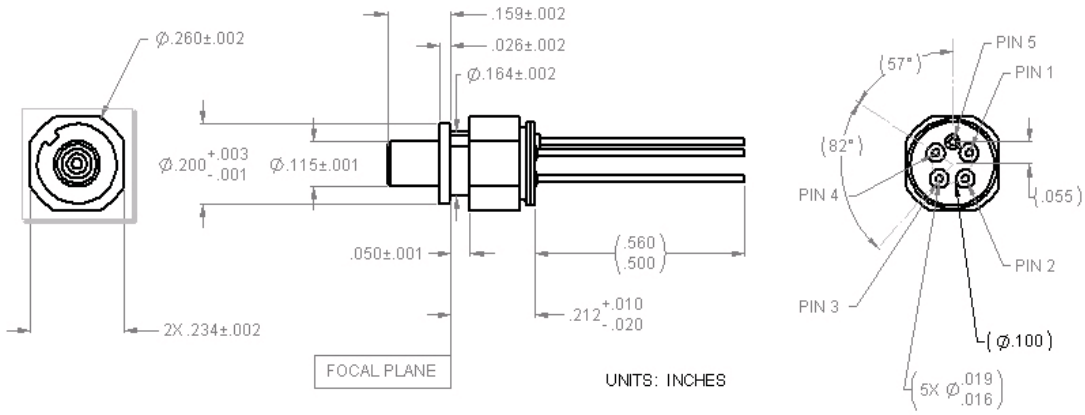
### 4 Lead LC Version (PL-SLR-00-S23-C0)




### PL-SLR-00-S23-C0

| Pin | Symbol | Function |
|---|---|---|
| 1 | Vout-P | TIA Output Voltage (Non-Inverted) |
| 2 | Vdd | Positive Supply Voltage |
| 3 | Vout-N | TIA Output Voltage (Inverted) |
| 4 | GND | Ground, Case |

### 5 Lead LC Version (PL-SLR-00-S23-C1)




### PL-SLR-00-S23-C1

| Pin | Symbol | Function |
|---|---|---|
| 1 | Vout-P | TIA Output Voltage (Non-Inverted) |
| 2 | Vdd | Positive Supply Voltage |
| 3* | Imon | Average Power Monitor Current (RSSI) |
| 4 | Vout-N | TIA Output Voltage (Inverted) |
| 5 | GND | Ground, Case |

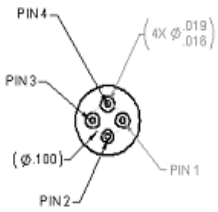
***RSSI Pin 3 Connections**

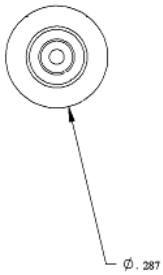
-C1: Connect Pin 3 to ground with a resistor <2500Ω

