

KP-A Si Avalanche Photodiodes

KPDA050P-H8

Characteristics

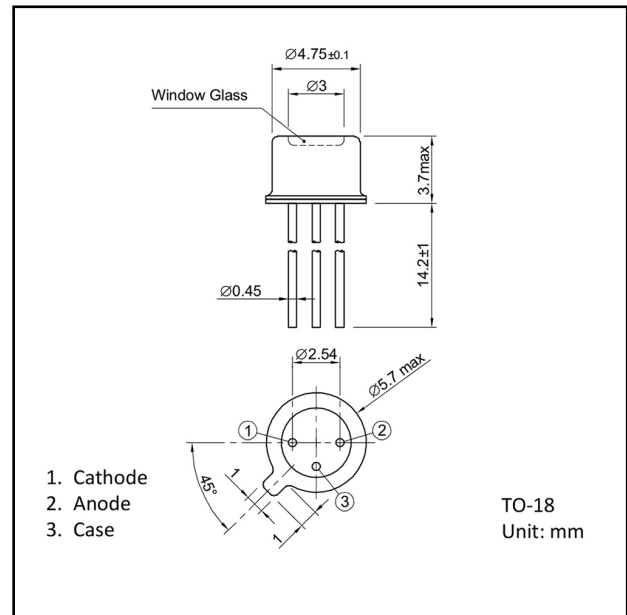
- 1.3GHz response with 0.2mm dia.
- 1.2GHz response with 0.5mm dia.
- 0.6GHz response with 1.0mm dia.
- High gain

Applications

- Short wavelength optical communications
- Optical measurement
- Optical sensors
- Weak light signal detection

Package

- TO-CAN



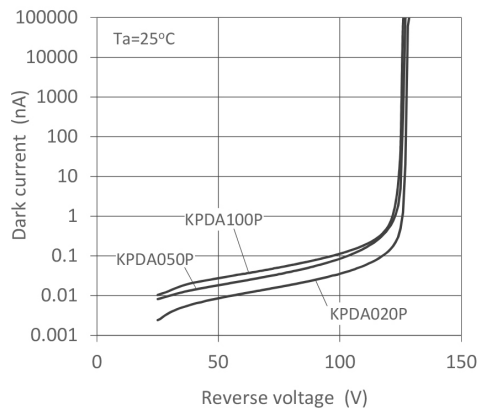
Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Conditions
Reverse Current	I_R	0.2	mA	-
Forward current	I_F	10	mA	-
Operating temperature	T_{opr}	-40 to +85		Avoid dew condensation
Storage temperature	T_{stg}	-40 to +125		Avoid dew condensation

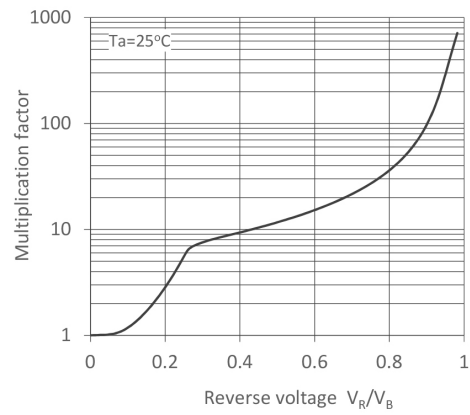
Electrical and Optical characteristics ($T_a=25$ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active area	D	-	0.5	-	mm	-
Sensitive wavelength		400	780(P)	1000	nm	-
Responsivity	R	0.4	0.45	-	A/W	M=1, $\lambda=850\text{nm}$
Dark current	I_D	-	20	500	pA	$V_R=50\text{V}$
Breakdown voltage	V_B	80	120	200	V	$I_R=100\ \mu\text{A}$
Temperature coefficient of V_B	V_B/T	-	0.55	-	V/	-
Terminal capacitance	C_t	-	1.7	3	pF	$V_R=0.9V_B$ f=1MHz
Cutoff frequency	f_c	-	1.2	-	GHz	M=100, $R_L=50$, $\lambda=850\text{nm}$

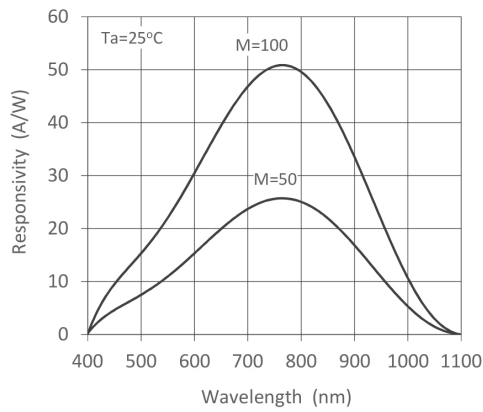
Dark Current - Reverse Voltage



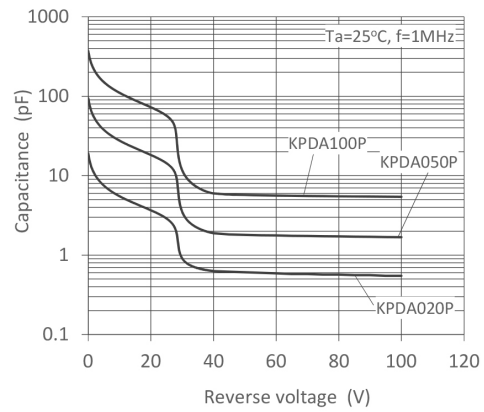
Multiplication Factor



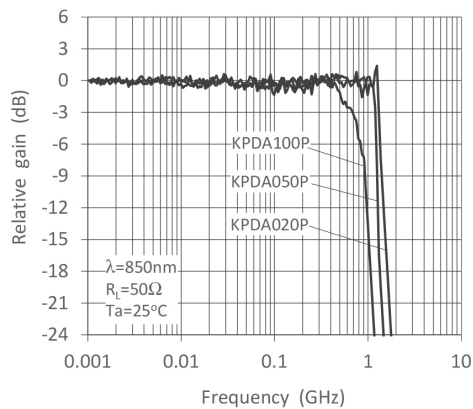
Spectral Responsivity



Capacitance - Reverse Voltage



Frequency Response



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