OptoComb

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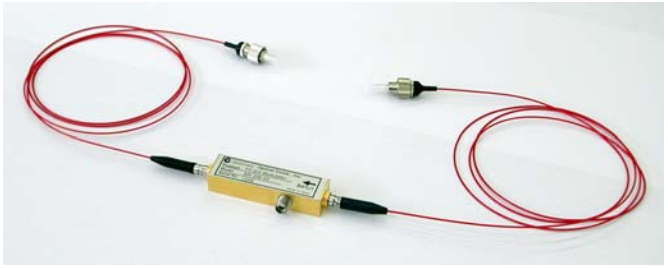
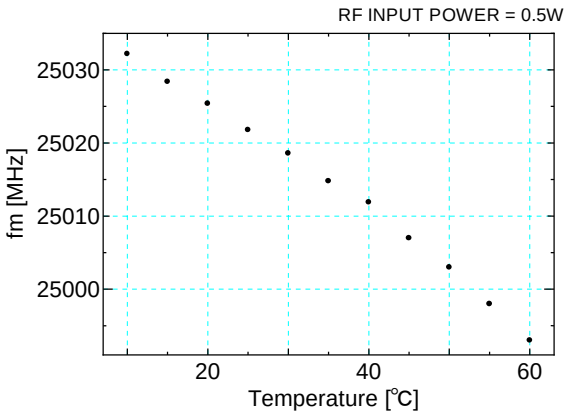
FP-EO Modulator WR-250-03



WR-250-03 is a waveguide Fabry-Perot Electro-Optic (FP-EO) modulator which can modulate optical cavity length at high speed (25GHz). Modulation efficiency is higher than conventional phase modulators because of its high finesse optical resonance effect, therefore, comb span becomes more than 10THz. The stability is same as reference and input laser. This device can generate ultra precise optical comb/pulse with low phase noise and low timing jitter. This modulator is hermetically sealed.

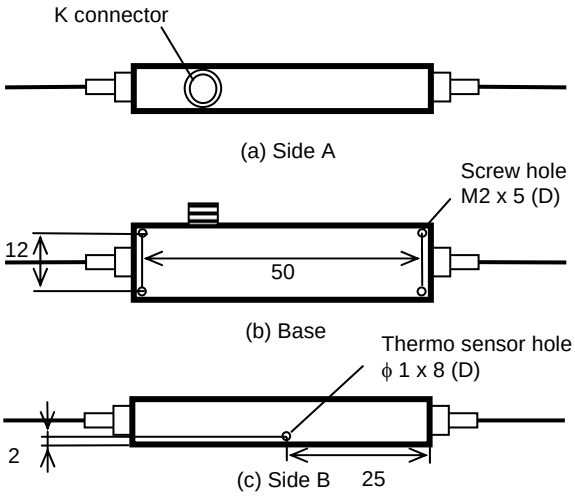
This device is applicable to optical comb/pulse generator, optical metrology, radio over fiber (ROF) and so on.

Temperature Characteristic



Dimensions

(Unit : mm)



*1 Figure of Merit = Vπ/Finesse

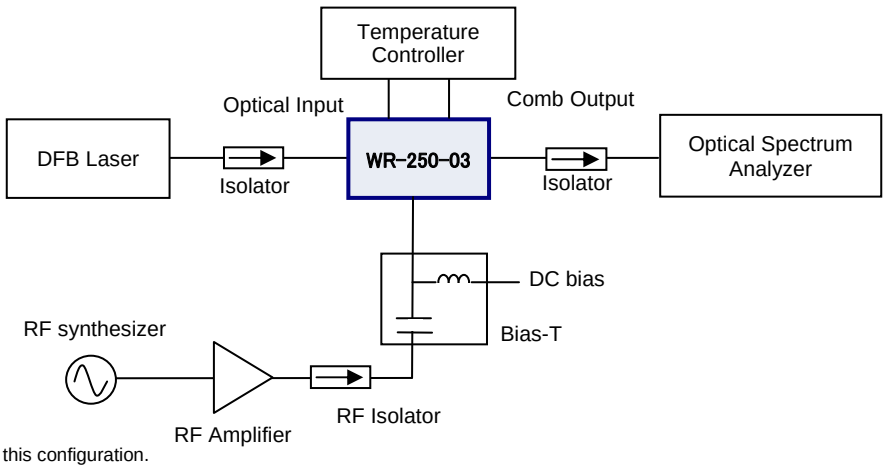
Features

- ●High finesse FP cavity*1
- ●Low Vπ *1
- ●Low power consumption
- ●High reliability

Applications

- ●Optical Comb/Pulse Generator
- ●ROF
- ●Optical Metrology
- ●WDM communications

Configuration (example)



Note) This product is WR-250-03 in this configuration.
The comb/pulse generation system is necessary.

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FP-EO Modulator WR-250-03

Items	Specifications
Optical Input	
Center wavelength*2	1530 ~ 1565 nm single mode, single frequency
Optical input power	20 ~ 40 mW
Optical fiber	PM (PANDA)
Polarization	Slow axis
Optical connector	FC/SPC
RF Input	
Modulation frequency (Comb interval)	25 GHz
FSR	2.5 GHz
RF input power*3	< 0.5 W
RF connector	K connector
Temperature Characteristic*4	
Operational temperature range	10 ~ 60 degree C
Temperature stability	0.01 degree C

Items	Specifications
Modulation Characteristic	
Frequency stability	Same as reference
Finesse	> 50
Vπ	< 10 V @ 25GHz
Transmittance (F-P_{peak}) *5	> 15 % (no modulation) App. 0.3 % @ V=Vπ (Typ.)
Comb span*5	10 THz
Comb flatness*5	-7 dB / THz
Optical pulse width*5	< 1 ps
Dimension and Weight	
Dimension Modulator Optical fiber length Thermo sensor hole	 53 x 15 x 10 mm (Excluding protrusion) 1 +/- 0.15 m ϕ 1 x 5 mm
Weight	51 g

*2 Input laser should be stable (frequency fluctuation << FSR) and linewidth <10MHz is recommended.
*3 RF Amplifier is necessary to drive.
*4 Temperature control kit are necessary to drive but not included in WR-250-03.
*5 Specifications are typical data at V=Vπ

Brochures might be changed without notice.

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