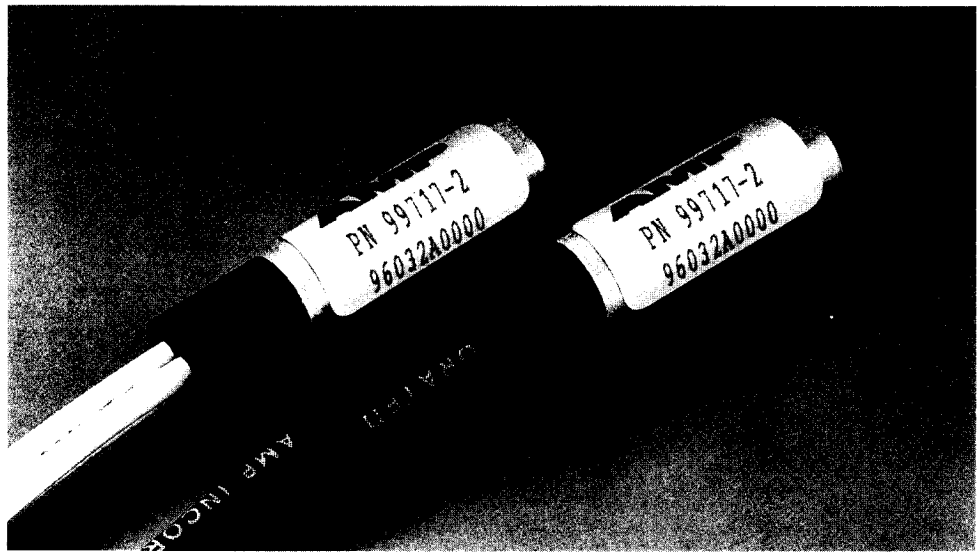
Singlemode and Multimode Lensed Wavelength Division Multiplexers

- High isolation
- Wide bandpass
- Excellent reflectance
- Small footprint

Applications

- High-speed, computer-to-peripheral links
- Two-way, single-fiber video links
- Telephone networks
- Subscriber loops
- Cable TV systems
- Capacity upgrades
- Instrumentation



Multiplexers allow use of a single fiber for simultaneous transmission of two signals of different wavelengths.

Demultiplexers separate the combined wavelengths from the single fiber into individual fibers. Both the multiplexers and demultiplexers are available for multimode as well as singlemode applications.

Through the use of high-quality dichroic coatings, which act as bandpass filters, numerous wavelength combinations from 400-1600 nm can be accommodated.

Unlike the narrow bandpass of fused multiplexers, the minimum bandpass of these devices around the central wavelength is ±50 nm. This feature makes these multiplexers ideal for use in broadband communications applications.

These devices are unique in that their optical performance is independent of polarization effects of the light source.

The 7/16 inch [11.9 mm] thick encapsulated devices with monolithic lens structures tolerate vibration and shock; their low profile permits easy printed circuit board mounting.

Specifications—Multimode:

Insertion Loss (per FOTP-34, Method A):

	Typical	Maximum
MUX	0.9 dB	1.2 dB
DEMUX	0.9 dB	1.3 dB

Directivity: (50/125, 62.5/125 only)
Typical: >55 dB
Minimum: >45 dB

Wavelength Bandpass (nm):
Typical: 120 nm
Minimum: 100 nm

Return Loss (Reflectance):
MUX—Minimum: 35 dB
DEMUX—
Port 1 ≤–13 dB
Port 2 ≤–15 dB
Port 3 ≤–35 dB
Without connectors

Isolation:
Bi-directional
MUX & DEMUX 35 dB Minimum (Typical 42 dB)
Unidirectional
MUX & DEMUX 35 dB Minimum (Typical 42 dB)

Fiber Types:
50/125, 62.5/125, 100/140 and others.

Specifications—Singlemode:

Insertion Loss (per FOTP-180):

	Typical	Maximum
DEMUX	0.9 dB	1.3 dB

Directivity:
Typical: >65 dB
Minimum: >55 dB

Wavelength Bandpass (nm):
Typical: 120 nm
Minimum: 100 nm

Return Loss (Reflectance):
DEMUX—
Port 1 ≤–40 dB
Port 2 & 3 ≤–55 dB

Isolation:
Unidirectional
(DEMUX) 35 dB Minimum (Typical 42 dB)

Polarization Sensitivity: <0.1 dB

Fiber Types: (Corning SMF-28)
8–9/125

Temperature:

Multimode:
–40°C to +65°C (Operating)
–40°C to +75°C (Storage)

Singlemode:
–20°C to +60°C (Operating)
–20°C to +60°C (Storage)

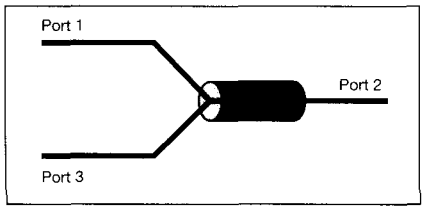
Weight:
1.5 oz. [42 grams]

Pigtail:
0.5 meter, [3mm] OD cable, 900 µm OD cable.
Terminations and connectors available on request.

