

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 1x4, 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.

Also available in 1x4 & 1x8 @1060 nm. Different mechanical packaging, jacket, and connector options available. Custom options(free-space, etc.) available.



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	70x10x5.6 mm								

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

2 Without connectors.

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

1550 NM PLANAR LIGHTWAVE CIRCUITS 1x4 AND 1x8 OPTICAL SPLITTERS, PRODUCT CODE 81

Datasheet ref: DS-7081 revision no. 2

As part of our policy of continuous product improvement, we reserve the right to change specifications at any time.

Page 2

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	70x10x5.6 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 style¹	67x7.5x5.6 mm		70x10x5.6 mm		70x13x5.6 mm	
	Code	A		B		C	

⑧	Jacket options¹	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.

Optical Specifications

1550 NM PLANAR LIGHTWAVE CIRCUITS 1×4 AND 1×8 OPTICAL SPLITTERS, PRODUCT CODE 81

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1060 nm planar lightwave circuits 1x4 and 1x8 optical splitters

1x4 and 1x8 Specification

U-grade		
Port configuration	1x4	1x8
Wavelength	1060±10 nm	
Maximum insertion loss ^{1,2}	8.5 dB	11.9 dB
Uniformity ^{1,2}	0.8 dB	1.2 dB
Polarization-dependent loss ²	<0.2 dB	
Return loss ²	>55 dB	
Directivity	>55 dB	
Fiber type	Corning HI1060	
Storage/operating temperature	0 to +70°C	
Packing dimensions	70x10x5.6 mm	

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

2 Without connectors.

Order Code

										①	②				③	④	⑤
8	1	-	3	2	7	0	6	-			-	1	B				
①②	Output ports						4					8					
	Code						04					08					
③	Jacket		250 µm Bare														
	Code		A														
④	Connector style		None	ST	FC	SC	LC	FC/APC	SC/APC								
	Code		0	1	2	3	4	5	6								
⑤	Lead length		Non-standard				0.5 m			1 m							
	Code		0				1			2							

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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