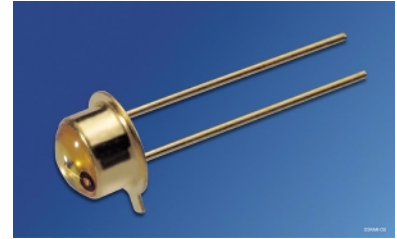


Silizium-Fotodiode mit sehr kleinem Dunkelstrom Silicon Photodiode with Very Low Dark Current

BPX 63



Wesentliche Merkmale

- Speziell geeignet für Anwendungen im Bereich von 350 nm bis 1100 nm
- Sperrstromarm (typ. 5 pA)
- TO-18, Bodenplatte, mit klarem Epoxy-Gießharz

Anwendungen

- Belichtungsmesser, Belichtungsautomaten

Features

- Especially suitable for applications from 350 nm to 1100 nm
- Low reverse current (typ. 5 pA)
- TO-18, base plate, transparent epoxy resin lens

Applications

- Exposure meters, automatic exposure timers

Typ Type	Bestellnummer Ordering Code
BPX 63	Q62702-P55

Grenzwerte**Maximum Ratings**

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Betriebs- und Lagertemperatur Operating and storage temperature range	$T_{op}; T_{stg}$	- 40 ... + 80	°C
Löttemperatur (Lötstelle 2 mm vom Gehäuse entfernt bei Lötzeit $t \leq 3$ s) Soldering temperature in 2 mm distance from case bottom ($t \leq 3$ s)	T_S	230	°C
Sperrspannung Reverse voltage	V_R	7	V
Verlustleistung, $T_A = 25$ °C Total power dissipation	P_{tot}	200	mW

Kennwerte ($T_A = 25$ °C, Normlicht A, $T = 2856$ K)**Characteristics** ($T_A = 25$ °C, standard light A, $T = 2856$ K)

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Fotoempfindlichkeit, $V_R = 5$ V Spectral sensitivity	S	10 (≥ 8)	nA/lx
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\ max}$	800	nm
Spektraler Bereich der Fotoempfindlichkeit $S = 10\%$ von S_{max} Spectral range of sensitivity $S = 10\%$ of S_{max}	λ	350 ... 1100	nm
Bestrahlungsempfindliche Fläche Radiant sensitive area	A	0.97	mm ²
Abmessung der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	$L \times B$ $L \times W$	0.985×0.985	mm \times mm
Abstand Chipoberfläche zu Gehäuseoberfläche Distance chip front to case surface	H	0.2 ... 0.8	mm
Halbwinkel Half angle	φ	± 75	Grad deg.
Dunkelstrom, $V_R = 1$ V Dark current	I_R	5 (≤ 20)	pA
Nullpunktsteilheit, $E = 0$ Zero crossover	S_0	≤ 0.4	pA/mV

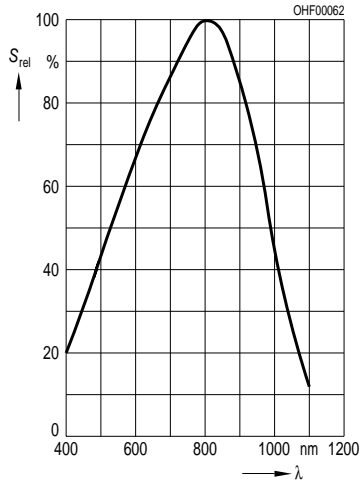
Kennwerte ($T_A = 25\text{ °C}$, Normlicht A, $T = 2856\text{ K}$)

Characteristics ($T_A = 25\text{ °C}$, standard light A, $T = 2856\text{ K}$) (cont'd)

