

InGaAs Photodiodes

KPDE086S-H8

Characteristics

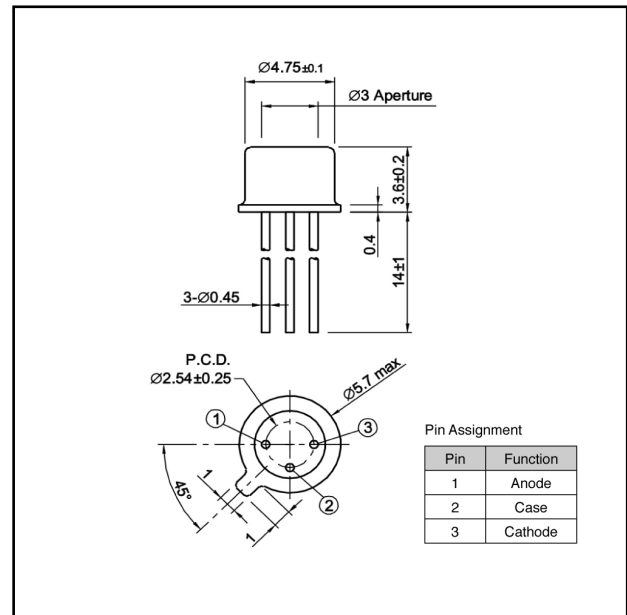
- 0.86mm sq. large sensitive area
- Low dark current
- Low voltage operation

Applications

- Near infrared sensors
- Laser diode and LED power monitors
- Near infrared spectroscopy
- Power meters

Package

- TO-CAN



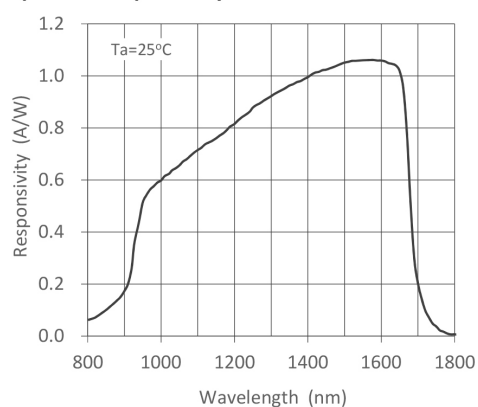
Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Conditions
Reverse voltage	V_R	20	V	-
Maximum optical power input	P_{imax}	50	mW	-
Forward current	I_F	50	mA	-
Operating temperature	T_{opr}	-40 to +85		Avoid dew condensation
Storage temperature	T_{stg}	-40 to +85		Avoid dew condensation

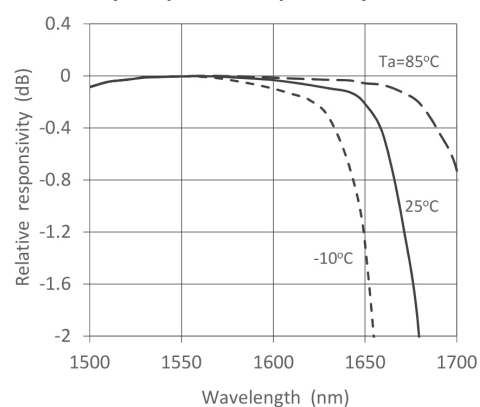
Electrical and Optical characteristics (Ta=25 unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active area	S	-	0.86 x 0.86	-	mm ²	-
Sensitive wavelength		900	-	1700	nm	-
Bandwidth	BW	-	30	-	MHz	$P_i = -10\text{dBm}$ $V_R = 5\text{V}$ small signal modulation
Responsivity	R	0.8 0.9	0.9 1.0	-	A/W	$V_R = 5\text{V}$ =1310nm $V_R = 5\text{V}$ =1550nm
Dark current	I_D	-	1	10	nA	$V_R = 5\text{V}$
Chip capacitance	C_{chip}	-	45	60	pF	$V_R = 5\text{V}$ f=1MHz
Total capacitance	C_t	-	45	60	pF	$V_R = 5\text{V}$ f=1MHz
Responsivity uniformity	R	-	-	0.5	dB	=1530-1610nm $T_{opr} = -10$ to +85

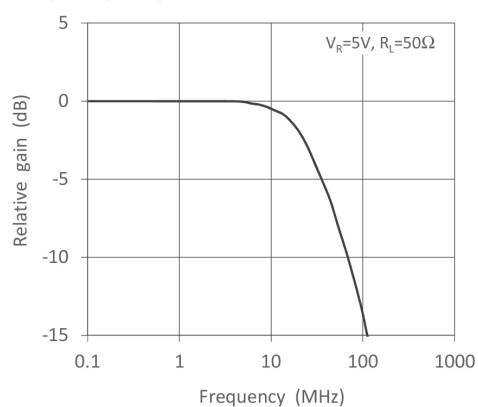
Spectral Responsivity



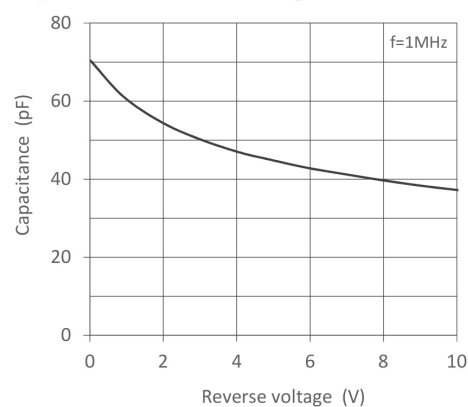
Uniformity of Spectral Responsivity



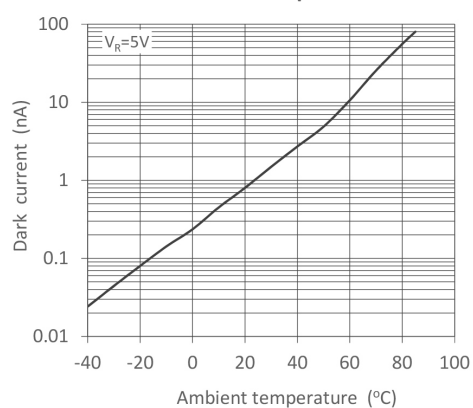
Frequency Response



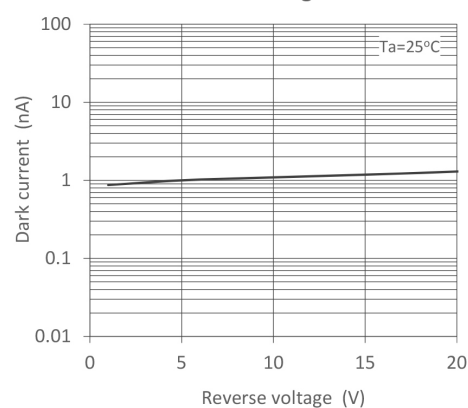
Capacitance - Reverse Voltage



Dark Current - Ambient Temperature



Dark Current - Reverse Voltage



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