

601 Series SM Broadband Single Window Coupler

Splitters and Couplers

Overview

ARIA's singlemode broadband single window couplers are multi-port devices that split or combine light with exceptional performance over a wide bandwidth.

ARIA manufactures these fused biconic taper (FBT) couplers with a highly automated process to achieve consistent quality and reliability.

Splitting ratios can be designed to meet customer specifications.



Features

- Wide wavelength range
- Variety of coupling ratios
- Low insertion loss
- Excellent uniformity
- Low PDL
- High directivity
- Bi-directional
- Environmentally stable and reliable

Applications

- Telecommunications
- CATV
- Subscriber loop
- Fiber-to-the-home
- Local Area Network (LAN)
- Test equipment
- Optical fiber sensors
- Source distribution

Specifications (50/50 Coupling Ratio)

Parameter	Value (Premium)	Value (High)	Value (Average)
Operation Wavelength (nm)	1310 or 1550 (± 40)	1310 or 1550 (± 40)	1310 or 1550 (± 40)
Insertion Loss (dB) (Max)	3.4	3.7	4.3
Excess Loss (dB) (Typ.)	0.1	0.3	0.5
Uniformity (dB) (Max)	0.6	1.0	1.5
Polarization Dependant Loss (dB) (Max)	0.1	0.15	0.2
Temperature Coef(dB/C)	0.002 Max	0.002 Max	0.002 Max
Directivity (dB) (Min)	50	50	50
Operating Temperature ($^{\circ}$C)	- 40 to + 85*	- 40 to + 85*	- 40 to + 85*
Storage Temperature ($^{\circ}$C)	- 40 to + 85	- 40 to + 85	- 40 to + 85

*-20 to +70 $^{\circ}$ C for 3mm cable package

Packaging Option

PTB1B 3.0 \varnothing x 54mm (tube)

PKC1A 101 x 12 x 10mm (Case)

601 Series SM Broadband Single Window Coupler

Splitters and Couplers

Environmental Reliability Tests

- Complies with Telcordia requirement TR-NWT-001221 & TR-NWT-001209. Tests Optical characteristics, Thermal Cycling, Vibration Test, Salt Spray Erosion, Thermal Aging, and Humidity Resistance.
- High Temperature Storage Test: 85°C for 5000 hours
- Low Temperature Storage Test: -40°C for 5000 hours
- Thermal Cycling Test: -40°C/75°C for 500 cycles
- Fiber Pulling Test: 0.23 Kg
- Water Immersion Test: 43°C, pH=5.5, 340 hours
- Vibration Test: 10~2000 Hz random , 20g, 3 axes
- Impact Test: 8 drops, 1.8 meters high
- Thermal Shock Test: 100°C

Coupling Ratio/Insertion Loss

Split Ratio	Insertion Loss (Premium)	Insertion Loss (High)	Insertion Loss (Average)
50/50	3.4	3.7	4.3
40/60	4.4 / 2.5	4.8 / 2.8	5.6 / 3.4
30/70	5.6 / 1.8	6.1 / 2.0	7.0 / 2.4
20/80	7.4 / 1.1	8.0 / 1.3	8.9 / 1.7
10/90	10.8 / 0.6	12.0 / 0.8	13.3 / 1.0
5/95	14.6 / 0.4	18.4 / 0.5	20.4 / 0.8
1/99	21.5 / 0.2	22.0 / 0.3	23.3 / 0.6

Part Number

601-
1 1 2 2 3 4 5 5 6 6 7 7

1 Wavelength
 15 = 1550
 13 = 1310
 09 = 980
 08 = 850
 XX = Other

4 Grade
 P = Premium
 H = High
 A = Average

6 Tail Length
 05 = .05m
 10 = 1.0m
 15 = 1.5m
 20 = 2.0m

2 Port Number
 12 = 1x2
 22 = 2x2

5 Ratio
 50 = 50/50
 40 = 40/60
 30 = 30/70
 20 = 20/80
 10 = 10/90

7 Connectors
 LC = LC/UPC
 SC = SC/UPC
 FA = FC/APC
 SA = SC/APC
 ST = ST/UPC
 0 = None
 XX = Other

3 Fiber & Package
 01 = 250µm bare fiber, stainless steel tube
 02 = 900µm loose tube fiber, stainless steel tube
 03 = 3mm cabled fiber, ruggedized case
 04 = 250µm bare fiber, ruggedized case
 05 = 900µm loose tube fiber, ruggedized case