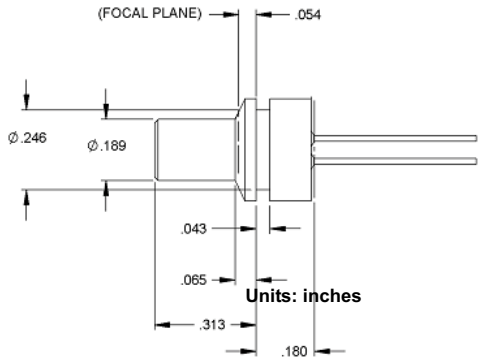
# 3

## Mounting Dimensions (Continued)

### 4 SC Lead Version (PL-SSR-00-S23-C0)



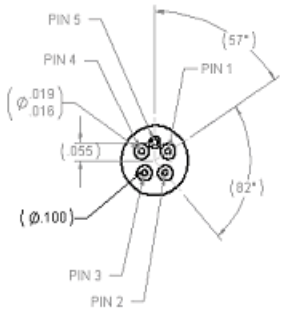



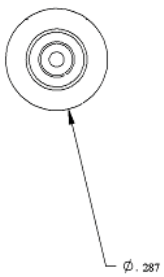



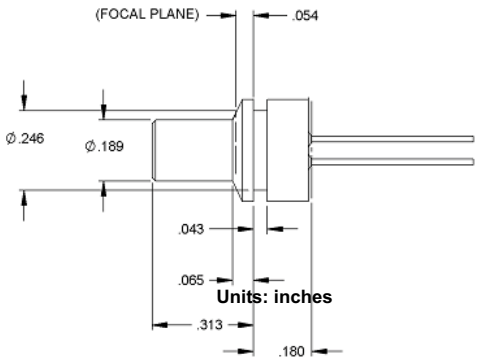

**PL-SSR-00-S23-C0**

| Pin | Symbol | Function |
|---|---|---|
| 1 | Vout-P | TIA Output Voltage (Non-Inverted) |
| 2 | Vdd | Positive Supply Voltage |
| 3 | Vout-N | TIA Output Voltage (Inverted) |
| 4 | GND | Ground, Case |

### 5 Lead Version (PL-SSR-00-S23-C1)




**PL-SSR-00-S23-C1**

***RSSI Pin 3 Connections:**
**-C1: Connect Pin 3 to ground with a resistor <2500Ω**

| Pin | Symbol | Function |
|---|---|---|
| 1 | Vout-P | TIA Output Voltage (Non-Inverted) |
| 2 | Vdd | Positive Supply Voltage |
| 3* | Imon | Average Power Monitor Current (RSSI) |
| 4 | Vout-N | TIA Output Voltage (Inverted) |
| 5 | GND | Ground, Case |

# 4

## Absolute Maximum Ratings

(Vdd=3.3 V, $T_{case}$ = 25 °C unless otherwise stated)

| Parameter | Symbol | Ratings | Unit |
|---|---|---|---|
| Storage temperature | $T_{st}$ | -40 to +125 | °C |
| Incident optical power | $P_{in}$ | +6 | dBm |
| Lead solder temperature | Ts | 260 °C for 10 sec.<br>2 mm from case | |
| Power supply voltage | $V_P$ | 3.8 | V |
| ESD[1] | | Class 1 | |

Note:
Conditions exceeding those listed may cause permanent damage to the device. Devices subjected to conditions beyond the limits specified for extended periods of time may adversely affect reliability.

1. HBM

## Electro-optical Characteristics

(Vdd=3.3 V, $T_{case}$ = -40 °C to 85 °C unless otherwise stated)

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Wavelength responsivity | λ | 770 | 850 | 860 | nm |
| Case operating temperature | $T_{op}$ | -40 | | 85 | °C |
| Supply voltage | $V_{cc}$ | 2.97 | 3.3 | 3.63 | V |
| Supply current | $I_{cc}$ | | 15 | 20 | mA |
| Bandwidth[1] | BW | | 1.8 | | GHz |
| Low frequency cutoff | | | 50 | | kHz |
| Responsivity (@50 MHz, differential)[1] | R | | 1300 | | V/W |
| Sensitivity[2] | S | -21 | -22 | | dBm |
| Output resistance | $R_o$ | | 50 | | Ω |
| Optical overload[2] | | | 0 | | dBm |
| Differential output voltage[3] | $V_{out}$ | | 250 | | mV |
| Total jitter (pk-pk)[4] | TJ | | 55 | | ps |
| Rise/Fall time[3] | $t_r/t_f$ | | 95 | 160 | ps |
| Slope of Imon vs $P_{in}$[5] | $I_{mon}$ slope | | 1 | | A/W |
| Imon current with zero input[5] | $I_{mon}$ offset | | | 40 | uA |
| Imon linearity range[5] | $I_{mon}$ range | | | 1100 | uA |

1. $P_{in}$ = -13 dBm, Rload - 100 Ω (differential)
2. $10^{-12}$ BER with a $2^7$-1 PRBS @ 2.125 Gbps
3. $2^7$-1 PRBS @ 2.125 Gbps, $P_{in}$ = -3 dBm, Rload = 100 Ω (differential)
4. 6σ about the center eye crossing, $P_{in}$ = -15 dBm
5. Average current

## Order Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

### Sample: PL-SSR-00-S23-C0

| Part Number | Description |
|---|---|
| PL-SSR-00-S23-C0 | 850 nm 2.5 G SC ROSA, |
| PL-SSR-00-S23-C1 | 850 nm 2.5 G SC ROSA with RSSI |
| PL-SLR-00-S23-C0 | 850 nm 2.5 G LC ROSA |
| PL-SLR-00-S23-C1 | 850 nm 2.5 G LC ROSA with RSSI |