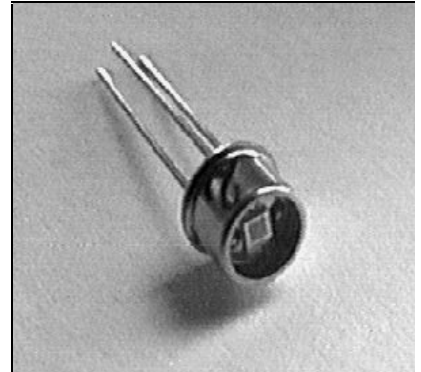


Silicon PIN Photodiode in TO-Package

SRD 00111Z

- Si-PIN-photodiode
- Designed for application in fiber-optic
- Transmission systems
- Sensitive receiver for the 1st window (850 nm)
- Suitable for bit rates up to 565 Mbit/s
- Low junction and low package capacitance
- Fast switching times
- Low dark current
- Low noise
- Hermetically sealed 3-pin metal case
- Cathode electrically isolated from case



Type	Ordering Code	Connector/Flange
SRD 00111Z	Q62702-P3019	TO, without optics

Maximum Ratings

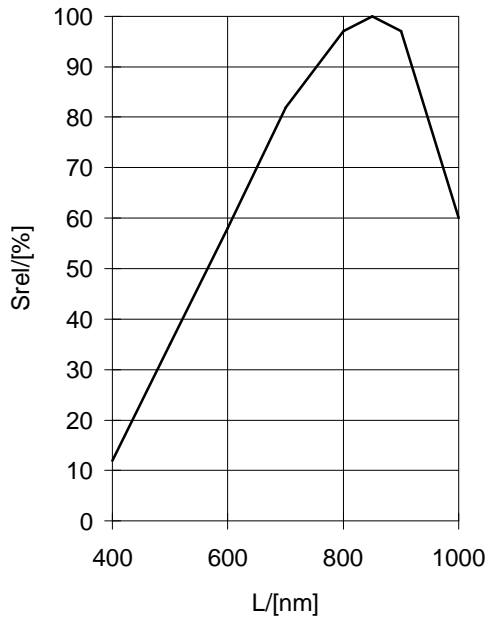
Parameter	Symbol	Values	Unit
Reverse voltage	V_R	50	V
Isolation voltage to case	V_R	100	V
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	- 55 ... 125	°C
Soldering time (wave / dip soldering), distance between solder point and base plate ≥ 2 mm, 260 °C	t_s	10	s

Characteristics

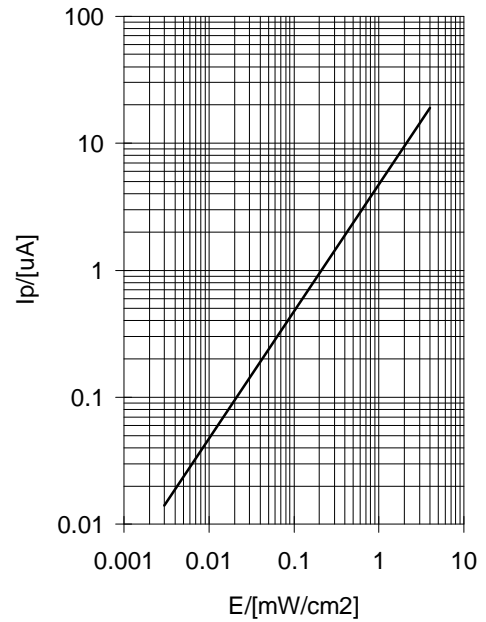
All data refer to an ambient temperature of 25 °C.

Parameter	Symbol	Values	Unit
Photosensitive area	A	1	mm ²
Wavelength of max. sensitivity	λ_{Smax}	850	nm
Quantum efficiency at $\lambda = 850$ nm	η	0.8	
Spectral sensitivity $\lambda = 850$ nm $\lambda = 950$ nm	$S_{\lambda 850}$ $S_{\lambda 950}$	0.55 (≥ 0.45) 0.45	A/W A/W
Rise and fall time $R_L = 50 \Omega$, $V_R = 50$ V, $\lambda = 850$ nm	t_r ; t_f	1	ns
Junction capacitance at $f = 1$ MHz $V_R = 0$ V $V_R = 1$ V $V_R = 12$ V $V_R = 20$ V	C_0 C_1 C_{12} C_{20}	13 7 3.3 3	pF pF pF pF
3 dB bandwidth $R_L = 50 \Omega$, $V_R = 50$ V, $\lambda = 850$ nm	f_c	500	MHz
Dark current $V_R = 20$ V, $E = 0$	I_D	1 (≤ 5)	nA
Noise equivalent power $V_R = 20$ V, $\lambda = 850$ nm	NEP	3.3×10^{-14}	W/ $\sqrt{\text{Hz}}$
Detectivity $V_R = 20$ V, $\lambda = 850$ nm	D^*	3.1×10^{12}	cm $\sqrt{\text{Hz/W}}$
Temperature coefficient I_p	TC	0.2	%/K
Isolation current, $V_{IS} = 100$ V	I_{IS}	0.1 (≤ 1)	nA

