PLANAR LIGHTWAVE CIRCUITS

High Grade PLC Based Planar Waveguide Optical Signal Splitters

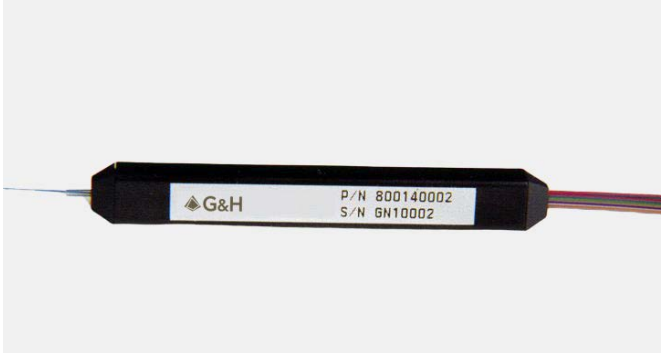
PRODUCT DATASHEET

The EM4 high reliability, high grade and superior performance planar lightwave circuits (PLC) based planar waveguide optical signal splitters are the component of choice to combine or split optical power in optical fiber networks and systems.

They are designed to meet the technical requirements of a broad range of applications at a competitive price/performance ratio.

EM4 manufactures PLC components fully in-house in a clean room environment, through an ion exchange-based process providing superior dependability and great performance. Our high quality planar splitters/couplers offer low insertion loss, ultra-low polarization dependent loss (PDL) and excellent uniformity.

These high quality single mode optical components available in various port configurations such as 1×4, 1x6, 1x8, 1x16, 1x32, 1x64, 2x4, 2x8, 2x16 and 2x32 operating at dual bandpass 1260-1360 nm/ 1480-1580 nm with 100 nm bandwidth at each bandpass.



Key Features

- Very low optical insertion loss
- Superior optical uniformity
- Low optical back reflection
- Ultra-low polarization dependent loss (PDL)
- Highly reliable and compact packaging
- Extended bandwidth up to 1650 nm (E-band included)
- State-of-the-art ISO 9001 certified manufacturing facility

Applications

- PON – FTTx Networks
- Outside plant equipment
- OADM and ROADM
- CATV
- DWDM and CWDM systems
- Sensors
- Instrumentation
- Defense

Optical Specifications

1xN (1x4, 1x6, 1x8, 1x16, 1x32 and 1x64) Planar Waveguide Splitters

Operating Band Pass: 1260-1360 nm/1480-1580 nm

1xN Specification									
A-grade									
Optical data	1x4	1x6	1x8	1x10	1x12	1x16	1x24	1x32	1x64
Wavelength	1260–1360 nm/ 1480–1580 nm								
Maximum insertion loss[1,2]	7.3 dB	9.1 dB	10.5 dB	11.6 dB	12.4 dB	13.8 dB	15.5 dB	17.1 dB	20.5 dB
Uniformity[1,2]	0.5 dB	0.7 dB	0.8 dB	0.9 dB	1 dB	1 dB	1.2 dB	1.3 dB	2 dB
S-grade									
Optical data	1x4	1x6	1x8	1x10	1x12	1x16	1x24	1x32	1x64
Wavelength	1260–1360 nm / 1480–1580 nm								
Maximum insertion loss[1,2]	7.5 dB	9.4 dB	10.9 dB	11.9 dB	12.9 dB	14 dB	15.9 dB	17.5 dB	21 dB
Uniformity[1,2]	0.6 dB	0.8 dB	1 dB	1 dB	1.1 dB	1.1 dB	1.5 dB	1.5 dB	2.5 dB
U-grade									
Optical data	1x4	1x6	1x8	1x10	1x12	1x16	1x24	1x32	1x64
Wavelength	1260–1360 nm / 1480–1580 nm								
Maximum insertion loss[1,2]	8 dB	9.8 dB	11.4 dB	12.4 dB	13.4 dB	14.5 dB	16.4 dB	18.5 dB	22 dB
Uniformity[1,2]	0.8 dB	1 dB	1.2 dB	1.2 dB	1.4 dB	1.4 dB	1.7 dB	1.7 dB	3 dB
PDL[2]	<0.2 dB								
Return loss[2]	>55 dB								
Directivity[2]	>55 dB								
Fiber type	SMF								
Storage/operating temperature[3]	-40°C to +85°C								
Packing dimensions	67x7.5x5.6 mm 70x10x5.6 mm 70x13x5.6 mm					70x13x5.6 mm			

1 Data valid under any combination of polarization, environmental and mechanical conditions.

2 Without connectors.

3 900 µm tubing pigtailing option as an operation temperature range from -25°C to +70°C.

2xN (1x4, 1x6, 1x8, 1x16, 1x32 and 1x64) Planar Waveguide Splitters

Operating Band Pass: 1260-1360 nm/1480-1580 nm

2xN Specification				
A-grade				
Optical data	2x4	2x8	2x16	2x32
Wavelength	1260–1360 nm / 1480–1580 nm			
Maximum insertion loss[1,2]	7.6 dB	11 dB	14.6 dB	17.8 dB
Uniformity[1,2]	1.4 dB	1.6 dB	2.4 dB	3 dB
S-grade				
Optical data	2x4	2x8	2x16	2x32
Wavelength	1260–1360 nm / 1480–1580 nm			
Maximum insertion loss[1,2]	7.8 dB	11.2 dB	14.8 dB	18 dB
Uniformity[1,2]	1.5 dB	1.8 dB	2.6 dB	3.3 dB
U-grade				
Optical data	2x4	2x8	2x16	2x32
Wavelength	1260–1360 nm / 1480–1580 nm			
Maximum insertion loss[1,2]	8.5 dB	11.9 dB	15.5 dB	19 dB
Uniformity[1,2]	1.9 dB	2.2 dB	3 dB	3.6 dB
PDL[2]	<0.2 dB			
Return loss[2]	>55 dB			
Directivity[2]	>55 dB			
Fiber type	SMF			
Storage/operating temperature[3]	-40°C to +85°C			
Packing dimensions	67x7.5x5.6 mm 70x10x5.6 mm 70x13x5.6 mm			70x13x5.6 mm

1 Data valid under any combination of polarization, environmental and mechanical conditions.

2 Without connectors

3 900 µm tubing pigtail option as an operation temperature range from -25°C to +70°C

Order code	①			②	③		④	⑤		⑥	⑦	⑧	⑨	⑩
8	1	-		3	2			-			-					

①	Grade	A	S	U
	Code	1	2	3

②③	Wavelength band	1260–1360/1480–1580 nm	Ultra-band : 1260–1650 nm
	Code	30	38

④⑤	Output ports (example)	04	08	16	24	32	64
	Code	04	08	16	24	32	64

⑥	Input ports	1	2
	Code	1	2

⑦	Package style[1]	67x7.5x5.6 mm	70x10x5.6 mm	70x13x5.6 mm
	Code	A	B	C

⑧	Jacket options[1]	250 µm Bare	250 µm Ribbon
	Code	A	B

⑨	Connector style	None	ST	FC	SC	LC	FC/APC	SC/APC
	Code	0	2	3	4	5	6	7

⑩	Lead length	1 m	1.5 m	2 m	2.5 m	3 m	Etc.
	Code	1	2	3	4	5	Etc.

1 Valid combination of package and jack options are AA, AB, BA and BB (preferred).

Specifications are based on non-connectorized products. For connectorized specifications, please contact sales for details. Custom optical and mechanical configurations are available upon request.

For further information

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