

1x2(2x2) Mini Size Single Mode Fused Coupler

Features

Low Excess Loss / Low PDL
All Band Operating Wavelength
Telcordia GR-1221 Compliant
High Power Handling

Application

Optical Communication System
Testing Equipment
CATV
FTTH / PON



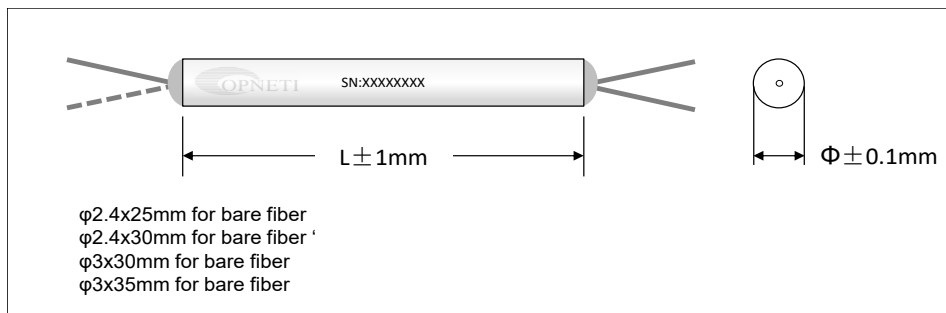
Specifications

Parameters		Unit	CP-S		CP-W, CP-D	
Grade		dB	Grade P	Grade A	Grade P	Grade A
Center Wavelength		nm	1310, 1550 or others		1310, 1550 or 1310/1550	
Operating bandwidth		nm	±15		±40	
Excess Loss		dB	≤0.4	≤0.5	≤0.4	≤0.5
Insertion loss	50/50	dB	≤3.5	≤3.7	≤3.6	≤3.8
	40/60	dB	≤4.5/2.7	≤4.8/2.9	≤4.7/2.7	≤4.9/2.9
	30/70	dB	≤5.8/2.0	≤6.1/2.1	≤6.0/1.9	≤6.3/2.1
	20/80	dB	≤7.7/1.25	≤8.0/1.3	≤7.9/1.3	≤8.0/1.3
	10/90	dB	≤11.2/0.7	≤11.8/0.85	≤11.3/0.7	≤12.0/0.8
	5/95	dB	≤14.5/0.45	≤15.0/0.55	≤14.6/0.4	≤15.5/0.5
	2/98	dB	≤18.5/0.3	≤19.2/0.35	≤18.8/0.3	≤19.5/0.4
	1/99	dB	≤21.5/0.25	≤22.2/0.3	≤22.5/0.25	≤22.5/0.3
PDL		dB	≤0.10	≤0.15	≤0.15	≤0.20
Return Loss		dB	≥50			
Directivity		dB	≥50			
Operating Temperature		℃	-20 ~ +70			
Storage Temperature		℃	-40 ~ +85			

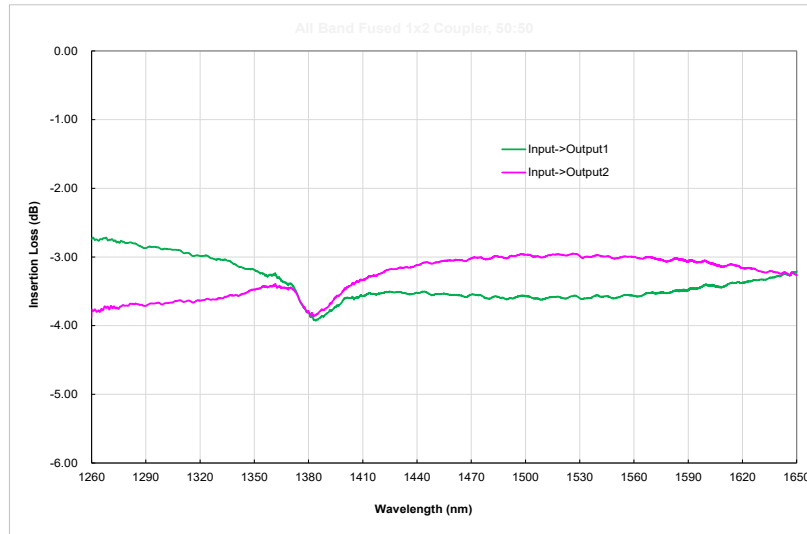
*With connectors, IL+0.3dB, RL-5dB.

Package Information

Configuration	1x2 or 2x2
Fiber Length	1m, others on request
Fiber Type	SMF-28e
Pigtail Type	250μm Bare Fiber
Dimensions(mm)	φ2.4x25; φ2.4x30; φ3x30; φ3x35



Typical Spectrum for 50:50 Coupler



Ordering Information

CP- ①-②-③③③-④④④④-⑤⑤⑤⑤-⑥⑥⑥-⑦-⑧-⑨-⑩⑩⑩⑩⑩⑩

①	Type	S=Standard; W=Wide Band; D=Dual Window;
②	Grade	P=Grade P; A=Grade A;
③	Port Type	1x2; 2x2;
④	Wavelength	1310; 1550; 1310/1550;
⑤	Coupling Ratio	1/99; 2/98; 3/97;; 50/50;
⑥	Pigtail Type	250=250μm Fiber;
⑦	Fiber Type	1=SMF-28e;
⑧	Length	1=1m; X=Other;
⑨	Connector	NE=None; FA=FC/APC; FC=FC/UPC; SA=SC/APC; SC=SC/UPC; LC=LC/UPC; XX=Others;
⑩	Package	2.4x25; 2.4x30; 3x30; 3x35;

Application Notes

Fiber Core Alignment

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled polished (APC).

Coupling / split ratio will be very strange comparing to OPNET's test data if additional connector mating loss is added.

Fiber Bending Loss

A shorter fiber and straightening the fiber or with larger bend radius will be very helpful to get lower Excess Loss.

Fiber Cleanliness

Fibers with smaller core diameters (<5µm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed above table specified, if higher power handling is needed, please contact OPNETI technicians.

Standard connector power handling max 1W(CW), Optical connectors can be removed and the device can be spliced into optical path at higher optical powers.

Optical Path

All of our fused fiber couplers are bidirectional, means that all ports can be used as an input.

Coupler split ratio configuration refer to:

Coupler Split Ratio Configuration