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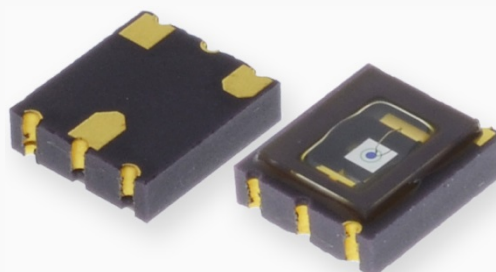TEL. +43 I 586 52 43 -0, FAX. -44   OFFICE@ROITHNER-LASER.COM

APD230-LCC

- Silicon Avalanche Photodiode
- 230 µm Active Area
- Fast Rise Time
- High Gain

Description

APD230-LCC is a silicon semiconductor avalanche photodiode with an active area of 230 µm. It features extremely fast rise time of 250 ps, high gain at low bias voltage, and low capacitance. **APD230-LCC** is typically used for **Laser Range Finding** and **LIDAR** applications.

Maximum Ratings

Parameter	Symbol	Values Min.	Values Max.	Unit
Supply Voltage	V_{PD}		$0.95 \times V_{BR}$	V
Forward Current	I_F		1	mA
Power Dissipation	P_E		1	mW
Storage Temperature	T_{STG}	- 55	+ 100	°C
Operating Temperature	T_{OP}	- 50	+ 85	°C

Characteristics (T_{CASE} = 25°C)

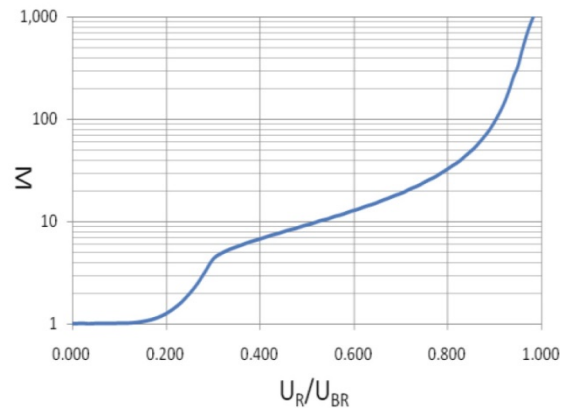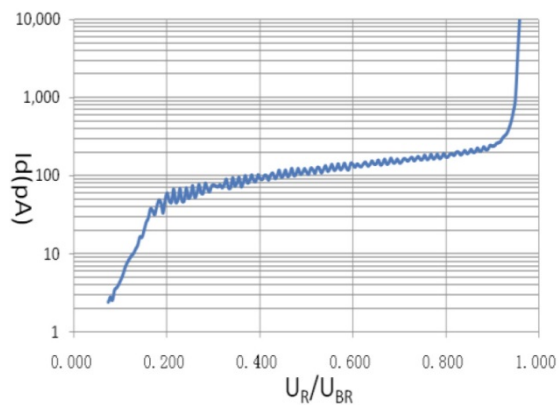| Parameter	Symbol	Values Min.	Values Typ.	Values Max.	Unit
Spectral response range	λ	400		1100	nm
Peak sensivity wavelength	λ_P		800		nm
Photosensitive area	$\varnothing$		230		µm
Photosensitivity (λ=800nm,Φ_e=1µW, M=100)	R_e	0.35	0.45		A/W
Response time (λ=800nm,f=1MHz,R_L=50Ω)	t_s		0.25	1	ns
Dark current (M=100)	I_D	0.05	0.2	2	nA
Cutoff frequency	f_C		1000		MHz
Terminal capacitance (M=100,f=1MHz)	C_t		1.5		pF
Optimum gain	M		50-60		
Breakdown voltage (I_R=10µA)	V_{BR}	80		180	V
Temp. coefficient of V_{BR} (T_{OP}=-40°C~85°C)	δ		0.4		V/°C

Performance Characteristics

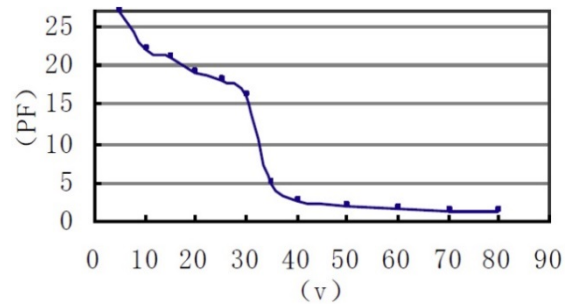## Responsivity vs. Wavelength (0V)

