Merocom Solutions

SPLITTERS

Datasheet

MEROCOM SOLUTIONS ● JOHANEL.REYNOSO@MEROCOMSOLUTIONS.COM

CONTENTS

1 Overview

PLC (Planar Lightwave Circuit) stands for Planar Lightwave Circuit splitters are used to distribute or combine optical signals. It is based on planar light wave circuit technology and provides a low-cost light distribution solution with small form factor and high reliability.

PLC Splitters are installed in each optical network between the PON Optical Line Terminal (OLT) and the Optical Network Terminals (ONTs) that the OLT serves. Networks implementing BPON, GPON, EPON, 10G EPON, and 10G GPON technologies all use these simple optical splitters. In place of an optical splitter, a WDM PONnetwork will use an Arrayed WaveGuide (AWG).

Passive Optical Network (PON) splitters play an important role in Fiber to the Home (FTTH) networks by allowing a single PON network interface to be shared among many subscribers. Splitters contain no electronics and use no power. They are the network elements that put the passive in Passive Optical

Network and are available in a variety of split ratios, including splitting ratio from 1(2) * 2, to 1(2) * 64, highly stable across temperature and wavelength providing low insertion loss, low input polarization sensitivity, e*cellent uniformity, and low return loss.

Available in Small Form Factor (Nickel Copper Alloy Encapsulated Case) (Blockless) (with and without connectors) , Module (ABS Box) and Cassette-Box (Slot-In) type. Also comes in various fan-out configurations, tight fiber to 3mm jacket, to with pre-terminated fiber optic connectors (SC/FC/ST/LC with APC/UPC).

2 Performance

2.1 Small Form Factor

SFF1						
Input Port	1 or 2					
Output Port	1:2	1 :4	1: 8	1 :16	1:32	1:64
Connector Type	SC/FC/ST/LC with APC/UPC					
Dimension (mm)	50 * 4 * 4	50/60*7*4	50/60*7*4	60 * 12 * 4	80 * 20 * 6	100 * 40 * 6
Housing Material	Nickel Copper Alloy					
Input cable	1.9mmø*1meters Blue LSZH					
Output Cable	1.9mmø*1meters White LSZH					
Fiber Type	G657A2 or Customer Specified					
Working Wavelength (nm)	1260~1650					
Insertion Loss (dB)	≤4.0	≤7.4	≤10.5	≤13.5	≤16.5	≤20.5
Polarization Loss (dB)	≤0.2	≤0.2	≤0.2	≤0.25	≤0.3	≤0.35
Return Loss (dB)	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50
Loss Uniformity (dB)	≤0.4	≤0.6	≤0.8	≤1.2	≤1.5	≤2
Directivity (dB)	≤55	≤55	≤55	≤55	≤55	≤55
Wavelength Dependent Loss(dB)	≤0.5	≤0.5	≤0.5	≤0.8	≤0.8	≤0.8
Temperature Stability (-40~85℃) (dB)	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3
Operating Temperature (℃)	-40~85					
Storage Temperature (℃)	-40~85					

[1] SFF=Small Form Factor

2.2 Small Form Factor without connector

SFF without connector						
Input Port	1 or 2					
Output Port	1:2	1 :4	1: 8	1 :16	1:32	1:64
Connector Type	N/A					
Dimension (mm)	40 * 4 * 4	40 * 4 * 4	40 * 4 * 4	50 * 4 * 4	50 * 7 * 4	60 * 12 * 4
Housing Material	Nickel Copper Alloy					
Input cable	0.9mm*2.5meters Blue LSZH					
Output Cable	0.9mm*2.5meters White LSZH					
Fiber Type	G657A2					
Working Wavelength (nm)	1260~1650					
Insertion Loss (dB)	≤3.8	≤7.2	≤10.3	≤13.3	≤16.3	≤20.3
Polarization Loss (dB)	≤0.2	≤0.2	≤0.2	≤0.25	≤0.3	≤0.35
Return Loss (dB)	≥ 55	≥ 55	≥ 55	≥ 55	≥ 55	≥ 55
Loss Uniformity (dB)	≤0.4	≤0.6	≤0.8	≤1.2	≤1.5	≤2
Directivity (dB)	≤55	≤55	≤55	≤55	≤55	≤55
Wavelength Dependent Loss(dB)	≤0.5	≤0.5	≤0.5	≤0.8	≤0.8	≤0.8
Temperature Stability (-40~85℃) (dB)	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3
Operating Temperature (℃)	-40~85					
Storage Temperature (℃)	-40~85					