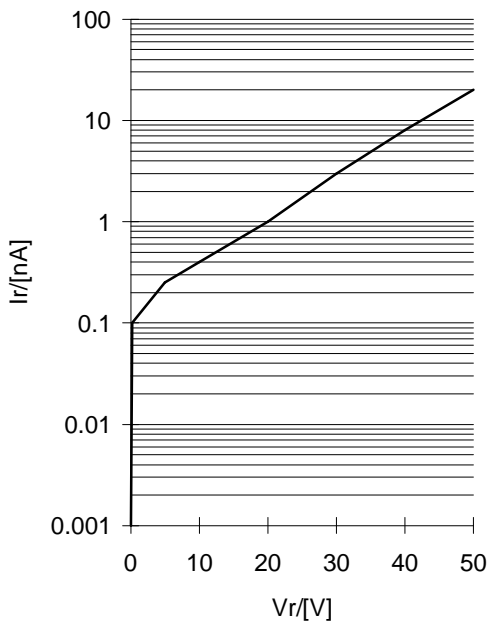
Relative Spectral Sensitivity $S = S(\lambda)$



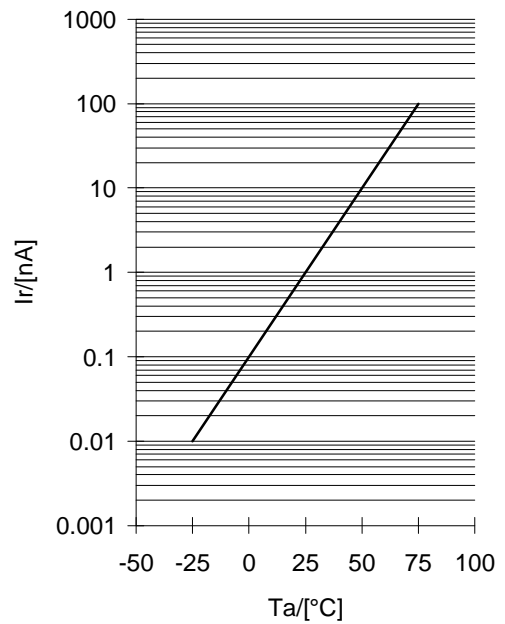
Photocurrent $I_p = I_p(E)$



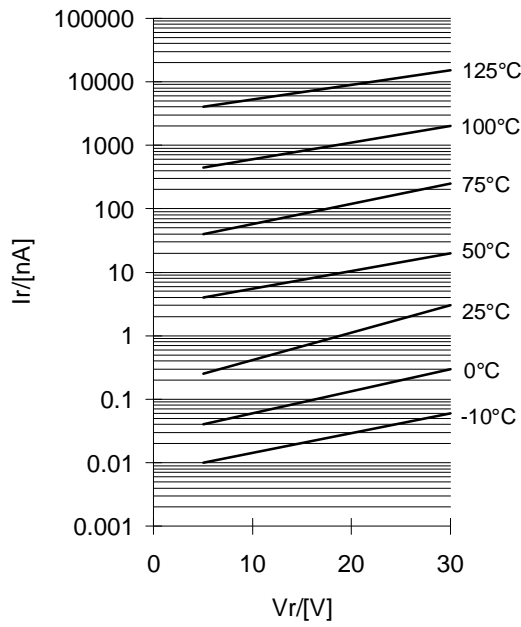
Dark Current $I_R = I_R(V_R)$



Dark Current $I_R = I_R(T_A)$
 $E = 0, V_R = 20 \text{ V}$

