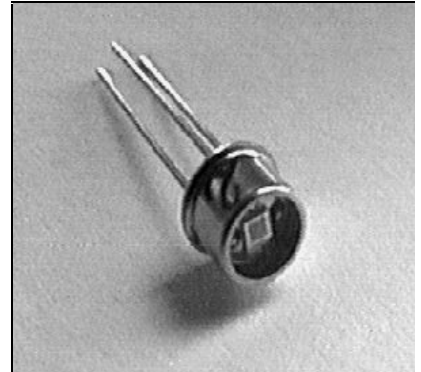# SIEMENS

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 $\geq$ 2 mm, 260 °C	t_s	10	s

Characteristics

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

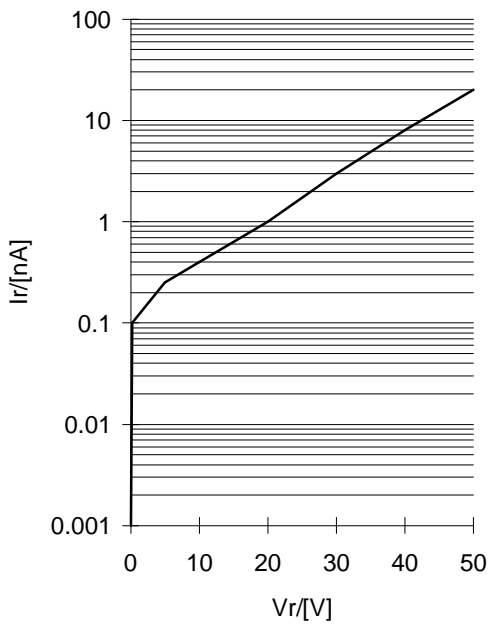| Parameter	Symbol	Values	Unit
Photosensitive area	A	1	mm^2
Wavelength of max. sensitivity	λ_{Smax}	850	nm
Quantumn efficiency at λ = 850 nm	η	0.8	
Spectral sensitivity λ = 850 nm λ = 950 nm	$S_{\lambda850}$ $S_{\lambda950}$	0.55 ($\geq$ 0.45) 0.45	A/W A/W
Rise and fall time R_L = 50 Ω, V_R = 50 V, λ = 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 Ω, V_R = 50 V, λ = 850 nm	f_c	500	MHz
Dark current V_R = 20 V, E = 0	I_D	1 ($\leq$ 5)	nA
Noise equivalent power V_R = 20 V, λ = 850 nm	NEP	3.3×10^{-14}	W/$\sqrt{}$Hz
Detectivity V_R = 20 V, λ = 850 nm	D^*	3.1×10^{12}	cm$\sqrt{}$Hz/W
Temperature coefficient I_p	TC	0.2	%/K
Isolation current, V_{IS} = 100 V	I_{IS}	0.1 ($\leq$ 1)	nA

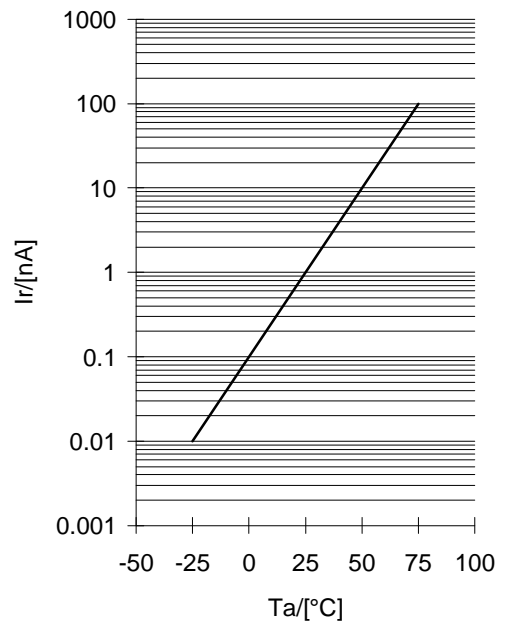**Relative Spectral Sensitivity** $S = S(\lambda)$
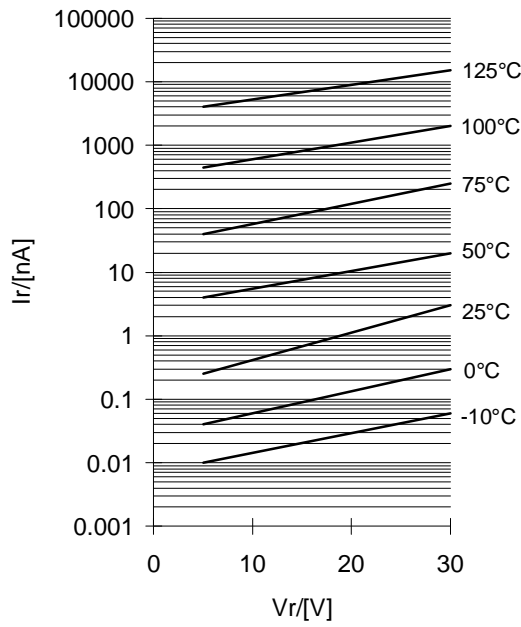
Photocurrent $I_p = I_p (E)$