2.3 Module

Module2						
Input Port	1 or 2					
Output Port	1:2	1 :4	1: 8	1 :16	1:32	1:64
Connector Type	SC/FC/ST/LC with APC/UPC					
Dimension (mm)	100*80*10	100*80*10	100*45*10	100*45*10	120*80*18	140*114*18
Housing Material	ABS Black					
Input cable	1.8mm*2.5meters Yellow LSZH					
Output Cable	1.8mm* 2.5meters Yellow LSZH					
Fiber Type	G657A2					
Working Wavelength (nm)	1260~1650					
Insertion Loss (dB)	≤4.0	≤7.4	≤11	≤14	≤16.5	≤20.5
Polarization Loss (dB)	≤0.2	≤0.2	≤0.1	≤0.2	≤0.3	≤0.35
Return Loss (dB)	≥ 50	≥ 50	≥ 55	≥ 55	≥ 50	≥ 50
Loss Uniformity (dB)	≤0.4	≤0.6	≤0.8	≤1.0	≤1.5	≤2
Directivity (dB)	≤55	≤55	≥ 55	≥ 55	≤55	≤55
Wavelength Dependent Loss(dB)	≤0.5	≤0.5	≤0.3	≤0.3	≤0.8	≤0.8
Temperature Stability (-40~85℃) (dB)	≤0.3	≤0.3	≤0.5	≤0.5	≤0.3	≤0.3
Operating Temperature (℃)	-40~85					
Storage Temperature (℃)	-40~85					

2.4 Cassette-Box

[2] The splitters 1:8 and 1:16 can also be pre-installed into multi-operator box

Cassette-Box						
Input Port	1 or 2					
Output Port	1:2	1 :4	1: 8	1 :16	1:32	1:64
Connector Type	SC/FC/ST/LC with APC/UPC					
Dimension (mm)	130*100*25	130*100*25	130*100*25	130*100*50	130*100*102	130*100*206
Housing Material	PC+ABS (Light Grey)					
Input cable	-					
Output connector	-					
Fiber Type	G657A2 0.9mmø Loos Tube					
Working Wavelength (nm)	1260~1650					
Insertion Loss (dB)	≤4.0	≤7.4	≤10.5	≤13.5	≤16.5	≤20.5
Polarization Loss (dB)	≤0.2	≤0.2	≤0.2	≤0.25	≤0.3	≤0.35
Return Loss (dB)	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50
Loss Uniformity (dB)	≤0.4	≤0.6	≤0.8	≤1.2	≤1.5	≤2
Directivity (dB)	≤55	≤55	≤55	≤55	≤55	≤55
Wavelength Dependent Loss(dB)	≤0.5	≤0.5	≤0.5	≤0.8	≤0.8	≤0.8
Temperature Stability (-40~85℃) (dB)	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3
Operating Temperature (℃)	-40~85					
Storage Temperature (℃)	-40~85					

3 Ordering Information

Code[3]	Description
FTTXSPS003-1-1	Splitter Óptico PLC 1:2 SFF Sin conector
FTTXSPS003-1-2	Splitter Óptico PLC 1:4 SFF Sin conector
FTTXSPS003-1-3	Splitter Óptico PLC 1:8 SFF Sin conector
FTTXSPS003-1-4	Splitter Óptico PLC 1:16 SFF Sin conector
FTTXSPS003-1-5	Splitter Óptico PLC 1:32 SFF Sin conector
FTTXSPS003-1-6	Splitter Óptico PLC 1:64 SFF Sin conector
FTTXSPC003-2-1	Splitter Óptico PLC 1:2 SFF conector SC/APC
FTTXSPC003-2-2	Splitter Óptico PLC 1:4 SFF conector SC/APC
FTTXSPC003-2-3	Splitter Óptico PLC 1:8 SFF conector SC/APC
FTTXSPC003-2-4	Splitter Óptico PLC 1:16 SFF conector SC/APC
FTTXSPC003-2-5	Splitter Óptico PLC 1:32 SFF conector SC/APC
FTTXSPC003-2-6	Splitter Óptico PLC 1:64 SFF conector SC/APC
FTTXSPM003-3-1	Splitter Óptico Module PLC 1:2 conector SC/APC-SC/APC
FTTXSPM003-3-2	Splitter Óptico Module PLC 1:4 conector SC/APC-SC/APC
FTTXSPM003-3-3	Splitter Óptico Module PLC 1:8 conector SC/APC-SC/APC
FTTXSPM003-3-4	Splitter Óptico Module PLC 1:16 conector SC/APC-SC/APC
FTTXSPM003-3-5	Splitter Óptico Module PLC 1:32 conector SC/APC-SC/APC
FTTXSPM003-3-6	Splitter Óptico Module PLC 1:16 conector SC/APC-SC/APC
FTTXSPC003-4-1	Splitter Óptico Cassette-Box PLC 1:2 conector SC/APC
FTTXSPC003-4-2	Splitter Óptico Cassette-Box PLC 1:4 conector SC/APC
FTTXSPC003-4-3	Splitter Óptico Cassette-Box PLC 1:8 conector SC/APC
FTTXSPC003-4-4	Splitter Óptico Cassette-Box PLC 1:16 conector SC/APC
FTTXSPC003-4-5	Splitter Óptico Cassette-Box PLC 1:32 conector SC/APC
FTTXSPC003-4-6	Splitter Óptico Cassette-Box PLC 1:64 conector SC/APC

[3] Those reference are for 1 fiber and APC connector. Ask for 2 fiber and other connectors reference