

Singlemode Build Out Attenuators

Product Facts

- A range of fixed attenuation values. Standard values of 1 through 20 and 25dB
- UPC and APC offer Excellent Return Loss
- LC, SC, FC, ST, and D4 styles
- Attenuation is wavelength independent and polarization insensitive
- Low PDL
- Low modal noise
- High reliability
- Very low reflectance
- Vibration resistant
- Dual Window and Broadband Bandpass
- End face geometry per GR-326
- Designed to comply with Telcordia GR-910

Applications

- Power leveling in DWDM transmission systems
- Test and Measurement
- Power attenuation at the receiver

Available Collateral

- Test reports qualifying product to Telcordia GR-910 (2004)
- Application Specification 114-1129
- Installation/Cleaning Instruction Sheet 408-8895
- Product Specification 108-2099
- Customer Drawings

Attenuators



Tyco Electronics high performance Build Out Attenuators utilize a unique all-fiber construction to absorb the optical signal.

By employing a Tyco Electronics' technology, the design minimizes

reflectance, attenuation tolerance, and PDL while maximizing reliability, environmental stability, and power handling. There are no filters, air gaps, or core mismatches.

Specifications

Attenuation Values —
1-20dB and 25 dB (Fixed)

Reflectance —
≤ -55 and -65dB for UPC and APC polish, respectively

Operating Temperature —
-40°C to +75°C

Vibration Resistance —
< 0.1 x attenuation

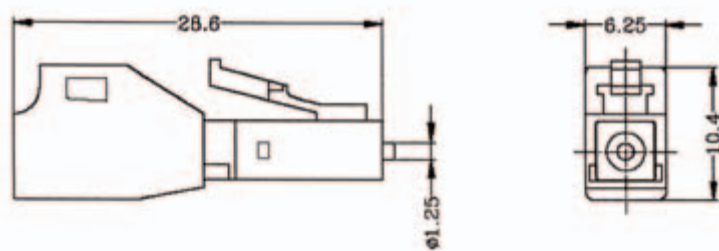
Customizable Features

- Attenuation tolerance
- Attenuation values in 1dB increments
- Labeling
- Kitting/Packaging
- Wavelength Dependent Loss
- Reflectance:
 - UPC to -55 dB max.
 - APC to -65 dB max.

Attenuators (Continued)

Singlemode LC Attenuators, Build Out Style, Fixed Value

LC/UPC



Note: Additional attenuation values available upon request.

Broadband Bandpass Attenuators Operating Wavelength 1260-1360nm & 1430-1625nm

Attenuation (dB)	Part Number
1	1693560-1
2	1693560-2
3	1693560-3
4	1693560-4
5	1693560-5
6	1693560-6
7	1693560-7
8	1693560-8
9	1693560-9
10	1-1693560-0
11	1-1693560-1
12	1-1693560-2
13	1-1693560-3
14	1-1693560-4
15	1-1693560-5
16	1-1693560-6
17	1-1693560-7
18	1-1693560-8
19	1-1693560-9
20	2-1693560-0
25	2-1693560-5

Note: Attenuation Tolerance, Ambient
 ≥ 5 dB: $\pm .10 \times$ nominal
attenuation value
 < 5 dB: ± 0.50 dB
Reflectance ≤ -55 dB

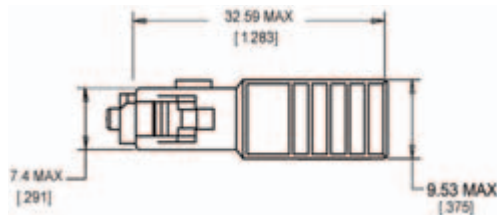
Note: Part Numbers are RoHS compliant
except: ♦ Indicates non-RoHS
compliant.



Attenuators (Continued)

**Singlemode
SC Attenuators, Build Out
Style, Fixed Value**

SC/UPC



Note: Additional attenuation values available upon request.

**Dual Window Attenuators
Operating Wavelength
1310/1550nm ±25nm**

Attenuation (dB)	Part Number
0	9-5209943-9
1	5209943-1
2	5209943-2
3	5209943-3
4	5209943-4
5	5209943-5
6	5209943-6
7	5209943-7
8	5209943-8
9	5209943-9
10	1-5209943-0
11	1-5209943-1
12	1-5209943-2
13	1-5209943-3
14	1-5209943-4
15	1-5209943-5
16	1-5209943-6
17	1-5209943-7
18	1-5209943-8
19	1-5209943-9
20	2-5209943-0
25	2-5209943-5

Note: Attenuation Tolerance, Ambient
 $\varnothing$ 5 dB: $\pm .10 \times$ nominal attenuation value
 < 5 dB: ± 0.50 dB
0 dB: 0.50 dB max
Reflectance ≤ -55 dB

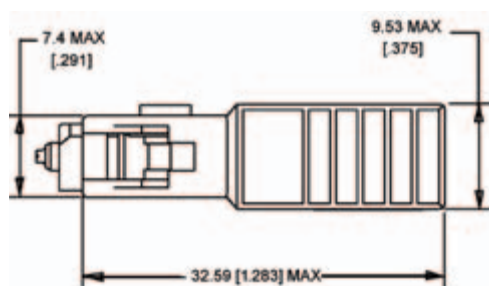
**Broadband Bandpass Attenuators
Operating Wavelength
1260-1360nm & 1430-1625nm**

