

OF3637B-C3

Preliminary

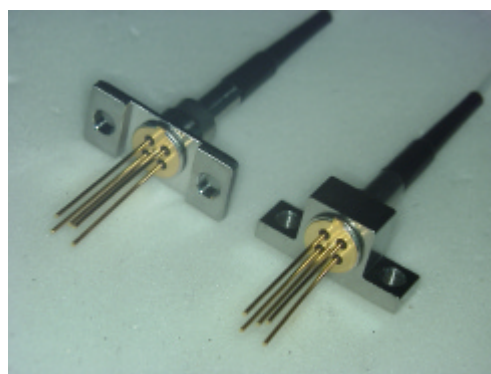
2.5Gbps APD-preamplifier coaxial module with a single mode fiber

1. DESCRIPTION

OF3637B-C3 is an optical receiver module for digital transmission systems up to 2.5Gbps. It uses an InGaAs avalanche photodiode with a low noise preamplifier. Package style is a hermetically sealed coaxial package with a single mode fiber pigtail.

2. FEATURES

Data rate up to 2.5Gbps
 High responsivity InGaAs-APD: 8.5A/W
 Wide dynamic range
 High sensitivity: -34dBm typ. at Rext=10dB*
 Low noise
 Small coaxial package

**3. APPLICATION**

SONET OC-48/SDH STM-16 applications
 Long-haul transmission systems up to 2.5Gbps

4. OPTICAL AND ELECTRICAL CHARACTERISTICS

(Wavelength=1550nm , Tc =25°C , VCC=3.3V, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit	
Wavelength	λ	--	1250	--	1620	nm	
APD Breakdown Voltage	VBR	ID=10 μ A	40	60	80	V	
Temperature Coefficient of VBR**	γ	--	0.10	0.15	0.25	%/°C	
APD Responsivity	RAPD	λ =1550nm, VB=35 to 78V, M=10	8.0	8.5	--	A/W	
		λ =1310nm, VB=35 to 78V, M=10	7.5	8.5	--		
Responsivity	R	RL=100 Ω , M=10, Pin=-30dBm, Differential	16	23	--	kV/W	
Bandwidth	BW	f3dB, RL=50 Ω , AC-coupled, M=10	1650	1950	--	MHz	
Sensitivity	Prmin	2.488Gbps, NRZ, BER=10 ⁻¹⁰ , PRBS2 ²³ -1, M=Mopt., Rext=10dB*	25°C	--	-34	-33	dBm
			-40°C to 85°C	--	-33	-31.5	
Overload	Prmax	2.488Gbps, NRZ, BER=10 ⁻¹⁰ , PRBS2 ²³ -1, M=3	-7	-3	--	dBm	
Supply Current	ICC	Pin = 0mW	--	44	60	mA	
Recommended TIA Supply Voltage	VCC	--	3.1	3.3	3.5	V	
Optical Return Loss	ORL	--	--	--	-27	dB	

*) Extinction ratio of LD source.

**) Temperature Coefficient of Breakdown Voltage.

$$\gamma = \frac{V_B(25^\circ\text{C} + \Delta T^\circ\text{C}) - V_B(25^\circ\text{C})}{V_B(25^\circ\text{C}) \cdot \Delta T^\circ\text{C}} \times 100 (\% / ^\circ\text{C})$$

5. ABSOLUTE MAXIMUM RATING

(Tc = 25 °C, unless otherwise specified)

Parameter	Symbol	Rating	Unit
APD Bias Voltage	VB	0 to VBR	V
TIA Supply Voltage	Vcc	5.0	V
APD Forward Current	IF	4	mA
APD Reverse Current	IR	2(cw)	mA
Operating Temperature	Tc	-40 to +85	°C
Storage Temperature	Tstg	-40 to +85	°C

6. CONNECTOR AND FIBER SPECIFICATIONS

Parameter	Specifications	Unit
Type	SM	--
Flame Rating	Non flame-retardant	--
Mode Field Diameter	10	μm
Cladding Diameter	125	μm
Jacket Diameter	900	μm
Length	1 (Min.)	m
Standard Connector	FC/PC or SC/PC	--

