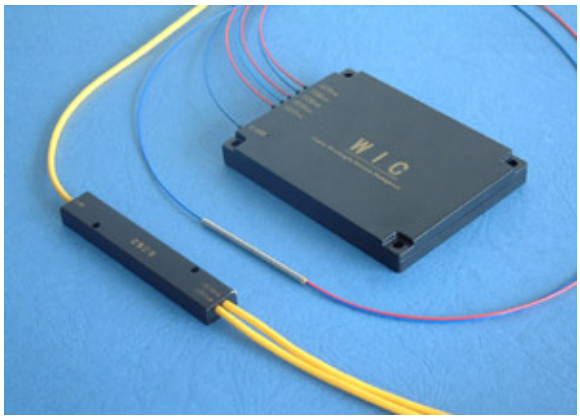
POLARIZATION-INDEPENDENT COUPLERS

Description

The polarization-independent single mode couplers are manufactured with Fused Biconic Taper (FBT) Technique. They are based on the standard single mode fiber couplers. However, they have extra-low polarization dependent loss (PDL) of less than 0.04dB for coupling ratio 50/50. They are suited for applications where PDL of the system is critical.



1x2 couplers are used to split light with minimal loss from one to two or to merge light from two fibers into one.

1xN tree couplers and NxN star couplers are made with fuse cascade-connecting (N-1) pieces of 1x2 and 2x2 couplers respectively.

Features

- Low loss
- Minimal polarization dependence
- Environmentally stable
- Good thermal stability
- Excellent uniformity

Applications

- Optical Amplifiers
- CATV
- WDM systems
- LAN
- Test instrument

Specifications

Characteristics		Unit	Value/Performance			
1X2, 2X2						
Center Wavelength		nm	1310 or 1550, others on request			
Bandwidth		nm	±20			
Excess Loss		dB	≤0.08 (0.05 typ.)			
Coupling Ratio		-	50/50	40/60	30/70	20/80
Typ. Insertion Loss		dB	3.05	4.1/2.3	5.3/1.6	7.1/1.0
Max. Insertion Loss		dB	3.3	4.4/2.5	5.6/1.8	7.4/1.2
Polarization Dependent Loss		dB	≤0.04	≤0.04	≤0.06/0.04	≤0.06/0.04
Thermal Stability		dB/°C	≤0.002 over -40 ~ +80°C			
Directivity	1x2	dB	≥50, ≥60 on request			
	2x2	dB	≥65			
Lead Length		m	1, others on request			
Lead Type		-	250um bare fiber	900um loose tube	2 or 3mm loose tube	
Package Type		-	A1	A3 or B	B	
Operating Temperature		°C	-40 ~ +80	-20 ~ +70	-20 ~ +70	

Specifications

Characteristics		Unit	Value/Performance			
1X2, 2X2, Tap-couplers						
Center Wavelength		nm	1310 or 1550, others on request			
Bandwidth		nm	±20nm			
Excess Loss		dB	≤0.08 (0.05 typ.)			
Coupling Ratio		-	1/99	3/97	5/95	10/90
Max. Insertion Loss		dB	21.5/0.2	17.5/0.3	14.6/0.4	10.8/0.6
WDL*1 (tap port)		dB	±0.5	±0.4	±0.3	±0.3
PDL*2 (tap port)		dB	≤0.08			
Thermal Stability (tap port)		dB/°C	≤0.002 over -40 ~ +80°C			
Directivity	1x2	dB	≥50, ≥60 on request			
	2x2	dB	≥65			
Lead Length		m	1, others on request			
Lead Type		-	250um bare fiber	900um loose tube	2 or 3mm loose tube	
Package Type		-	A1	A3 or B	B	
Operating Temperature		°C	-40 ~ +80	-20 ~ +70	-20 ~ +70	
1xN, NxN						
Configuration		-	N x 4 N=1,2, 4	N x 8 N=1,2, 8	N x 16 N=1,2, 16	N x 32 N=1,2, 32
Center Wavelength		nm	1310 or 1550, others on request			
Bandwidth		nm	±20			
Max. Excess Loss		dB	0.2	0.3	0.4	0.5
Typ. Insertion Loss		dB	6.2	9.3	12.4	15.5
Max. Insertion Loss		dB	6.8	10.2	13.6	17.0
Uniformity		dB	≤1.2	≤1.8	≤2.4	≤3.0
Polarization Dependent Loss		dB	≤0.08	≤0.12	≤0.16	≤0.2
Thermal Stability		dB	≤0.2	≤0.3	≤0.4	≤0.5
Directivity		dB	≥60			
Operating Temperature		°C	-20 ~ +70			
Lead Length		m	1, others on request			
Lead Type		-	900um, 2mm or 3mm loose tube			
Package Type		-	C	D	E	E

*1 WDL = Wavelength dependent loss
*2 PDL = Polarization dependent loss

Dimensional Drawing

Please see coupler package information.

Ordering Information

Part Number: **PIC-12 1 -40/60 SM 2 A3- 1 SU**
1 2 3 4 5 6 7

1	Configuration	12=1x2, 22=2x2, 18=1x8, 1616=16x16, 132=1x32, etc.
2	Wavelength	1=1310nm, 2=1550nm
3	Coupling Ratio	50/50, 40/60, 20/80, 10/90, 3/97, 25x4(for 25/25/25/25), etc.
4	Lead Type	1=250um, 2=900um, 3=2.0mm, 4=3.0mm
5	Package Type	A1, A3, B, C, D or E
6	Lead Length	0.5=0.5m, 1=1m, etc.
7	Connectors Terminated	Blank=no connector, FU=FC/UPC, FA=FC/APC, SU=SC/UPC, SA=SC/APC

Products manufactured with
ISO 9001 certified facilities