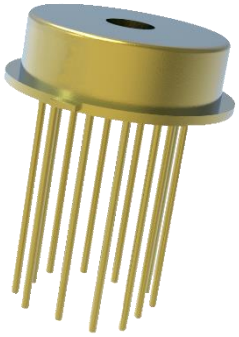
InGaAs APD Module

Model: OPR800-1064-50-Z

Features

- Sensitivity： ⩾140kV/W
- Bandwidth: 50Mhz
- Si APD: 400 to 1100nm
- Low noise
- High reliability
- TO8 package with flat window



Applications

- LIDAR
- Laser finding
- Free space optical communication

Absolute Maximum Ratings

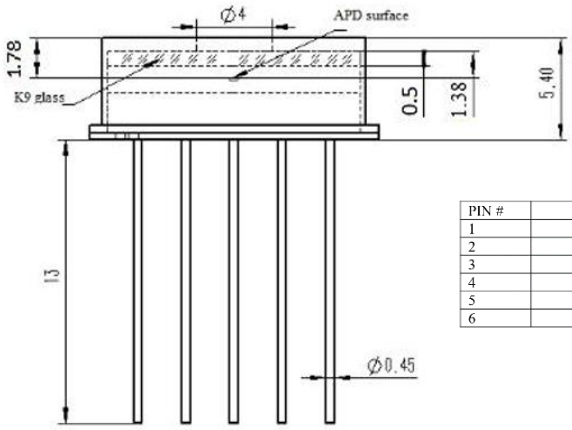
Parameter	Unit	Symbol	Rating
Reverse breakdown voltage	V	V_R	V_{BR}
Operating temperature	℃	T_C	-40~+85
Storage temperature	℃	T_{STG}	-55~+100
Maximumoptical input power	mW	P_{in}	10
Module mains voltage	V	V_{cc}/V_{EE}	±6
Power dissipation	mW	P_W	250
Soldering temperature(time)	℃	-	300 (10s)

Optical/Electrical Characterisitics (T=25℃, unless otherwise stated)

Parameter	Symbol	Value			Unit	Test conditions
		Min.	Typ.	Max.		
Response Spectrum	λ	400~1100			nm	
Active Diameter	D		800		μm	
Reverse breakdown voltage	V_{BR}	330		500	V	
Operating voltage	V_R	$0.95\times V_{BR}$			V	M=100
Responsivity	R_V	140			kV/W	M=100,1.064μm@τ=10ns
Dynamic range	DY	25			dB	M=100,1.064μm@τ=10ns
-3dB bandwidth	BW		50		Mhz	M=100,1.064μm@τ=10ns
Rise/Fall time	t_r		7		ns	M=100,1.064μm@τ=100ns

Noise Equivalent Power	NEP		110		fW/√Hz	M=100,f=100kHz to f_{3db},Δ =1hz
Output impedance	R_O		50		Ω	
Output Voltage Swing	V_O	0.7			V	
Positive Supply Current	I_{CC}			5	mA	
Negative Supply Current	I_{EE}			5	mA	50Ω Load
Temperature coefficient of Vop for constant gain	γ		2.4	3.0	V/℃	-45℃~+80℃
Concentricity	ΔD			40	μm	

Block Diagram and Pin description



Pin description

PIN #	DESC	PIN #	DESC
1	OUTPUT	7	NC
2	NC	8	TEMP SENS A
3	-5V	9	TEMP SENS B
4	HV, APD BIAS	10	GND
5	NC	11	NC
6	CASE	12	+5V