

InGaAs PINTIA Photodiode Module With LC ROSA

Data Sheet

OPX1455-LRO

Features

- Hermetically sealed
- Data Rates: up to 2.5 Gbps
- High Sensitivity: -22 dBm
- LC ROSA with TO-46
- Spectral Response Range: 1270nm to 1625nm
- Single Power Supply: +3.3 V to +5.0 V
- Operating Temperature: -40° - +85° C

Applications

- Telecom and datacom networking systems
- Optical transmission systems: SONET OC-3/ STM-1, OC-12/ STM-4, OC-24/ STM-8, OC-48/ STM-16
- Gigabit Ethernet

Description

The OPX1455-LRO is a hermetically sealed InGaAs PINTIA photodiode module in a small TO-46 package with LC ROSA.

The photodiode is designed for use in data communications systems and telecommunications systems over singlemode fiber, and can operate in temperatures of -40° C to +85° C. The photodiode module is designed for data transmission of up to 2.5 Gbps between spectral bandwidths of 1270 to 1625 nm.

Safety

Device contains gallium arsenide (GaAs) which can be hazardous to your health. Please embrace all customary precautions and discretion while handling this device. Observe governmental laws and regulations when discarding this device.

Performance Specifications

Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause damage to the optical device. Operations of the optical device are suggested to remain within the recommended operating conditions. Exposure to the absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Value	Unit
Storage Temperature	T_{stg}	-40 to +85	°C
Operating Case Temperature	T_{op}	-40 to +85	°C
Peak Optical Power	P_O	0	dBm
Power Supply Voltage	V_P	5.0	V
Soldering Temperature	S_{temp}	260	°C
Soldering Time	S_{time}	10	sec

Electrical and Optical Characteristics ($T_C=25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage	V_{CC}		3.0	3.3	5.5	V
Supply Current	I_{CC}	$P_{IN} = 0\mu\text{W}$, $R_L = 50\Omega$		34	45	mA
Output Voltage (differential)	V_{OUT}	$P_{IN} = 10\mu\text{W}$, $R_L = 50\Omega$		200		mV
Wavelength	λ		1270	1310	1625	nm
Upper -3dB Bandwidth	BW	$R_L = 50\Omega$		2		GHz
Responsivity	R	$\lambda = 1310\text{ nm}$, $R_L = 50\Omega$, $P_{IN} = 10\mu\text{W}$, AC Coupled		2200		V/W
Sensitivity	S	$\lambda = 1310\text{ nm}$, 2488.32 Mbps, $2^{23}-1$ PRBS, BER = 10^{-10}		-22	-20	dBm
Rise/Fall Time	T_R/T_F	$V_{CC} = 3.3\text{V}$, 20% - 80%		150	200	ps

