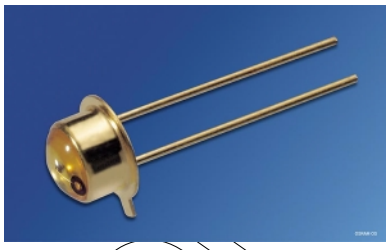
Silizium-Fotodiode mit sehr kleinem Dunkelstrom
Silicon Photodiode with Very Low Dark Current

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

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

Anwendungen

- Belichtungsmesser, Belichtungsautomaten

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

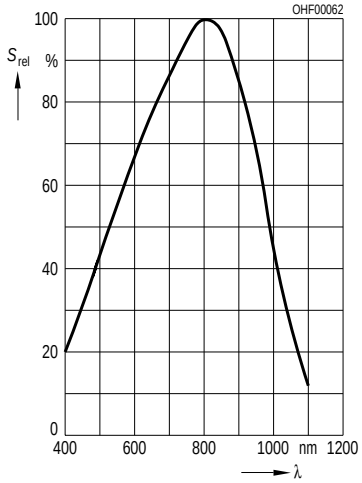
Kennwerte (T_A = 25 °C, Normlicht A, T = 2856 K)
Characteristics (T_A = 25 °C, standard light A, T = 2856 K)

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 × 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

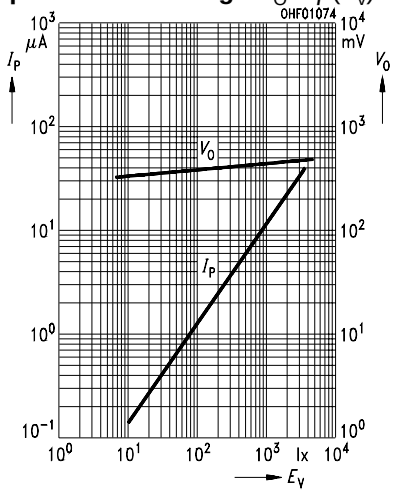
Kennwerte (T_A = 25 °C, Normlicht A, T = 2856 K)
Characteristics (T_A = 25 °C, standard light A, T = 2856 K) (cont'd)

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Spektrale Fotoempfindlichkeit, λ = 850 nm Spectral sensitivity	S_λ	0.50	A/W
Quantenausbeute, λ = 850 nm Quantum yield	η	0.73	Electrons / Photon
Leerlaufspannung, E_v = 1000 lx Open-circuit voltage	V_O	450 (≥ 380)	mV
Kurzschlußstrom, E_v = 1000 lx Short-circuit current	I_{SC}	10	µA
Anstiegs- und Abfallzeit des Fotostromes Rise and fall time of the photocurrent R_L = 1 kΩ; V_R = 5 V; λ = 850 nm; I_p = 10 µA	t_r, t_f	1.3	µs
Durchlaßspannung, I_F = 100 mA, E = 0 Forward voltage	V_F	1.3	V
Kapazität, V_R = 0 V, f = 1 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 V, λ = 850 nm	NEP	2.5×10^{-15}	$\frac{W}{\sqrt{Hz}}$
Nachweisgrenze, V_R = 1 V, λ = 850 nm Detection limit	D*	3.9×10^{13}	$\frac{cm \times \sqrt{Hz}}{W}$

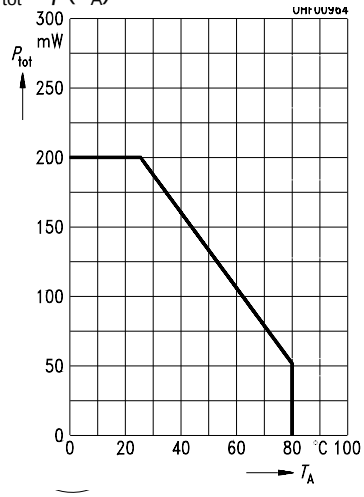
Relative Spectral Sensitivity
$S_{rel} = f(\lambda)$



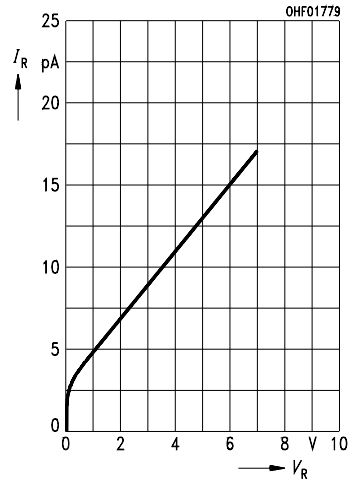
Photocurrent $I_P = f(E_v)$, V_R = 5 V
Open-Circuit Voltage $V_O = f(E_v)$