Dark Current $I_R = I_R(V_R)$

Dark Current $I_R = I_R(T_A)$
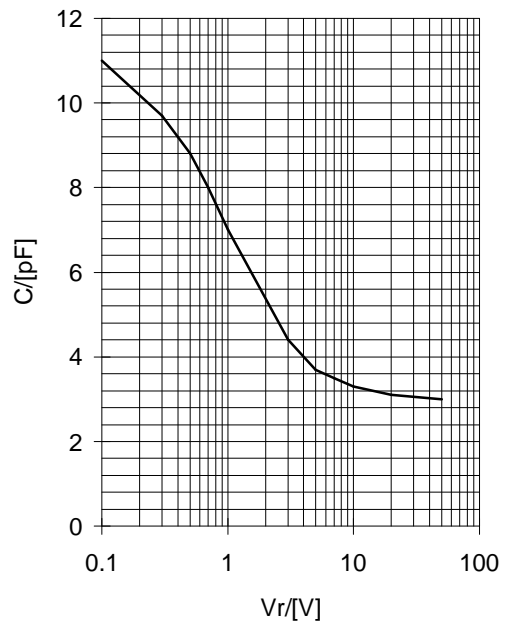$E = 0$, $V_R = 20$ V
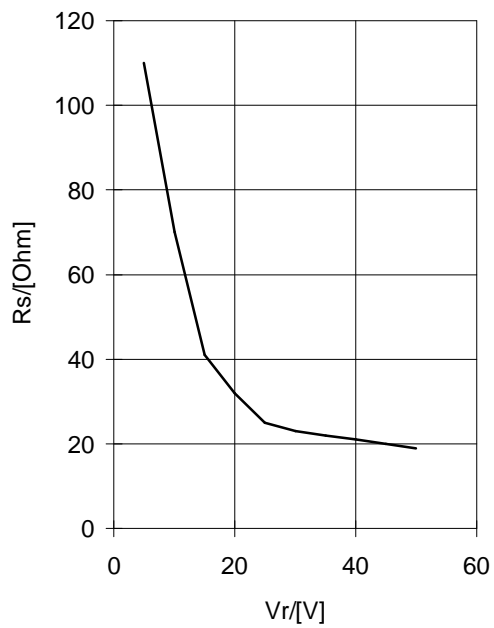
Dark Current $I_R = I_R(V_R)$

Junction Capacity $C = C(V_R)$
$E = 0, f = 1$ MHz

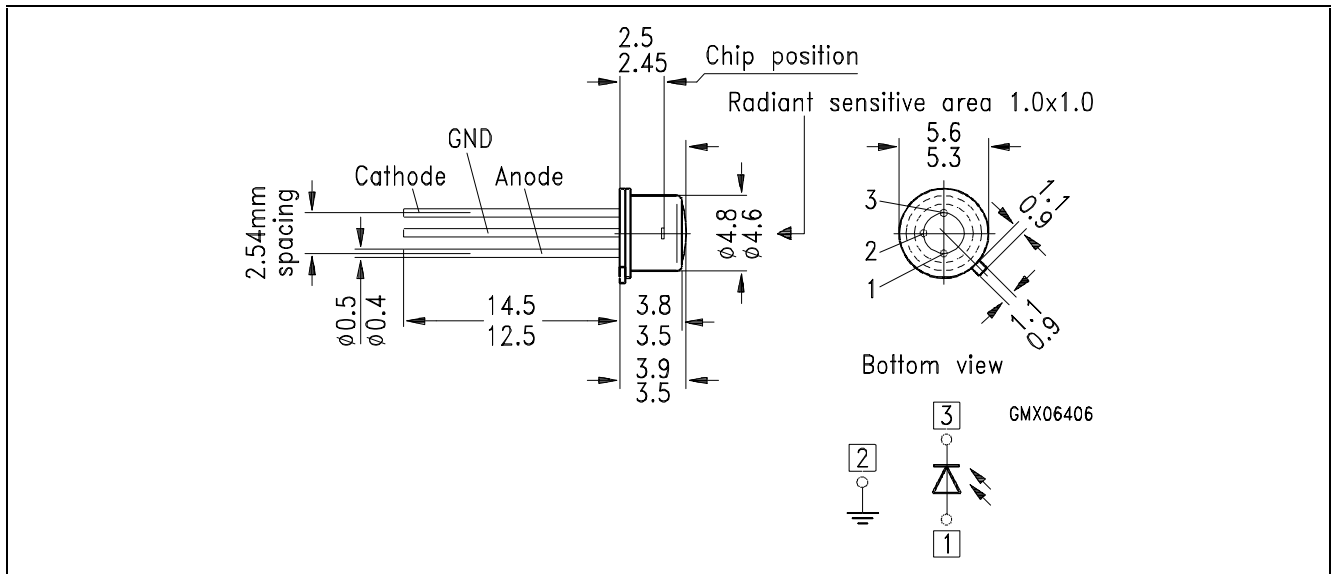**Dark Current $I_R = I_R(V_R)$**

Package Outlines (Dimensions in mm)

SRD 00111Z