

Silicon Dual Photodiode



Features:

- Especially suitable for applications from 400 nm to 1100 nm
- High photosensitivity
- Hermetically sealed metal package (similar to TO-5), suitable up to 125 °C
- Double diode with extremely high homogeneousness

Maximum Ratings ($T_A = 25\text{ °C}$)

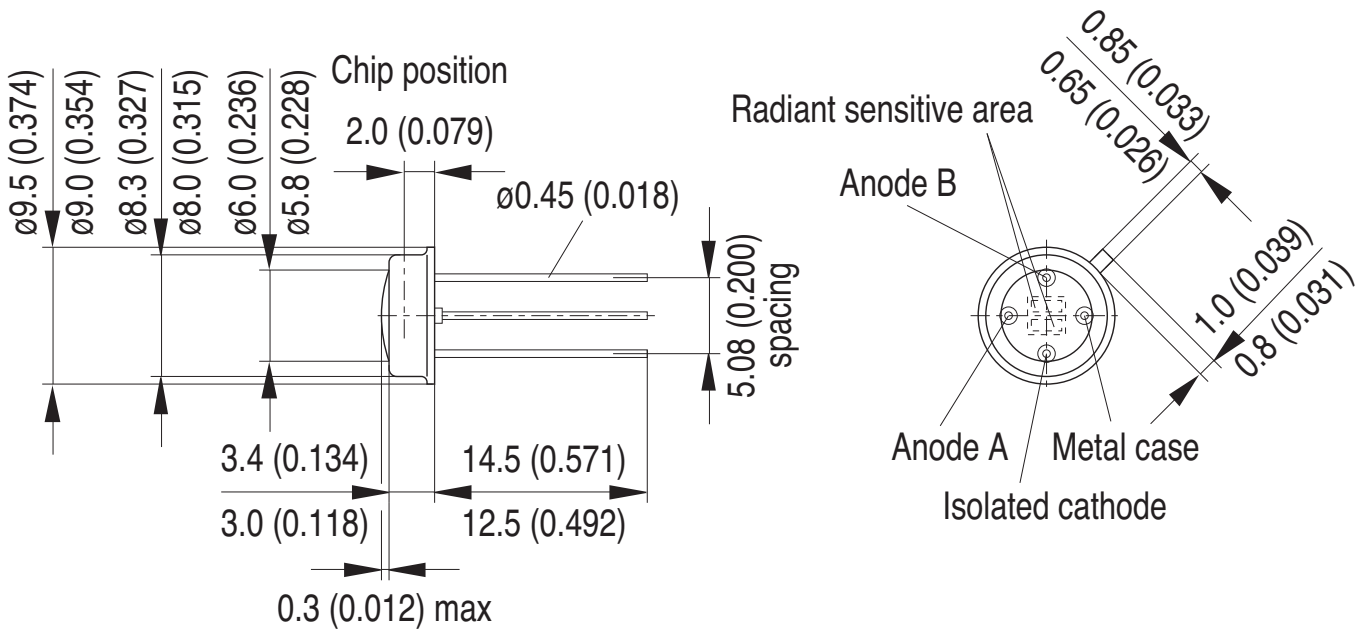
Parameter	Symbol	Values	Unit
Operating and storage temperature range	$T_{op}; T_{stg}$	-40 ... 125	°C
Reverse voltage	V_R	10	V
Insulation voltage vs. package	V_{IS}	100	V
Total power dissipation	P_{tot}	50	mW

Characteristics ($T_A = 25\text{ °C}$, per single diode)

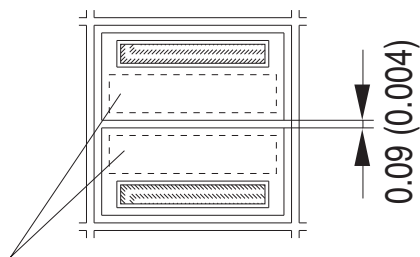
Parameter	Symbol	Values	Unit
Spectral sensitivity ($V_R = 5\text{ V}$, standard light A, $T = 2856\text{ K}$)	S	(24 15)	nA/lx
Wavelength of max. sensitivity	$\lambda_{S\ max}$	900	nm
Spectral range of sensitivity	$\lambda_{10\%}$	400 ... 1100	nm
Radiant sensitive area	A	1.54	mm ²
Dimensions of radiant sensitive area	L x W	0.7 x 2.2	mm x mm
Half angle	φ	± 55	°
Dark current ($V_R = 10\text{ V}$)	I_R	10 (100)	nA
Spectral sensitivity of the chip ($\lambda = 850\text{ nm}$)	$S_{\lambda\ typ}$	0.55	A / W

Parameter	Symbol	Values	Unit
Max. deviation from average for each single diode	ΔS	± 5	%
Quantum yield of the chip ($\lambda = 850 \text{ nm}$)	η	0.80	Electrons / Photon
Open-circuit voltage ($E_v = 1000 \text{ lx}$, Std. Light A)	V_o	330 (280)	mV
Short-circuit current ($E_v = 1000 \text{ lx}$, Std. Light A)	I_{sc}	24	μA
Insulation current ($V_{IS} = 100 \text{ V}$)	I_{IS}	0.1 (1)	nA
Rise and fall time ($V_R = 5 \text{ V}$, $R_L = 1 \text{ k}\Omega$, $\lambda = 850 \text{ nm}$, $I_p = 25 \mu\text{A}$)	t_r, t_f	0.5	μs
Forward voltage ($I_F = 40 \text{ mA}$, $E = 0$)	V_F	1	V
Capacitance ($V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$, $E = 0$)	C_o	25	pF
Temperature coefficient of V_o	TC_{V_o}	-2.6	mV / K
Temperature coefficient of I_{sc} (Std. Light A)	$TC_{I_{sc}}$	0.18	% / K
Noise equivalent power ($V_R = 10 \text{ V}$, $\lambda = 850 \text{ nm}$)	NEP	0.103	pW / $\text{Hz}^{1/2}$
Detection limit ($V_R = 10 \text{ V}$, $\lambda = 850 \text{ nm}$)	D^*	1.2e12	$\text{cm} \times \text{Hz}^{1/2} / \text{W}$

Package Outline



Diode system



Radiant sensitive area 2.0 (0.079) x 1.67 (0.066) each

Approx. weight 1.5 g

Dimensions in mm (inch).

Metal Can (TO-39), hermetically sealed