Attenuation (dB)	Part Number
0	9-5209250-9
1	5209250-1
2	5209250-2
3	5209250-3
4	5209250-4
5	5209250-5
6	5209250-6
7	5209250-7
8	5209250-8
9	5209250-9
10	1-5209250-0
11	1-5209250-1
12	1-5209250-2
13	1-5209250-3
14	1-5209250-4
15	1-5209250-5
16	1-5209250-6
17	1-5209250-7
18	1-5209250-8
19	1-5209250-9
20	2-5209250-0
25	2-5209250-5

Note: Attenuation Tolerance, Ambient
 $\varnothing$ 5 dB: $\pm .10 \times$ nominal attenuation value
 < 5 dB: ± 0.50 dB
0 dB: 0.50 dB max
Reflectance ≤ -55 dB

**Singlemode
SC Attenuators, Build Out
Style Fixed Value**

SC/APC 8°



Note: Additional attenuation values available upon request.

* 9° APC Available (417496-X)

**Dual Window Attenuators
Operating Wavelength
1310/1550nm ±25nm**

Attenuation (dB)	Part Number
1	5209597-1
2	5209597-2
3	5209597-3
4	5209597-4
5	5209597-5
6	5209597-6
7	5209597-7
8	5209597-8
9	5209597-9
10	1-5209597-0
11	1-5209597-1
12	1-5209597-2
13	1-5209597-3
14	1-5209597-4
15	1-5209597-5
16	1-5209597-6
17	1-5209597-7
18	1-5209597-8
20	2-5209597-0
25	2-5209597-5

Note: Attenuation Tolerance, Ambient
 $\varnothing$ 5 dB: $\pm .10 \times$ nominal attenuation value
 < 5 dB: ± 0.50 dB
Reflectance ≤ -60 dB

**Broadband Bandpass Attenuators
Operating Wavelength
1260-1360nm & 1430-1625nm**

Attenuation (dB)	Part Number
1	5417021-1
2	5417021-2
3	5417021-3
4	5417021-4
5	5417021-5
6	5417021-6
7	5417021-7
8	5417021-8
9	5417021-9
10	1-5417021-0
11	1-5417021-1
12	1-5417021-2
13	1-5417021-3
14	1-5417021-4
15	1-5417021-5
16	1-5417021-6
17	1-5417021-7
18	1-5417021-8
19	1-5417021-9
20	2-5417021-0
25	2-5417021-5

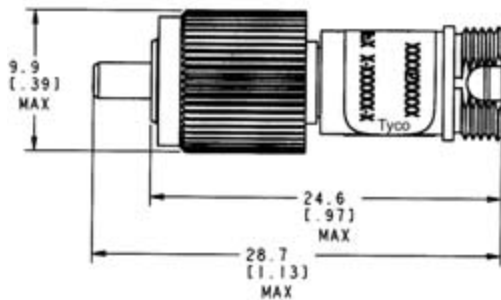
Note: Attenuation Tolerance, Ambient
 $\varnothing$ 5 dB: $\pm .10 \times$ nominal attenuation value
 < 5 dB: ± 0.50 dB
Reflectance ≤ -65 dB

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

Attenuators (Continued)

**Singlemode
FC Attenuators, Build Out
Style, Fixed Value**

FC/UPC



Note: Additional attenuation values available upon request.

**Dual Window Attenuators
Operating Wavelength
1310/1550nm ±25nm**

Attenuation (dB)	Part Number
1	5209948-1
2	5209948-2
3	5209948-3
4	5209948-4
5	5209948-5
6	5209948-6
7	5209948-7
8	5209948-8
9	5209948-9
10	1-5209948-0
11	1-5209948-1
12	1-5209948-2
13	1-5209948-3
14	1-5209948-4
15	1-5209948-5
16	1-5209948-6
17	1-5209948-7
18	1-5209948-8
19	1-5209948-9
20	2-5209948-0
25	2-5209948-5

Note: Attenuation Tolerance, Ambient
 Ø 5 dB: ± .10 x nominal
 attenuation value
 < 5 dB: ± 0.50 dB
 Reflectance ≤ -55 dB

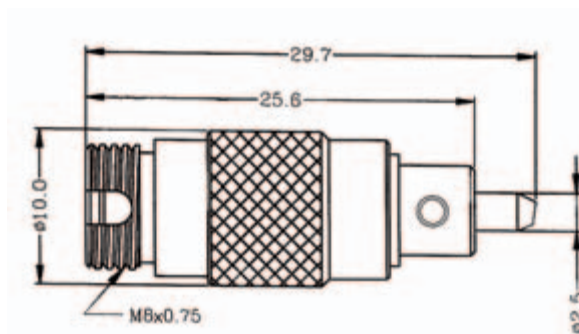
**Broadband Bandpass Attenuators
Operating Wavelength
1260-1360nm & 1430-1625nm**

