

## KP-A Si Avalanche Photodiodes

### KPDA020P-H8

#### Characteristics

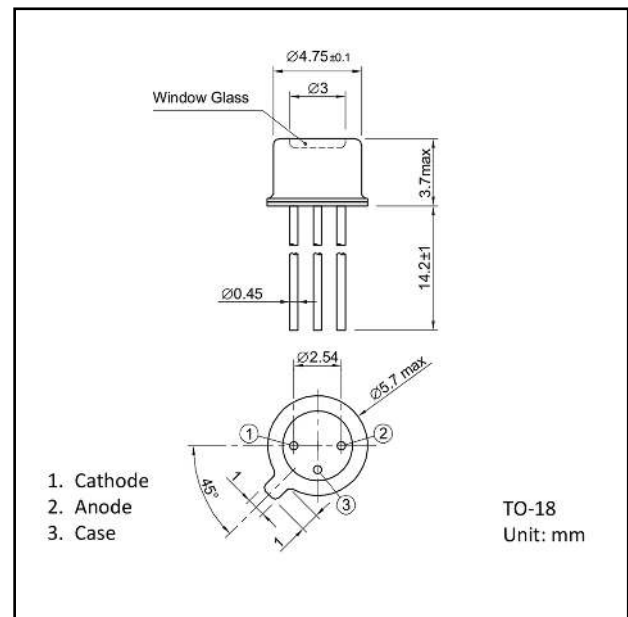
- 1.3GHz response with 0.2mm dia.
- 1.2GHz response with 0.5mm dia.
- 0.6GHz response with 1.0mm dia.
- High gain

#### Applications

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

#### Package

- TO-CAN



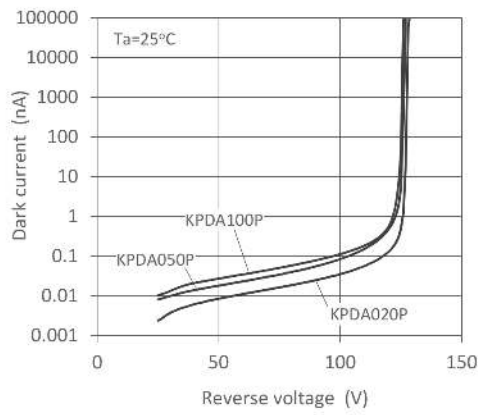
### Absolute Maximum Ratings

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	°C	Avoid dew condensation
Storage temperature	$T_{stg}$	-40 to +125	°C	Avoid dew condensation

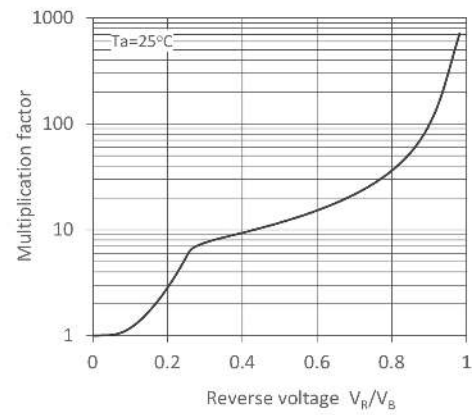
### Electrical and Optical characteristics (Ta=25°C unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active area	D	-	0.2	-	mm	-
Sensitive wavelength	$\lambda$	400	780( $\lambda_P$ )	1000	nm	-
Responsivity	R	0.4	0.45	-	A/W	M=1, $\lambda = 850\text{nm}$
Dark current	$I_D$	-	10	200	pA	$V_R = 50\text{V}$
Breakdown voltage	$V_B$	80	120	200	V	$I_R = 100\mu\text{A}$
Temperature coefficient of $V_B$	$\Delta V_B / \Delta T$	-	0.55	-	V/°C	-
Terminal capacitance	$C_t$	-	0.6	1.2	pF	$V_R = 0.9V_B$ , $f = 1\text{MHz}$
Cutoff frequency	$f_c$	-	1.3	-	GHz	M=100, $R_L = 50\Omega$ , $\lambda = 850\text{nm}$

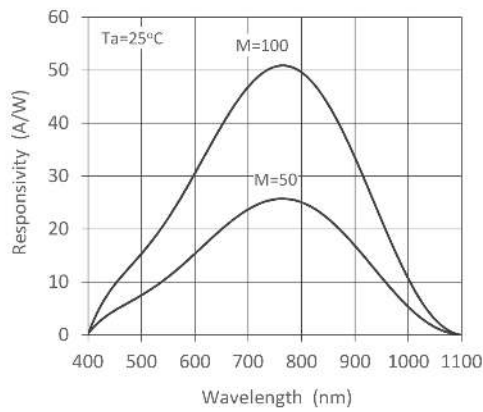
Dark Current - Reverse Voltage



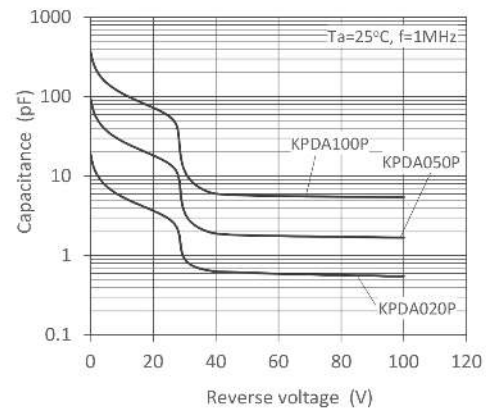
Multiplication Factor



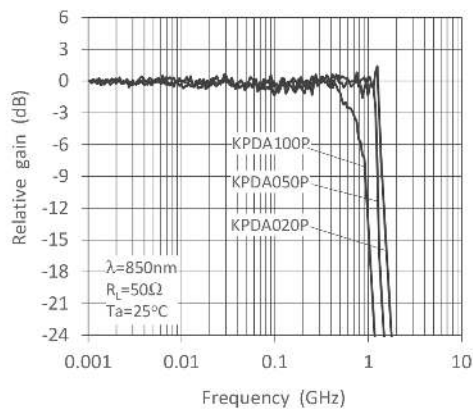
Spectral Responsivity



Capacitance - Reverse Voltage



Frequency Response



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