



DATA SHEET

Preliminary

O K I O P T I C A L C O M P O N E N T S

OL3902W Planer Lightwave Circuit Module

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Oki Semiconductor

DESCRIPTION

Oki Semiconductor's OL3902W bidirectional PLC module is a high reliability hybrid-integrated Planer Lightwave Circuit Module using a plastic package. The OL3902W is designed for 1.3 μm and 1.5 μm bidirectional transmission. The PLC module consists of a spot-size converted laser diode (SSC-LD), a photo diode (PD), a monitor PD, a preamplifier, a fiber pigtail, and a PLC platform that is a silicon terrace on which the active optical devices are assembled.

FEATURES

- Hybrid-integrated planer lightwave circuit
 - spot-size converted laser diode (SSC-LD)
 - photo diode
 - monitor photo diode
 - preamplifier
 - fiber pigtail
 - PLC platform
- 1.3- μm and 1.5- μm bidirectional transmission
- Plastic package

APPLICATION

- Optical systems
- Bidirectional transmission

ABSOLUTE MAXIMUM RATINGS

Absolute Maximum Ratings

Parameter	Ratings	Unit
Operating Temperature (Ta)	-20 to 70	°C
Storage Temperature	-40 to 85	°C
Lead Soldering Temperature (10 sec)	260	°C

ELECTRICAL CHARACTERISTICS

ONU Transmitter: 155 Mbit/sec upstream direction

ONU Receiver: 155 Mbit/sec downstream direction

(Ta= -20 to 70°C, unless otherwise specified)

Electrical Characteristics

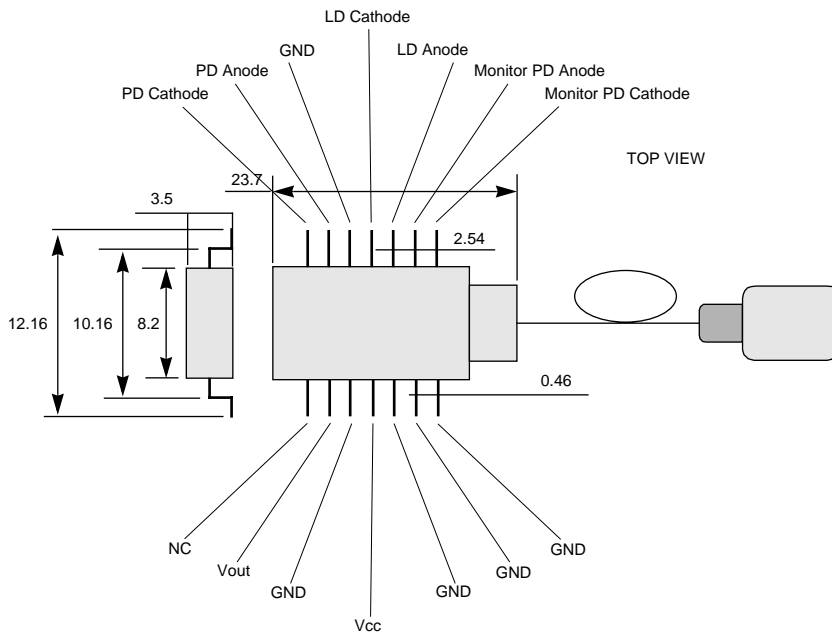
Parameter		Conditions	Min	Typ	Max	Unit
Transmitter	Bit rate			155.52		Mbps
	Fiber Output Power	Pf CW	-2		4	dBm
	Threshold Current	Ith	-		34	mA
	Center Wavelength	λ_c Pf = 3 dBm, RMS	1270		1350	nm
	Spectral Width	DI Pf = 3 dBm, RMS (σ)			5.8	nm
	LD Forward Voltage	Vop Pf = 3 dBm			1.45	V
	LD Forward Current	Iop Pf = 3 dBm			80	mA
	Rise and Fall times	tr, tf Pf = 3 dBm			1	ns
	Monitor Current	Im P = 3 dBm	100		400	μ A
	Monitor Dark Current	Id Pf = 3 dBm, Ta = 25°C			15	nA
Tracking Error	Er Im = const. @ Pf = 3 dBm (25°C)	-1		1	dB	
Receiver	Power Supply Voltage	Vcc -	3.0	3.3	3.6	V
	Responsivity	Re Pin = -21 dBm, Vcc = 3.3 V	34	40		kV / W
	Output Bias Voltage	Vb Pin = 0 mW, Vcc = 3.3 \pm 0.01 V, Tc = 25°C,	2.3	2.35	2.4	V
	Transimpedance	Zt -		96		Ω
	Rise and Fall times	tr, tf 10% - 90%		1	2	ns
Return Loss	RI λ = 1480 to 1580 nm	20			dB	

Connector and Fiber Specifications

Connector	FC-PC, SC-PC, MUJ-PC, etc.
Fiber	1.31 μm Single Mode Fiber Code Diameter : 0.9 mm Color : Yellow Bending Radius : 20 mm (min) Heat-resistant Length : Options

PACKAGE DIMENSIONS

(Units: mm)





NOTES

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