Attenuation (dB)	Part Number
0	9-5209285-9
1	5209285-1
2	5209285-2
3	5209285-3
4	5209285-4
5	5209285-5
6	5209285-6
7	5209285-7
8	5209285-8
9	5209285-9
10	1-5209285-0
11	1-5209285-1
12	1-5209285-2
13	1-5209285-3
14	1-5209285-4
15	1-5209285-5
16	1-5209285-6
17	1-5209285-7
18	1-5209285-8
19	1-5209285-9
20	2-5209285-0
25	2-5209285-5

Note: Attenuation Tolerance, Ambient
 Ø 5 dB: ± .10 x nominal
 attenuation value
 < 5 dB: ± 0.50 dB
 0 dB: 0.50 dB max.
 Reflectance ≤ -55 dB

**Singlemode
FC Attenuators, Build Out
Style, Fixed Value**

FC/APC (8°)



Note: Additional attenuation values available upon request.

**Dual Window Attenuators
Operating Wavelength
1310/1550nm ±25nm**

Attenuation (dB)	Part Number
1	1754722-1
2	1754722-2
3	1754722-3
4	1754722-4
5	1754722-5
6	1754722-6
10	1-1754722-0
12	1-1754722-2
15	1-1754722-5
18	1-1754722-8
20	2-1754722-0
25	2-1754722-5

Note: Attenuation Tolerance, Ambient
 Ø 5 dB: ± .10 x nominal
 attenuation value
 < 5 dB: ± 0.50 dB
 Reflectance ≤ -65 dB

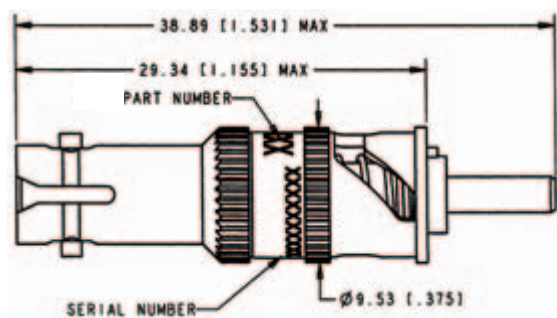
Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.



Attenuators (Continued)

**Singlemode
ST Attenuators, Build Out
Style, Fixed Value**

ST/UPC



**Dual Window Attenuators
Operating Wavelength
1310/1550nm ±25nm**

Attenuation (dB)	Part Number
1	5417549-1
2	5417549-2
3	5417549-3
4	5417549-4
5	5417549-5
6	5417549-6
7	5417549-7
8	5417549-8
9	5417549-9
10	1-5417549-0
11	1-5417549-1
12	1-5417549-2
13	1-5417549-3
14	1-5417549-4
15	1-5417549-5
16	1-5417549-6
17	1-5417549-7
18	1-5417549-8
19	1-5417549-9
20	2-5417549-0
25	2-5417549-5

Note: Attenuation Tolerance, Ambient
 Ø 5 dB: ± .15 x nominal
 attenuation value
 < 5 dB: ± 0.75 dB
 Reflectance ≤ -55 dB

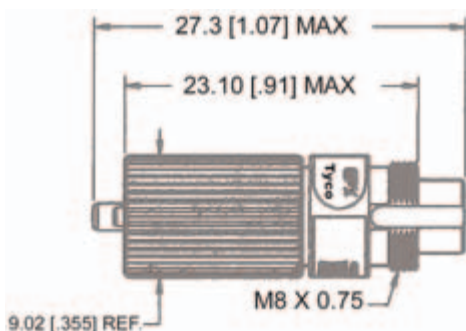
**Broadband Bandpass Attenuators
Operating Wavelength
1260-1360nm & 1430-1625nm**

Attenuation (dB)	Part Number
0	9-5417399-9
1	5417399-1
2	5417399-2
3	5417399-3
4	5417399-4
5	5417399-5
6	5417399-6
7	5417399-7
8	5417399-8
9	5417399-9
10	1-5417399-0
11	1-5417399-1
12	1-5417399-2
13	1-5417399-3
14	1-5417399-4
15	1-5417399-5
16	1-5417399-6
17	1-5417399-7
18	1-5417399-8
19	1-5417399-9
20	2-5417399-0
25	2-5417399-5

Note: Attenuation Tolerance, Ambient
 Ø 5 dB: ± .10 x nominal
 attenuation value
 < 5 dB: ± 0.50 dB
 0 dB: 0.50 dB max.
 Reflectance ≤ -55 dB

**Singlemode
D4 Attenuators, Build Out
Style, Fixed Value**

D4/PC



Note: Additional attenuation values
 available upon request.

Dual Window Attenuators

**Operating Wavelength
1310/1550nm ±25nm**

Attenuation (dB)	Part Number
5	5209570-5
10	1-5209570-0
15	1-5209570-5
20	2-5209570-0

Note: Attenuation Tolerance, Ambient
 Ø 5 dB: ± .15 x nominal
 attenuation value
 < 5 dB: ± 0.75 dB
 Reflectance ≤ -45 dB

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.