

SILICON PHOTO P-I-N DIODE

Silicon photo p-i-n diode in a plastic envelope with an infrared filter.

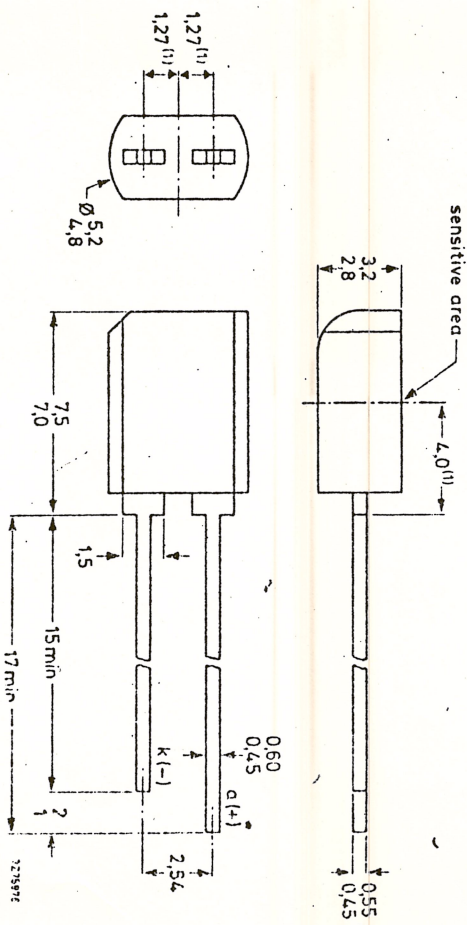
QUICK REFERENCE DATA

Continuous reverse voltage	V_R	max.	32 V
Total power dissipation up to $T_{amb} = 47,5^\circ\text{C}$	P_{tot}	max.	150 mW
Junction temperature	T_j	max.	100 $^\circ\text{C}$
Dark reverse current	I_R (D)	<	30 nA
$V_R = 10\text{ V}; E_g = 0$	I_R (L)	>	30 μA
Light reverse current	λ_{pk}	typ.	930 nm
$V_R = 5\text{ V}; E_g = 1\text{ mW/cm}^2; \lambda = 930\text{ nm}$	Sensitive area	typ.	5 mm ²
Wavelength at peak response			
$V_R = 5\text{ V}$			

MECHANICAL DATA

Fig. 1 SOD-67.

Dimensions in mm



(1) Reference for the positional tolerance of the sensitive area.

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

- Continuous reverse voltage
- Total power dissipation up to $T_{amb} = 47,5^{\circ}C$
- Storage temperature
- Junction temperature
- Lead soldering temperature up to the seating plane, $t_{sld} < 10\text{ s}$

THERMAL RESISTANCE

From junction to ambient in free air

CHARACTERISTICS

- $T_j = 25^{\circ}C$
- Dark reverse current $V_R = 10\text{ V}; E_g = 0$
- Light reverse current $V_R = 5\text{ V}; E_g = 1\text{ mW/cm}^2; \lambda = 930\text{ nm}$
- Reverse voltage $I_R = 0,1\text{ mA}; E_g = 0$
- Wavelength at peak response $V_R = 5\text{ V}$
- Diode capacitance $V_R = 3\text{ V}$
- $V_R = 0$
- Light switching times (see Figs 2 and 3)
- Rise time and fall time $V_{KK} = 10\text{ V}; R_A = 1\text{ k}\Omega$

V_R	max.	32 V
P_{tot}	max.	150 mW
T_{stg}	-30 to +100	$^{\circ}C$
T_j	max.	100 $^{\circ}C$
T_{sld}	max.	260 $^{\circ}C$
$R_{th\ j-a}$	=	350 $^{\circ}C/W$

$I_R(D)$	typ.	2 nA
$I_R(L)$	typ.	30 μA
V_R	>	32 V
λ_{pk}	typ.	930 nm
C_d	typ.	17 pF
C_d	<	30 pF
C_d	typ.	50 pF
t_r, t_f	typ.	50 ns

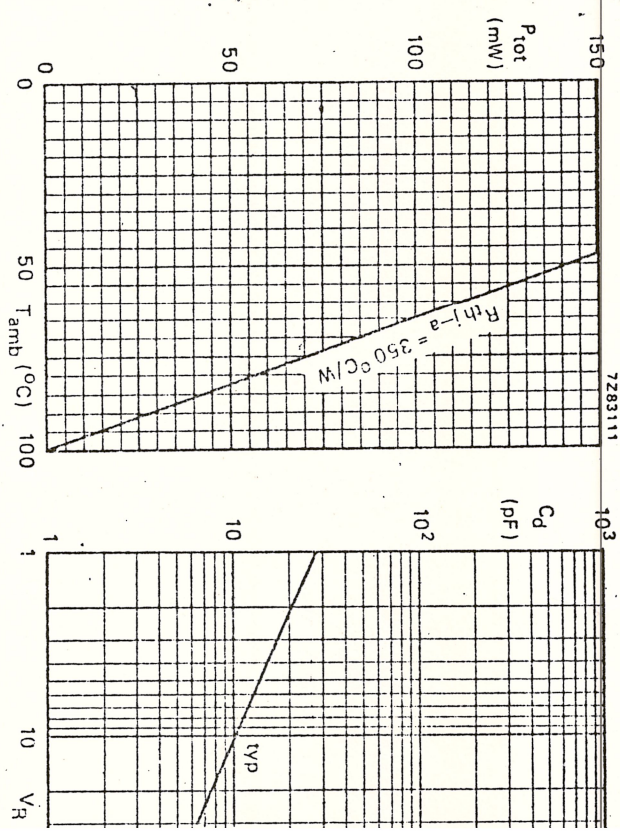
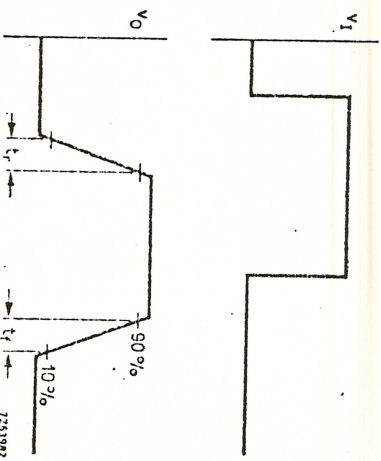
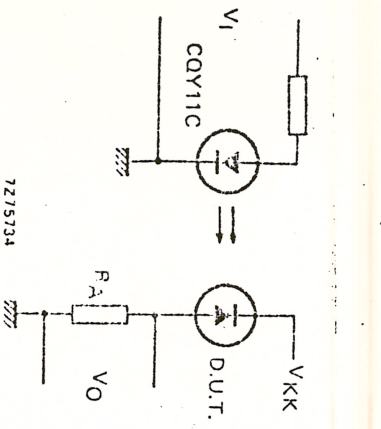


Fig. 4 Maximum permissible power dissipation as a function of temperature.

Fig. 5 $T_{amb} = 25^{\circ}C$.