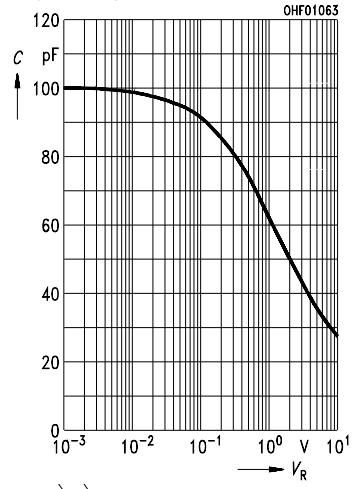
Total Power Dissipation
$P_{tot} = f(T_A)$



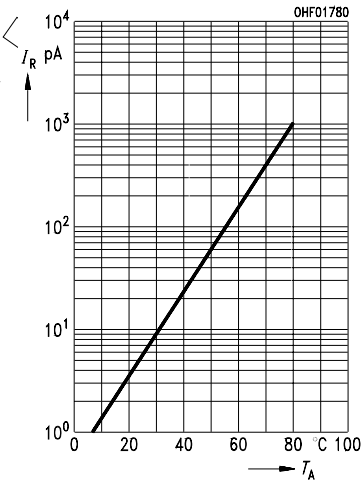
Dark Current
$I_R = f(V_R)$, E = 0



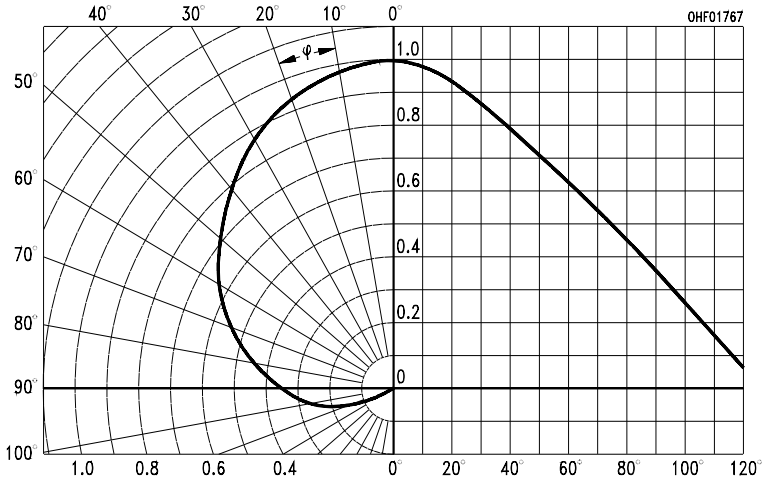
Capacitance
$C = f(V_R)$, f = 1 MHz, E = 0



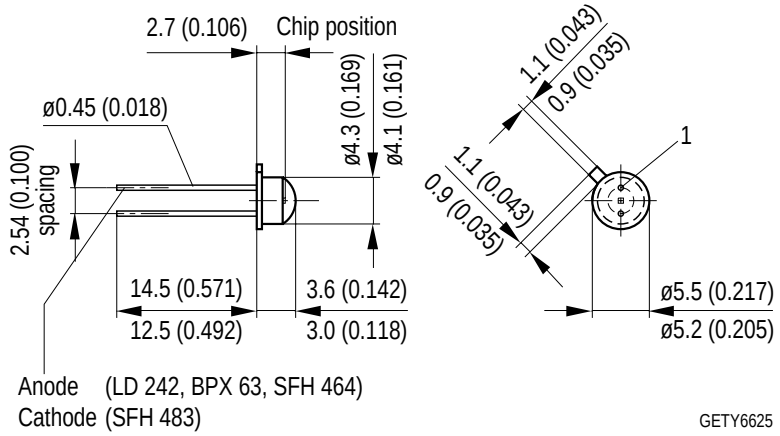
Dark Current
$I_R = f(T_A)$, E_v = 0 V, V_R = 1 V



Directional Characteristics
$S_{rel} = f(\varphi)$



Maßzeichnung
Package Outlines



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

Attention please!

The information describes the type of component and shall not be considered as assured characteristics.
Terms of delivery and rights to change design reserved. Due to technical requirements components may contain dangerous substances. For information on the types in question please contact our Sales Organization.

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.

Components used in life-support devices or systems must be expressly authorized for such purpose! Critical components [1] , may only be used in life-support devices or systems [2] with the express written approval of OSRAM OS.

[1] A critical component is a component usedin 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.

[2] Life support devices or systems are intended (a) to be implanted in the human body, or (b) to support and/or maintain and sustain human life. If they fail, it is reasonable to assume that the health of the user may be endangered.