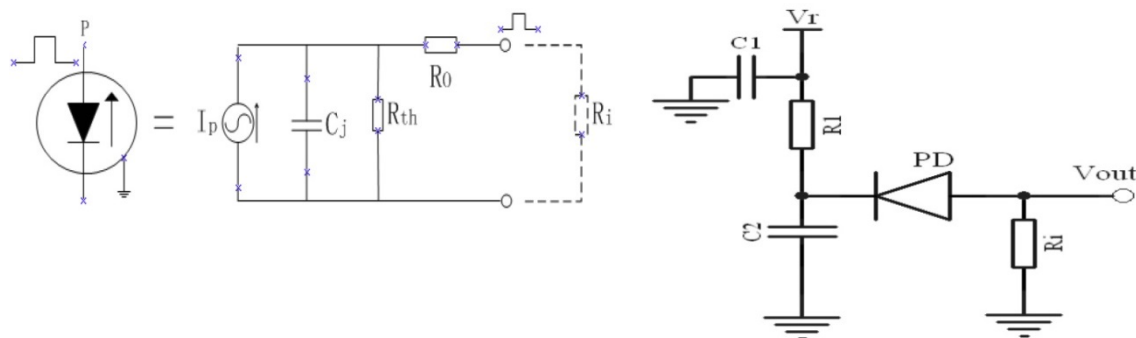## Gain vs. U_R/U_{BR}

Dark Current vs. U_R/U_{BR}

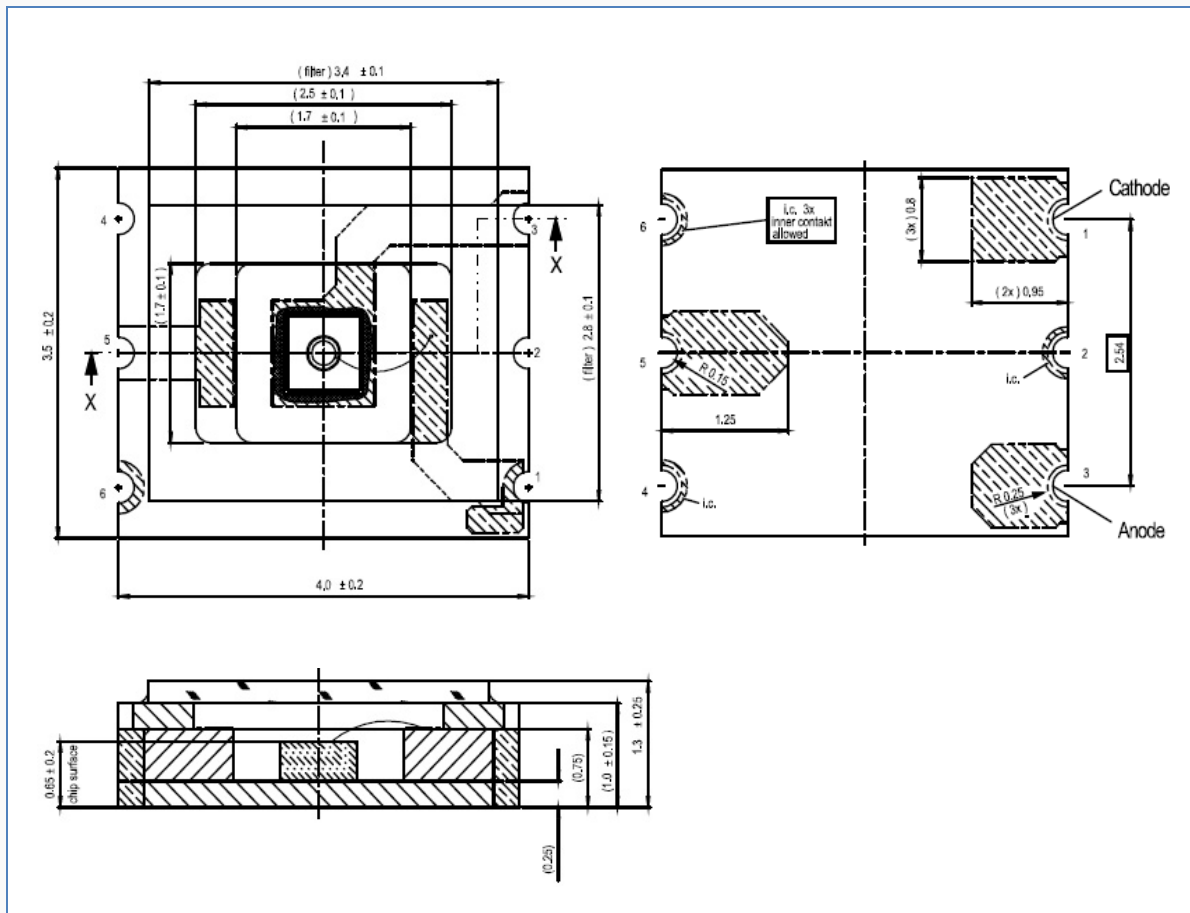## Capacitance vs. operating Voltage

Application Circuit

Drawing

All dimensions in mm

ESD Caution

Always do handle photodiodes with caution to prevent electrostatic discharge, the primary cause of unexpected semiconductor failure. ESD failures can be prevented by always wearing wrist straps, only using a grounded workplace, and following strict anti-static guidelines when handling the photodiode.