7. ORDERING INFORMATION

OF3637B - C3 - _ _ _ _

ex.) OF3637B-C3-AFFC

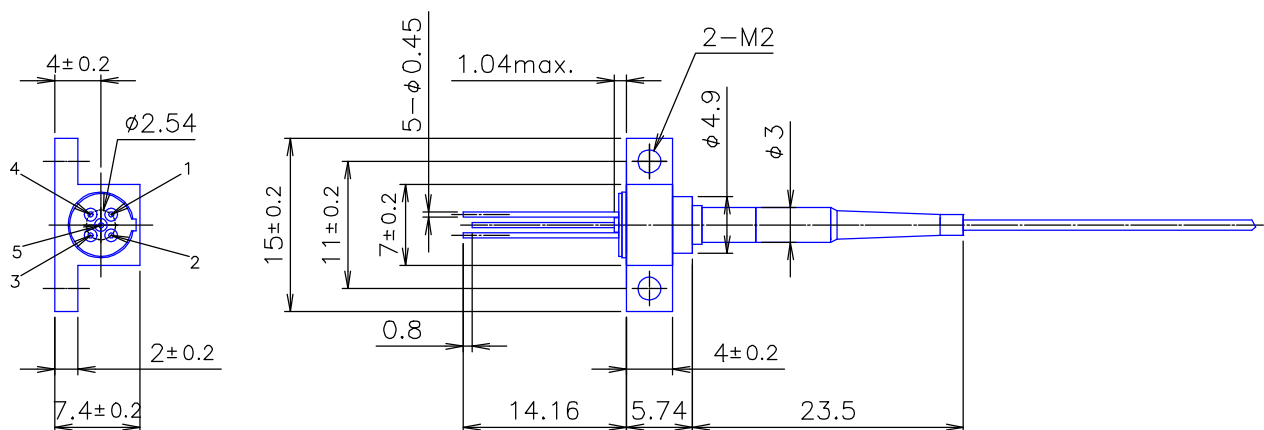
OF3637B-C3 with an angled flange and a FC connector.

