Liquid Crystal Based Polarization Controller

Features/Benefits

- No-moving parts
- Wide operating wavelength range
- High extinction ratio
- Low insertion loss
- Low PDL
- Low PMD
- Low power consumption

Applications

- PMD compensators
- Polarization generators
- Polarization multiplexers
- Polarization scramblers
- Polarization instrumentation

Pin Layout

Pin No#	Description
1 & 10	R_{TD} (optional)
2 & 9	Cell 1 0°
3 & 8	Cell 2 45°
4 & 7	Cell 3 0°
5 & 6	Cell 4 45°

Specifications

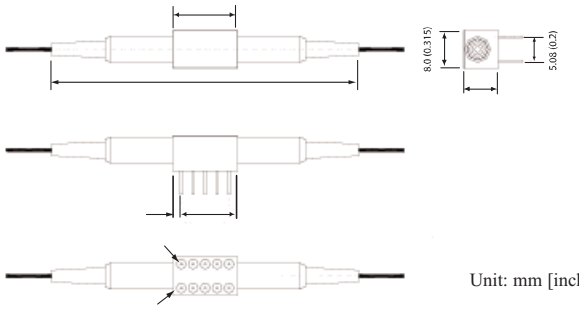
Parameters	Unit	3-Cell Option	4-Cell
Operating Wavelength Range	nm	1525 ~ 1615	
Insertion Loss (w/o connector)	dB	≤ 1.2	≤ 1.5
Wavelength Dependent Loss	dB	≤ 0.5	≤ 0.5
Extinction Ratio	dB	≥ 30	≥ 30
Response Speed @ 23°C	ms	Typ. 100	Typ.100
Polarization Mode Dispersion	ps	≤ 0.1	≤ 0.1
Optical Return Loss (w/o connector)	dB	≥ 50	≥ 50
Activation Loss **	dB	≤ 0.1	≤ 0.1
Driving Voltage (w/o driver)	V	0 ~ 20 Peak to Peak, 10 KHz Square Wave	
Driving Voltage (w/ driver)	V	0 ~ 5VDC	
Operating Temperature	°C	0 ~ 65	
Storage Temperature	°C	-40 ~ 85	
Operating Humidity	%RH	0 ~ 95	

** Defined to be the maximum variation in insertion loss as the polarization controller is adjusted to cover all polarization states.

Absolute Maximum Ratings

Parameters	Unit	Specification
Optical Input Power	dBm	≥ 23
Power Consumption	mW	1 per cell

Dimensions



Unit: mm [inch]

Ordering Information

P	C		0	1	2			0	0	0				0

Platform
3= 3-cell LC
4= 4-cell LC

Thermal Sensor Option
0= w/o R_{TD}
1= w R_{TD}

Driver
D= no driver
1= w /driver

Pigtail Type of Input
0= 250 µm
1= 900 µm
All 1 m in length

Fiber Type of Output
0= SMF-28
1= PM

Pigtail Type of Output
0= 250 µm
1= 900 µm
2= 400 µm
All 1 m in length

Connector
0= None
1= FC/UPC
2= FC/APC
3= SC/UPC
4= SC/APC
5= LC/UPC
6= MU/UPC

This product information is subject to change without notice.