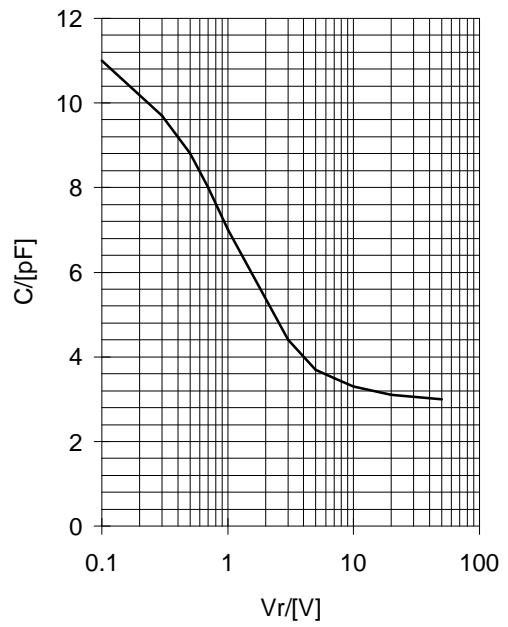


Dark Current $I_R = I_R(V_R)$

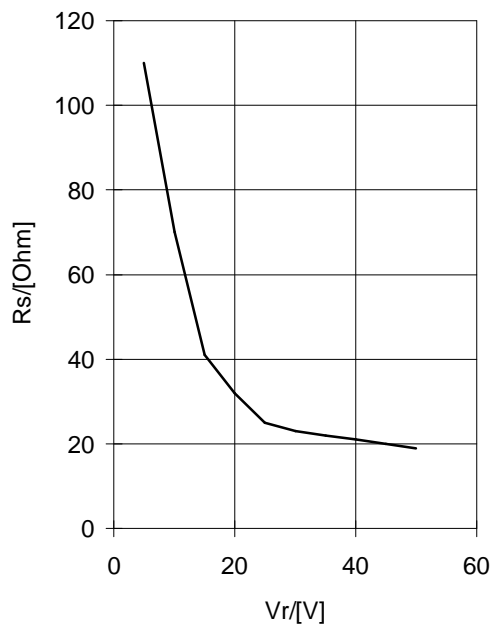


Junction Capacity $C = C(V_R)$

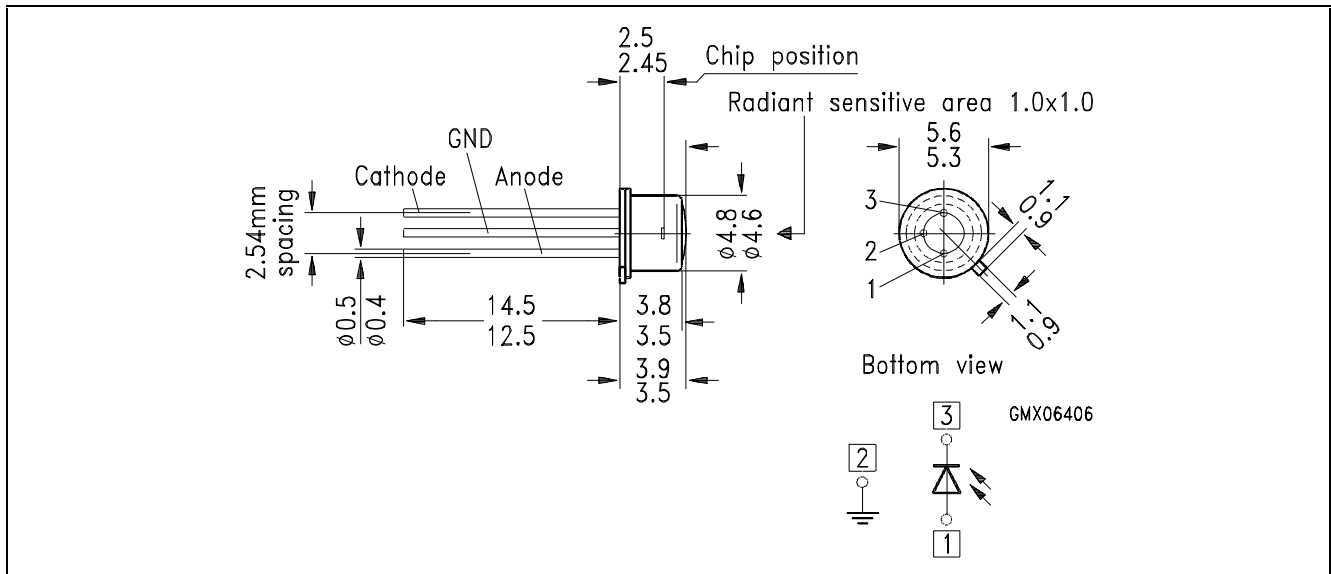
$E = 0, f = 1 \text{ MHz}$



Dark Current $I_R = I_R(V_R)$



Package Outlines (Dimensions in mm)



SRD 00111Z