Flange	Connector
AF: Angled	FC
WF: Wide-pitch Angled	SC
SF: Straight	LC
	MU

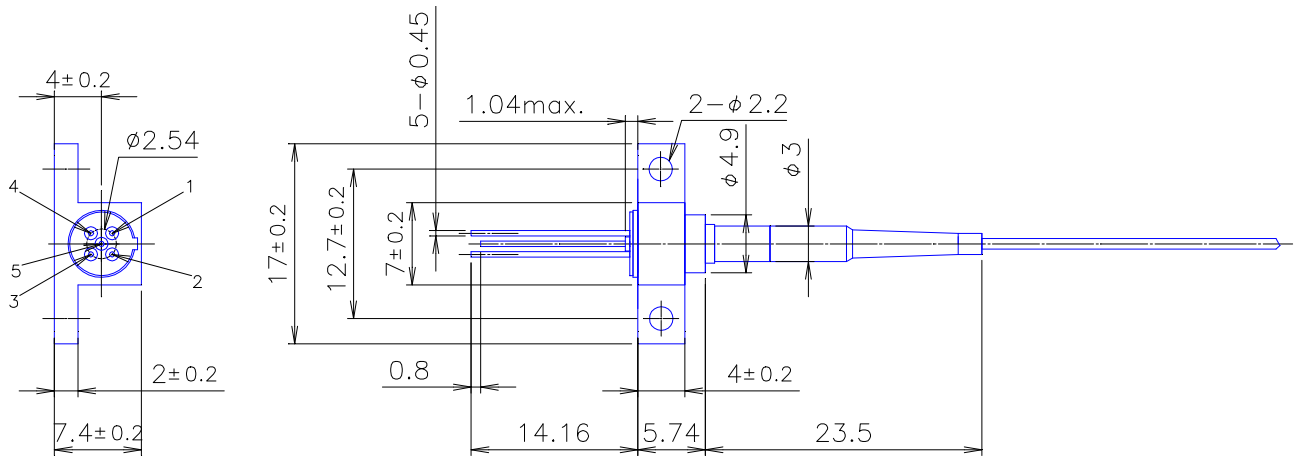
8. OUTLINE DRAWING

All dimensions in millimeters

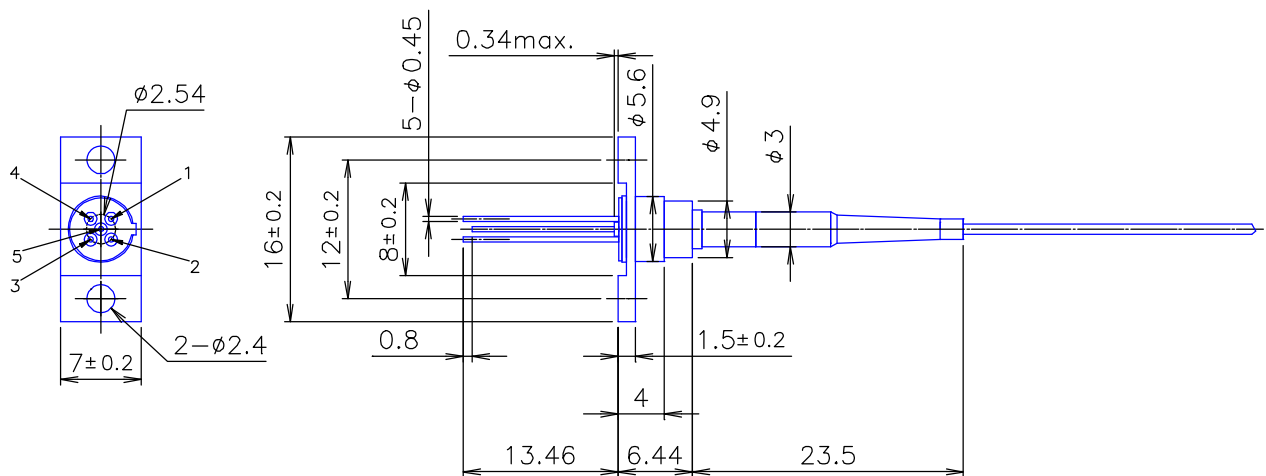
Package No. OF3637B-C3-AF _ _



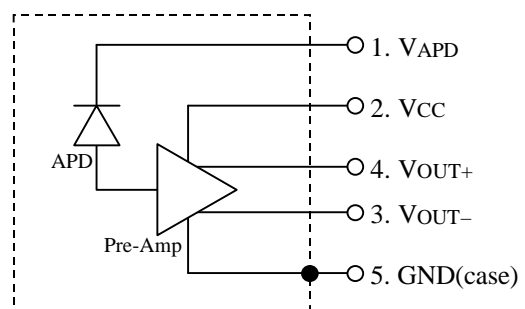
Package No. OF3637B-C3-WF__



Package No. OF3637B-C3-SF__



Pin Connection	
1	VAPD
2	VCC
3	VOUT-
4	VOUT+
5	GND (case)



SAFETY INFORMATION ON THIS PRODUCT



<p>Caution</p> <p>GaAs Product</p>	<p>The product contains gallium arsenide, GaAs. GaAs vapor and powder are hazardous to human health if inhaled, ingested or swallowed.</p> <ul style="list-style-type: none"> Do not destroy or burn the product. Do not crush or chemically dissolve the product. Do not put the product in the mouth. <p>Observe related laws and company regulations when discarding this product. The product should be excluded from general industrial waste or household garbage.</p>
<p>Caution</p> <p>Optical Fiber</p>	<p>A glass-fiber is attached on the product. Handle with care. When the fiber is broken or damaged, handle carefully to avoid injury from the damaged part or fragments.</p>

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