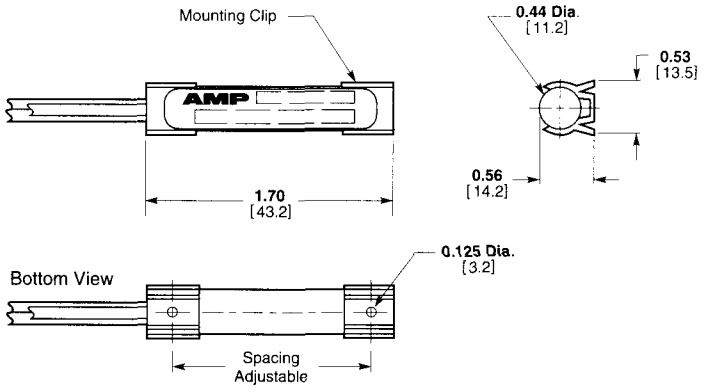
Part Numbers

Fiber	.5m Cable Length	Connector	850/1310 nm		1310/1550 nm	
			MUX A	MUX or DEMUX	MUX A	MUX or DEMUX
50/125 Multimode	3mm	ST Style	99100-2	99102-2	99103-2	99105-2
	3mm	None	99106-1	99108-1	99109-1	99111-1
	900µm	ST	9-99100-2	9-99102-2	9-99103-2	9-99105-2
	900µm	None	9-99106-1	9-99108-1	9-99109-1	9-99111-1
62.5/125 Multimode	3mm	ST Style	99100-3	99102-3	99103-3	99105-3
	3mm	None	99106-2	99108-2	99109-2	99111-2
	900µm	ST	9-99100-3	9-99102-3	9-99103-3	9-99105-3
	900µm	None	9-99106-2	9-99108-2	9-99109-2	9-99111-2
100/140 Multimode	3mm	ST Style	99100-5	99102-5	99103-5	99105-5
	3mm	None	99106-4	99108-4	99109-4	99111-4
	900µm	ST	9-99100-5	9-99102-5	9-99103-5	9-99105-5
	900µm	None	9-99106-4	9-99108-4	9-99109-4	9-99111-4
9/125 Singlemode	3mm	FCPC	—	—	—	99717-1
	3mm	D4	—	—	—	99717-2
	3mm	ST/PC	—	—	—	99717-4
	3mm	None	—	—	—	99717-5
	3mm	FC/SPC	—	—	—	99717-6
	3mm	ST/SPC	—	—	—	99717-7
	3mm	SC/SPC	—	—	—	99717-8

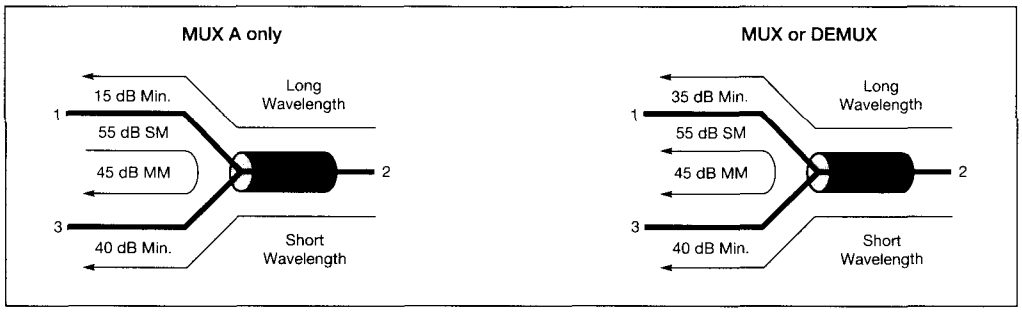
*Super FC/APC also available.
*Add a prefix number 9 to part number to order singlemode product with 900µm cable (e.g. 9-99717-6).



Note: (Reference figures shown below)



Crosstalk (Isolation) Performance



Notes: 1 = Transmitter, 2 = Trunk Line, 3 = Receiver
(Demux)—1 & 3 = Receiver or Transmitter, 2 = Trunk Line
SM—Singlemode, MM—Multimode