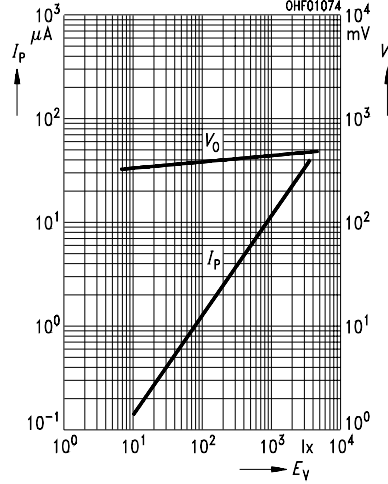
Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Spektrale Fotoempfindlichkeit, $\lambda = 850\text{ nm}$ Spectral sensitivity	S_λ	0.50	A/W
Quantenausbeute, $\lambda = 850\text{ nm}$ Quantum yield	η	0.73	<u>Electrons</u> Photon
Leerlaufspannung, $E_V = 1000\text{ lx}$ Open-circuit voltage	V_O	450 (≥ 380)	mV
Kurzschlußstrom, $E_V = 1000\text{ lx}$ Short-circuit current	I_{SC}	10	μA
Anstiegs- und Abfallzeit des Fotostromes Rise and fall time of the photocurrent $R_L = 1\text{ k}\Omega$; $V_R = 5\text{ V}$; $\lambda = 850\text{ nm}$; $I_p = 10\text{ }\mu\text{A}$	t_r, t_f	1.3	μs
Durchlaßspannung, $I_F = 100\text{ mA}$, $E = 0$ Forward voltage	V_F	1.3	V
Kapazität, $V_R = 0\text{ V}$, $f = 1\text{ MHz}$, $E = 0$ Capacitance	C_0	100	pF
Temperaturkoeffizient von V_O Temperature coefficient of V_O	TC_V	-2.6	mV/K
Temperaturkoeffizient von I_{SC} Temperature coefficient of I_{SC}	TC_I	0.16	%/K
Rauschäquivalente Strahlungsleistung Noise equivalent power $V_R = 1\text{ V}$, $\lambda = 850\text{ nm}$	NEP	2.5×10^{-15}	$\frac{\text{W}}{\sqrt{\text{Hz}}}$
Nachweisgrenze, $V_R = 1\text{ V}$, $\lambda = 850\text{ nm}$ Detection limit	D^*	3.9×10^{13}	$\frac{\text{cm} \times \sqrt{\text{Hz}}}{\text{W}}$

