

850 nm 2.5 G ROSA



The Lumentum 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 2.5G ROSA 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.

Key Features

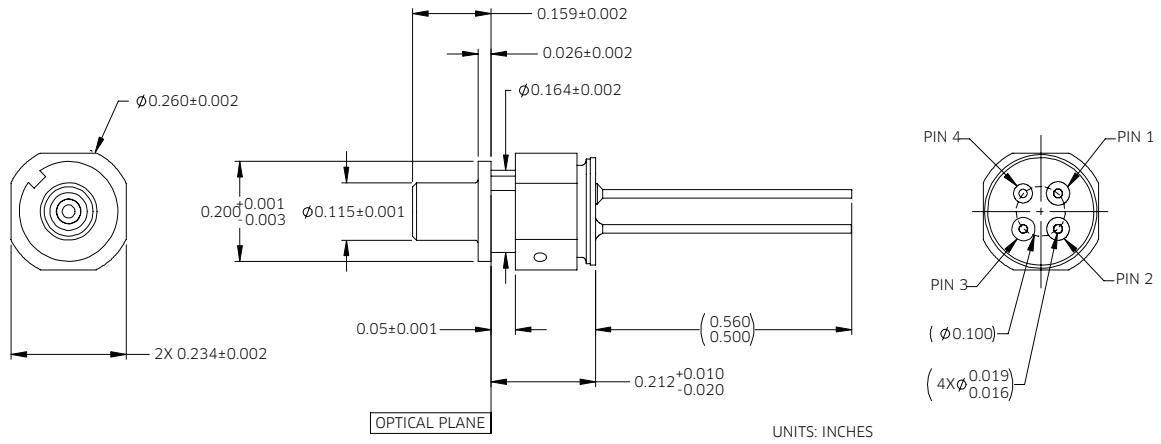
- Multi-rate capable up to 2.5 Gbps
- Low power consumption with 15mA typical operating current at 3.3 V
- Optimized for -40°C to 85°C Transceiver Applications
- Differential output
- Optional 5th lead for Received Signal Strength Indicator (RSSI)
- Connectorized PIN plus preamplifier

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

Mounting Dimensions

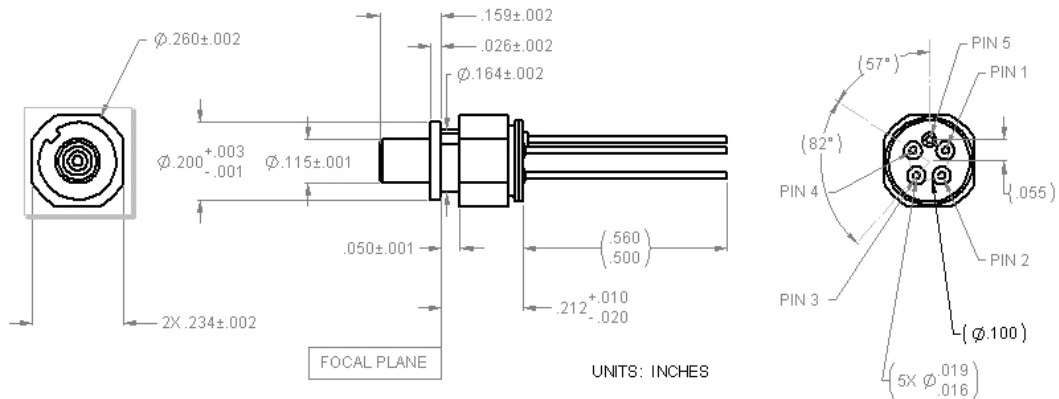
4 Lead LC Version 58000463-001



58000463-001

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 58000313-001



*RSSI Pin 3 Connections

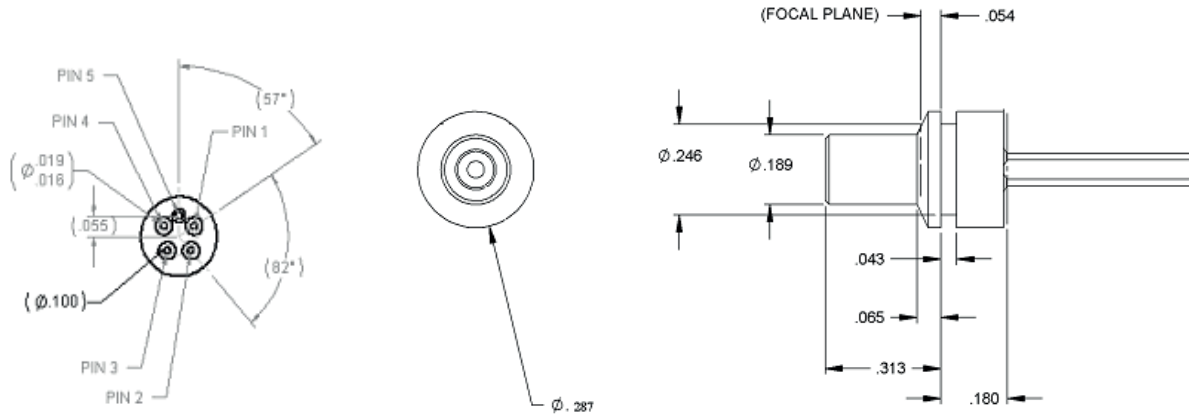
-C1: Connect Pin 3 to ground with a resistor <2500Ω

58000313-001

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

Mounting Dimensions (Continued)

5 Lead Version 58001119-001



*RSSI Pin 3 Connections

-C1: Connect Pin 3 to ground with a resistor <math><2500\Omega</math>

58001119-001

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

Absolute Maximum Ratings(V_{dd}=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	T _s	260°C for 10 sec. 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(V_{dd}=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 I _{mon} vs P _{in} ⁵	I _{mon} slope		1		A/W
I _{mon} current with zero input ⁵	I _{mon} offset			40	μ A
I _{mon} linearity range ⁵	I _{mon} range			1100	μ A

1. P_{in} = -13 dBm, R_{load} = 100 Ω (differential)2. 10⁻¹² BER with a 2⁷-1 PRBS @ 2.125 Gbps3. 2⁷-1 PRBS @ 2.125 Gbps, P_{in} = -3 dBm, R_{load} = 100 Ω (differential)4. 6 σ about the center eye crossing, P_{in} = -15 dBm

5. Average current

Ordering Information

For more information on this or other products and their availability, please contact your local Lumentum account manager or Lumentum directly at customer.service@lumentum.com.

Part Number	Description
58000463-001	850nm 2.5G LC 4L ROSA
58000313-001	850nm 2.5G LC 5L ROSA
58001119-001	850nm 2.5G SC 5L ROSA



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