

Features:

- 5-pin LC ROSA with separate PD bias for RSSI
- High performance GaAs PIN photodiode with separate transimpedance amplifier
- Low electrical parasitic
- TO46 package
- Data rates from 125Mbps to 5Gbps
- Separate detector bias pin for receive power monitoring
- Low bias currents and voltages



COTSWORKS 850nm 125M-5G ROSA is suited to a wide variety of multimode fiber applications.



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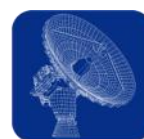
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MILITARY
TACTICAL



SUBSEA
NETWORKING



RADAR &
SENSING



OIL &
EXPLORATION

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Notes
Storage Temperature	T _{sto}	-55	105	°C	
Case Operating Temperature	T _{OP}	-40	95	°C	
Incident Optical Power	P _{AVG}	-	3	dBm	
Power Supply Voltage	I _F	-0.4	4	V	
Hand Lead Soldering Temperature	-	-	260	°C	(1)
ESD Exposure (Human Body Model)	-	-	225	V	(2)

Notes:

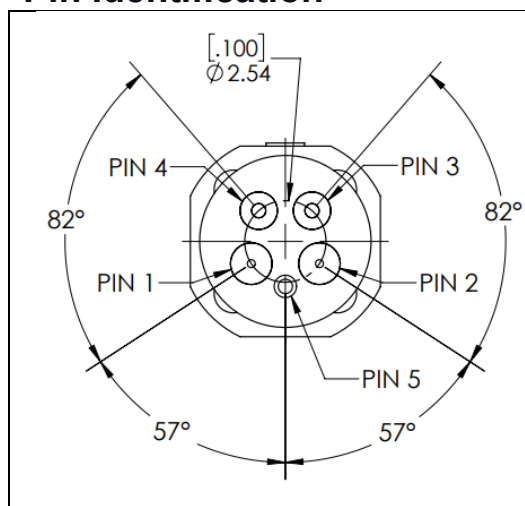
- 1) Hand solder for 10 seconds.
- 2) Proper ESD conditions should be employed while attaching to host board.

**Opto-Electronic Specifications**(Unless otherwise noted, $V_{CC} = 3.3V$, AC-coupled to 50Ω (100Ω differential), $-40^{\circ}C \leq T_C \leq 95^{\circ}C$.)

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit	Notes
Data Rate	-	DR	0.125	-	5.0	Gbps	
Supply Voltage	-	V_{CC}	3	3.3	3.47	V	
Supply Current	$P_R = 0\mu W$ $R_L = 50W$ AC-Coupled	I_{CC}	-	44	50	mA	(1)
Input Optical Wavelength	-	λ_P	830	850	860	nm	
Optical Saturation	-	$RX_{P_{MAX}}$	-1	0	-	dBm	
Optical Overload	-	P_{MAX}	2	5	-	dBm	
Output Impedance	-	Z_{OUT}	40	50	60	Ω	
Optical Return Loss	$P_R = -12dBm$	ORL	12	-	-	dB	(1)
Responsivity	CW input	R	0.4	0.5	-	A/W	
Sensitivity, OMA	DR = 125Mbps	S	-	-20	-17	dBm	(3)
	DR = 622Mbps, 1.25Gbps		-	-19	-16		
	DR = 3.125Gbps		-	-18	-15		
	DR = 5 Gbps		-	-18	-15		
Rise / Fall Time	$P_{R,OMA} = -12dBm$	t_r / t_f	-	60	80	ps	(2) (4)

Notes:

- 1) P_R is the average optical power at the fiber face.
- 2) $P_{R,OMA}$ is the peak to peak optical power at the fiber face (Optical Modulation Amplitude). $P_{R,OMA} = \frac{2P_R(ER-1)}{ER+1}$ where ER is the extinction ratio (linear) of the optical source.
- 3) Sensitivity is measured with an optical source with an extinction ratio of 3dB.
- 4) Rise / Fall times are corrected for optical source Rise / Fall times. $T_{TIA}^2 = T_{MEASURED}^2 - T_{OPTICAL}^2$.

Pin Identification

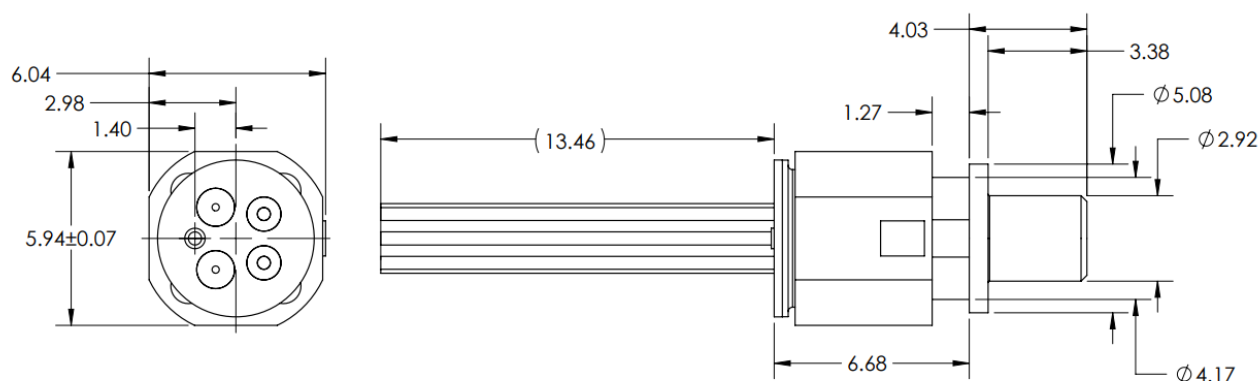
PIN #	Description	Pin Diameter
1	VOUT+	9 mil
2	VOUT-	9 mil
3	VPD	17.5 mil
4	VCC	17.5 mil
5	GND (CASE)	17.5 mil

Notes:

- 1) Mechanical dimensions shown here are in units of mm [inches].



Standard Mechanical Dimensions



Mechanical dimensions shown here are in units of mm.

Warnings:

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended.

Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation

Ordering Information

Contact COTSWORKS Sales for information and pricing.

Contact COTSWORKS for mechanical dimensional information, lead times and configuration options.