

Optical Attenuator

DESCRIPTION

A fiber optic attenuator is a passive device used to reduce the amplitude of a light signal without significantly changing the wave form itself. This is often a requirement in Dense Wave Division Multiplexing (DWDM) and Erbium Doped Fiber Amplifier (EDFA) applications where the receiver cannot accept the signal generated from a high-power light source.

Attenuators feature a proprietary type of metal-ion doped fiber which reduces the light signal as it passes through. This method of attenuation allows for higher performance than fiber splices or fiber offsets, which function by misdirecting rather than absorbing the light signal. Attenuators are capable of performing in the 1310, C and L Bands.

Attenuators are capable of withstanding over 1W of high power light exposure for extended periods of time, making them well-suited to EDFA and other high-power applications.

Low Polarization Dependent Loss (PDL) and a stable and independent wavelength distribution makes them ideal for DWDM.

APPLICATIONS

- Erbium Doped Fiber Amplifiers (EDFA)
- Dynamic Power Balancing in DWDM Systems
- Dynamic Power Leveling in Optical
- Add/Drop Multiplexing
- CATV Systems
- Bi-directional Systems
- Ideal for WDM Application



FEATURES

- Metal Ion Doped Fiber
- High-power Light Source Durability
- Wavelength Independence / Precise Control of Attenuation Range
- High Attenuation for Connector & In-line Type Attenuators
- Attenuation Levels Ranging from 1dB to 30dB
- Standard and Premium Tolerances, plus Custom Configurations.
- 1310nm, 1550nm, 1250-1625nm and 1350/1550nm Dual Wave Lengths

POLISHES AVAILABLE

- SPC ---Return Loss 50dB or greater
- UPC -- Return Loss 55dB or greater
- APC -- Return Loss 60dB or greater

CHARACTERISTICS

1) Optical Characteristics

Parameter	SPC (SC/FC/ST)	UPC (SC/FC/ST)	APC (SC/FC/ST)	LC/MU
Operating Wavelength(nm)	1310/1550 (1200~1650)			
Attenuation(dB)	0.2~30, or Available upon request			
Attenuation Tolerance(dB)	5dB : ± 0.4 , 6~14dB : $\pm 7.5\%$, 15dB : 1.5dB			
Return Loss(dB)	50	55	60	55
Polarization Dependent Loss(dB)	0.2			

2) Ferrule Characteristics

Parameter	SPC	UPC	APC	LC/MU
Radius of Curvature(mm)	7~25	7~25	5~12	7~25
Apex Offset(μm)	50	50	50	50
Spherical Height(μm)	± 0.05	± 0.05	± 0.05	± 0.05
Angled Offset	N/A	N/A	8°	N/A

3) Mechanical Characteristics

Parameter	Characteristics
Impact	1.5m , 8Cycles
Durability	500Cycles
Vibration	10-55Hz 1.5mm amplitude, for 2hours in each of 3axes

4) Environmental Characteristics

Parameter	Characteristics
Operating Temperature	-40 ~ 75 , 168hours
Storage Temperature Range	-40 ~ 85 , 336hours
Humidity	75 95%RH, 336hours

* Bellcore Standard GR-910-CORE

APPEARANCE

There must be no cracks and peeling gilt in appearances of attenuator.

It must also have flawless end-face of ferrule in terms of optical characteristics.