RAPD-M13P825G-3V

25Gbps LC Connectorized InGaAs APD with Pre-Amplifier and Flexible Circuit

Data Sheet

Description

The Lasermate RAPD-M13P825G-3V is a high-speed InGaAs Avalanche Photodiode (APD) receiver module with integrated pre-amplifier and flexible circuit. Packaged in a compact LC connectorized optical sub-module, it is designed for use in small form factor transceivers supporting data rates up to 25.78125Gbps. Operating from a single +3.3V supply, this APD solution provides high sensitivity, low noise, and reliable performance for next-generation optical communication systems.

Features

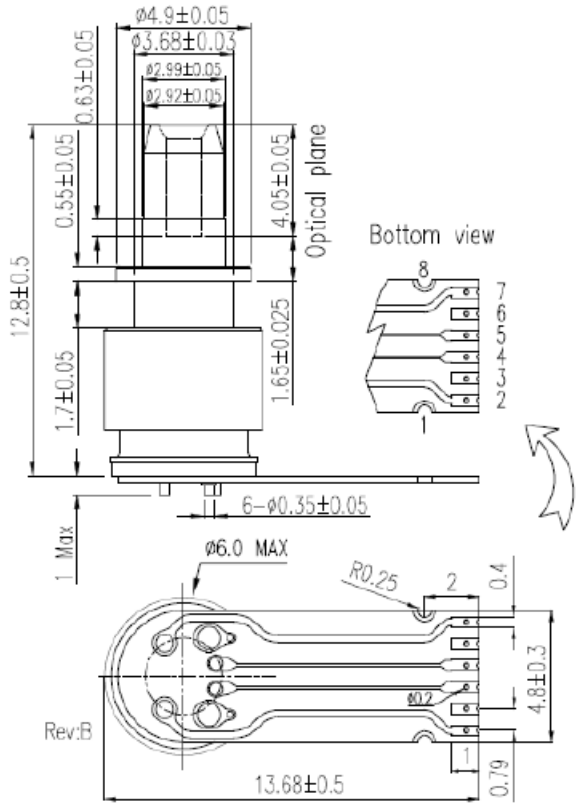
- Fiber stub LC-type optical sub-module with flexible circuit attached
- Integrated InGaAs APD with pre-amplifier
- Data rate support up to 25.78125Gbps
- Compact form factor for transceiver integration
- Single +3.3V power supply

Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage temperature	-40	100	°C	
Operating temperature	-40	85	°C	
Damage power	-3		dBm	
Lead solder temperature		260	°C	10 seconds
Flex attach temperature		370	°C	10 seconds

Electro-Optical Characteristics (T_A=25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Power supply	V_{CC}	3.0	3.3	3.5	V	
Supply current	I_{CC}		29	37	mA	No loads
APDTIA breakdown voltage	V_{BR}	20		37	V	I_d= 10uA
Operating voltage	V_{OP}		V_{BR} -3.5		V	
V_{BR} temperature coefficient	γ		0.02		V/°C	
Differential responsivity	R_d		30		mV/uW	λ=1310nm, R_{load}=100ohm, P=-20dBm
Small-signal bandwidth	BW		17		GHz	P=-20dBm
Low frequency cut off	LF		5	100	kHz	
Rise/Fall time (20%~80%)	tr/tf		18		ps	λ=1310nm, P=-20dBm
Saturation power	P_{sat}	-4			dBm	λ=1310nm, @25.78125Gbps, PRBS31, ER=5dB, BER=5E-5, Vop=(V_{BR}-3.5V)
Single ended output impedance	R_O		50		ohm	
Wavelength	λ	1260		1600	nm	
Optical return loss	ORL	27			dB	λ=1310nm
Sensitivity				-22	dBm	λ=1310nm, @25.78125Gbps, PRBS31, ER=5dB, BER=5E-5, Vop=(V_{BR}-3.5V)

Outline Dimensions (unit: mm)



Pin Configuration

Pin Number	Function
1	Gnd
2	Vcc
3	Gnd
4	Dout(+)
5	Dout(-)
6	Gnd
7	Vapd
8	Gnd

Note: Specifications are subject to change without notice.