

## O/C Band 70 GHz Ring Resonator Modulator

### Key Features

- 3-dB electro-optical bandwidth >70 GHz
- Lumped, low-capacitance RF design
- O/C band operation
- Differential-drive configuration



### Performance Data

	O band	C band
Peak wavelength	1310 nm	1550 nm
Insertion loss (IL)	<11 dB	<9 dB
Static extinction ratio (ER)	>8 dB	>8 dB
DC bias on/off voltage	<1.5 V	<1.5 V
3-dB EO bandwidth	>70 GHz	>70 GHz
$V_{\text{drive, eq}}$ @ 50 Ohm*	<2 V	<2 V
Free Spectral Range	~ 4.7 nm	~ 4.7 nm

### Maximum Ratings

	O band	C band
Optical input power**	tbd	0 dBm
RF input power @ 50 Ohm	18 dBm	18 dBm
DC voltage at RF input	0 V	0 V
DC bias voltage	2.5 V	2.5 V
DC bias current	15 mA	15 mA
Operating / storage temperature	~25 °C	~25 °C

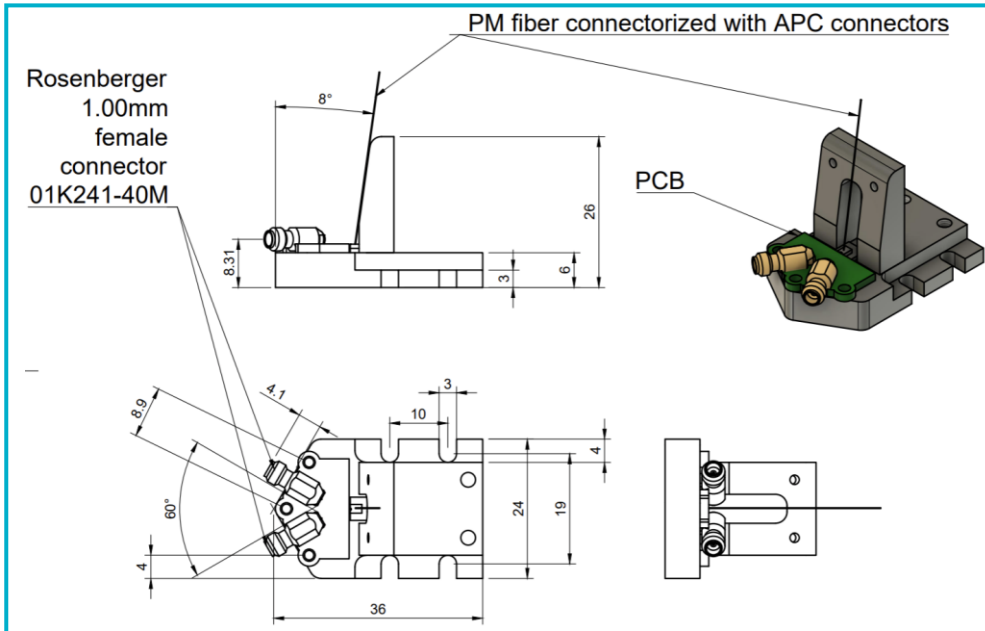
\* Plasmonic modulators are high-impedance devices. Twice the voltage provided by a 50-Ohm signal source will drop across the plasmonic modulator. Using a DC source or a high-impedance-matched driver, double the voltage is required to switch the modulator from the on to the off state.

\*\* Operation time of 8000 h at 20°C with a  $V_{\text{drive}}$  degradation < 10%.

## Mechanical and Optical Specifications

Optical input	SMF/PM with FC/APC connectors
Optical output	SMF/PM with FC/APC connectors
Electrical RF interface	Differential, 1 mm female
Electrical DC interface	2 x DC pins

## Drawings and Dimensions



## Key Plots

