



DATA SHEET

Preliminary

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

OL3901W

Planer Lightwave Circuit Module

February 2001

Oki Semiconductor

DESCRIPTION

Oki Semiconductor's OL3901W is a 1.3- μ m bidirectional transmission PLC (Planer Lightwave Circuit) module. The OL3901W is a pigtail type, high reliability hybrid-integrated PLC Module using a plastic package. 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

- Integrated PLC module
 - spot-size converted laser diode (SSC-LD)
 - photo diode
 - monitor photo diode
 - preamplifier
 - fiber pigtail
 - PLC platform
- Pigtail type high reliability hybrid-integrated PLC module

APPLICATION

- Optical networks
- Bidirectional transmission

ABSOLUTE MAXIMUM RATINGS

Absolute Maximum Ratings

Parameter	Ratings	Unit
Operating Temperature (Ta)	-40 to 85	°C
Storage Temperature	-40 to 85	°C
Lead Soldering Temperature (30 sec)	230	°C

ELECTRICAL CHARACTERISTICS

(Condition: Ta= -40 to 85°C, unless otherwise specified)

Electrical Characteristics

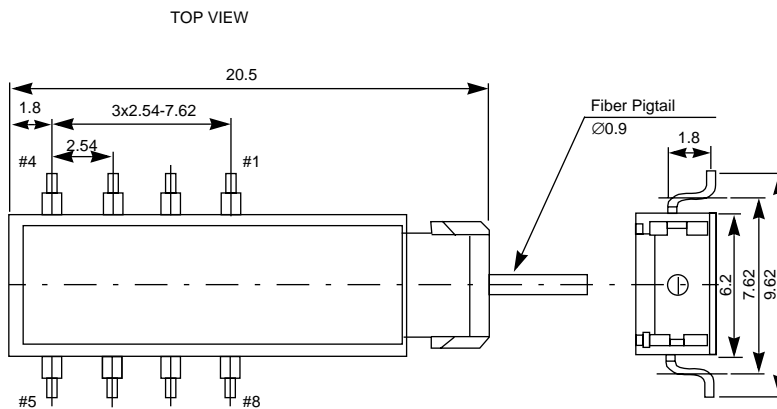
Parameter			Conditions	Min	Typ	Max	Unit
Transmitter	Fiber Output Power	Pf	CW	1			dBm
	Threshold Current	Ith	-			20	mA
	Center Wavelength	λ_c	Pf = 1 dBm, RMS Ta = -20 to 75°C	1270		1360	nm
	Spectral Width	$\Delta\lambda$	Pf = 1 dBm, RMS (σ)		3	7.7	nm
	LD Forward Voltage	Vop	Pf = 1 dBm			1.5	V
	LD Forward Current	Iop	Pf = 1 dBm			35	mA
	Rise and Fall times	tr, tf	Pf = 1 dBm			1	ns
	Monitor Current	Im	Pf = 1 dBm		100		μA
	Monitor Dark Current	Id	Vr = 1.6 V, Tc = 25 °C			200	nA
	Tracking Error	Er	Im = const. @ Pf = 1 dBm (25°C)	-1.0		1.0	dB
Receiver	Power Supply Voltage	Vcc	-	3.0	3.3	3.6	V
	Power Supply Current	Icc	Vcc = 3.3 V		5.0	6.0	mA
	Responsivity	Re	Pin = -21 dBm, Vcc = 3.3 V	9			kV / W
	Output Bias Voltage	Vb	Pin = 0 W, Vcc = 3.3+/- 0.01 V, Ta = 25°C	1.66	1.69	1.72	V
	Transimpedance	Zt	-		92		Ω
	Rise and Fall times	tr, tf	Pin = -21 dBm		8	10	ns
			Pin = -14 dBm		8	10	ns

Connector and Fiber Specifications

Connector	SC-PC
Fiber	1.31- μ m Single Mode Fiber Code Diameter : 0.9 mm Color : TBD Bending Radius : 20 mm (min) Heat-resistant Length : 800 mm

PACKAGE DIMENSIONS

(Units: mm)



Pin Configuration

Pin No.	Description	Pin No.	Description
01	LD Cathode / Com	05	Monitor PD Cathode
02	Vcc	06	Monitor PD Anode
03	GND	07	LD Anode
04	Vout	08	LD Cathode



NOTES

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