Relative Spectral Sensitivity

$S_{rel} = f(\lambda)$

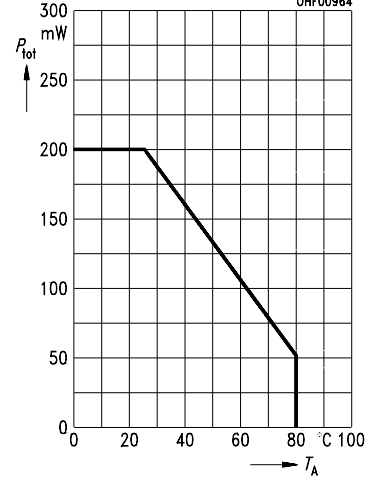


**Photocurrent $I_P = f(E_V)$, $V_R = 5 V$
Open-Circuit Voltage $V_O = f(E_V)$**



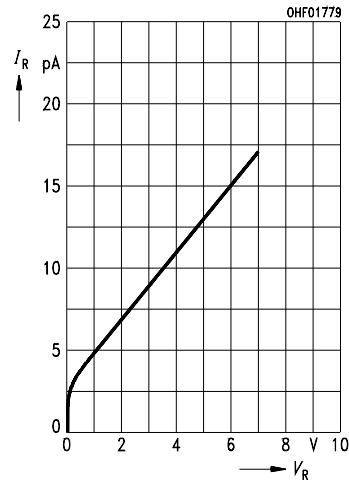
Total Power Dissipation

$P_{tot} = f(T_A)$



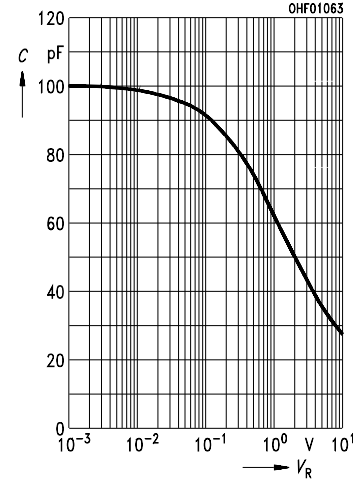
Dark Current

$I_R = f(V_R), E = 0$



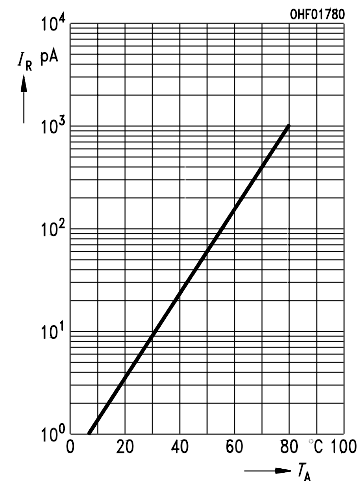
Capacitance

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



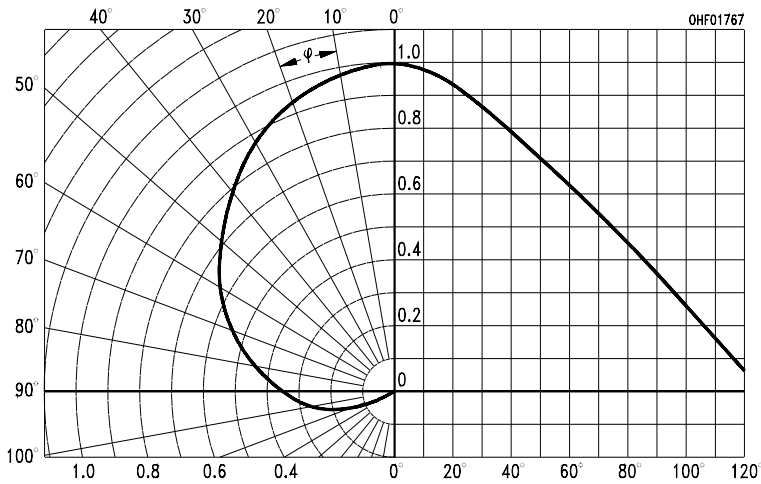
Dark Current

$I_R = f(T_A), E_V = 0 V, V_R = 1 V$

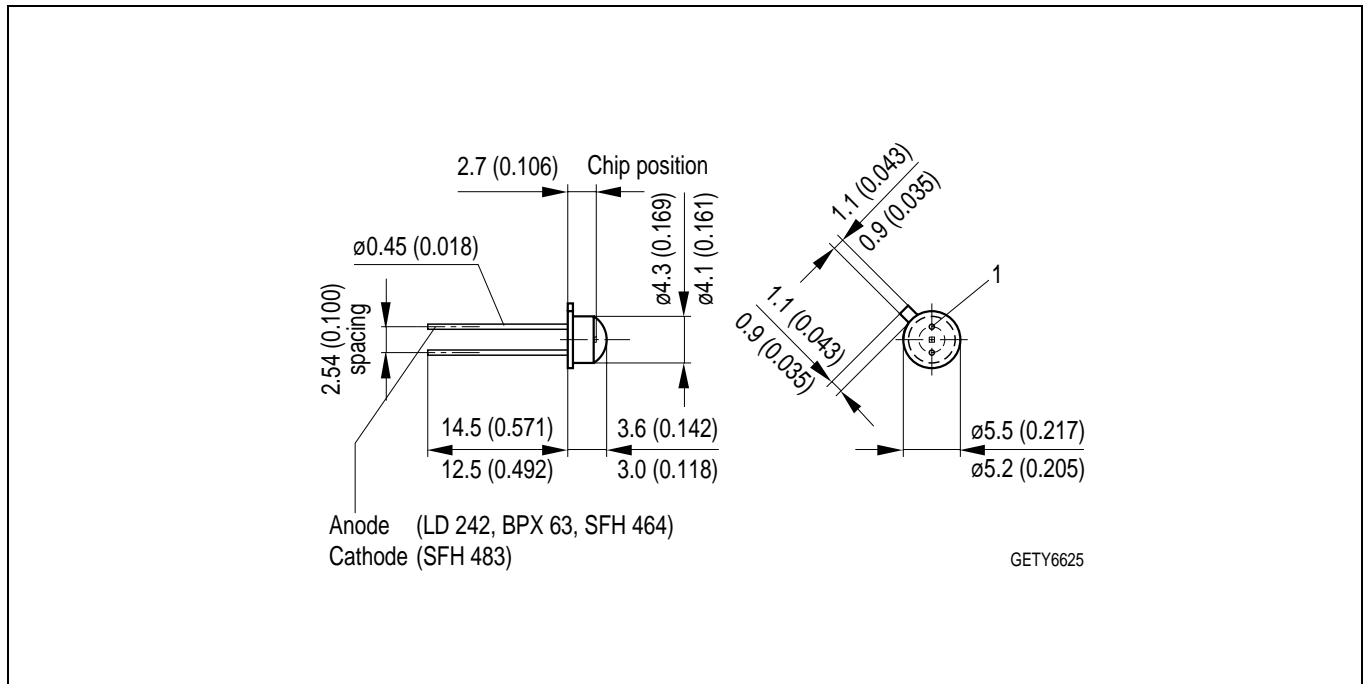


Directional Characteristics

$S_{rel} = f(\phi)$



Maßzeichnung Package Outlines



Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

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Packing

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You must bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

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¹ A critical component is a component used in a life-support device or system whose failure can reasonably be expected to cause the failure of that life-support device or system, or to affect its safety or effectiveness of that device or system.

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