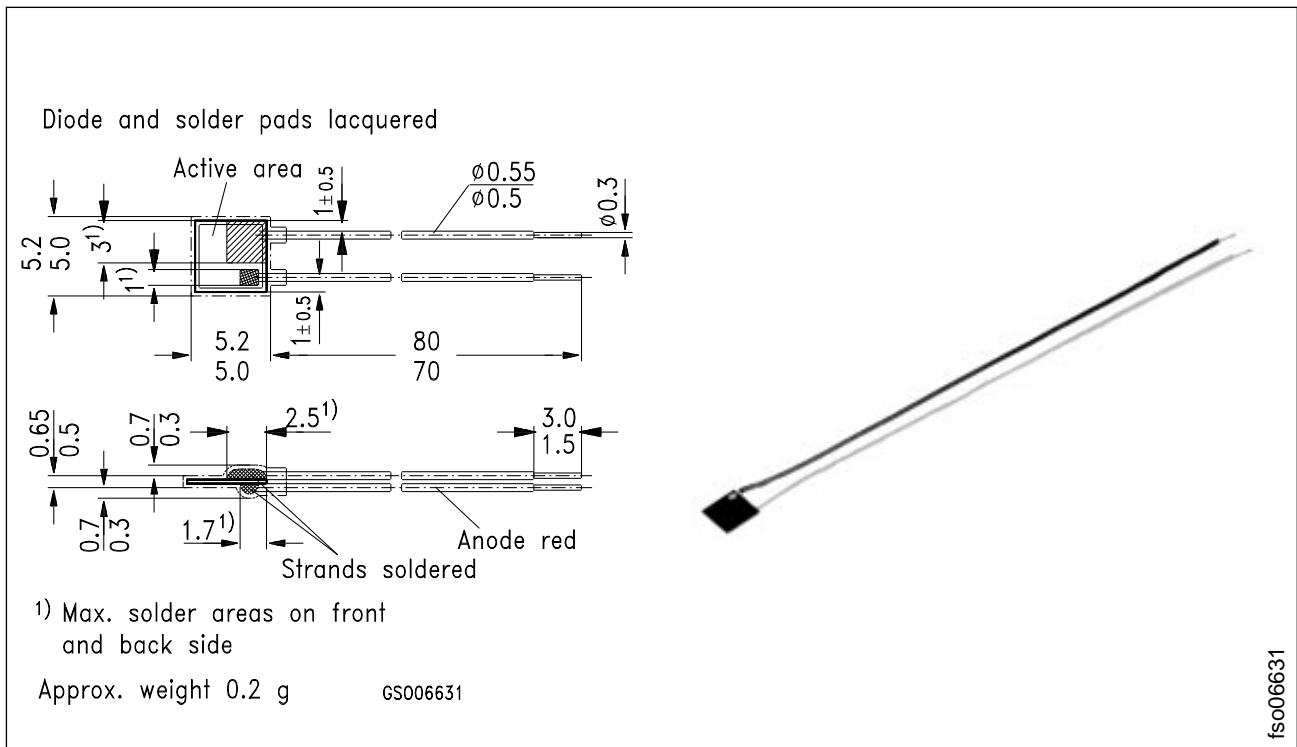


Silizium-Fotoelement mit erhöhter Blauempfindlichkeit Silicon Photovoltaic Cell with Enhanced Blue Sensitivity

BPX 79



Maße in mm, wenn nicht anders angegeben/Dimensions in mm, unless otherwise specified.

Wesentliche Merkmale

- Speziell geeignet für Anwendungen im Bereich von 350 nm bis 1100 nm
- Kathode = Chipunterseite
- Mit feuchtigkeitsabweisender Schutzschicht überzogen
- Weiter Temperaturbereich

Anwendungen

- für Meß-, Steuer- und Regelzwecke
- zur Abtastung von Lichtimpulsen
- quantitative Lichtmessung im sichtbaren Licht- und nahen Infrarotbereich

Features

- Especially suitable for applications from 350 nm to 1100 nm
- Cathode = back contact
- Coated with a humidity-proof protective layer
- Wide temperature range

Applications

- For control and drive circuits
- Light pulse scanning
- Quantitative light measurements in the visible light and near infrared range

Typ Type	Bestellnummer Ordering Code
BPX 79	Q62702-P51

Grenzwerte Maximum Ratings

Bezeichnung Description	Symbol Symbol	Wert Value	Einheit Unit
Betriebs- und Lagertemperatur Operating and storage temperature range	$T_{op}; T_{stg}$	- 55 ... + 100	°C
Sperrspannung Reverse voltage	V_R	1	V

Kennwerte ($T_A = 25^\circ\text{C}$, Normlicht A, $T = 2856\text{ K}$) Characteristics ($T_A = 25^\circ\text{C}$, standard light A, $T = 2856\text{ K}$)

Bezeichnung Description	Symbol Symbol	Wert Value	Einheit Unit
Fotoempfindlichkeit, $V_R = 0\text{ V}$ Spectral sensitivity	S	170	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	20	mm ²
Abmessungen der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	$L \times B$ $L \times W$	4.47×4.47	mm
Halbwinkel Half angle	φ	± 60	Grad deg.
Dunkelstrom, $V_R = 1\text{ V}; E = 0$ Dark current	I_R	0.3 (≤ 50)	μA
Spektrale Fotoempfindlichkeit, $\lambda = 400\text{ nm}$ Spectral sensitivity	S_λ	0.19	A/W
Quantenausbeute, $\lambda = 400\text{ nm}$ Quantum yield	η	0.60	<u>Electrons</u> Photon
Leerlaufspannung, $E_v = 1000\text{ lx}$ Open-circuit voltage	V_O	450	mV
Kurzschlußstrom Short-circuit current $E_e = 0.5\text{ mW/cm}^2, \lambda = 400\text{ nm}$	I_{sc}	19 (≥ 14)	μA

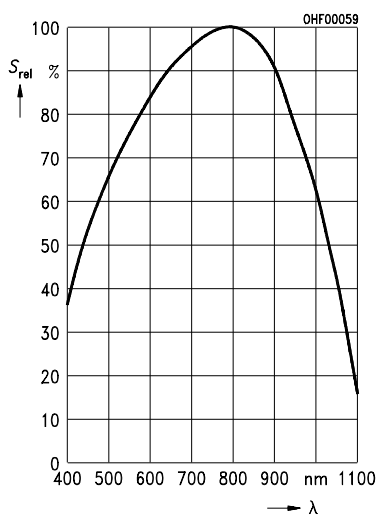
Kennwerte ($T_A = 25^\circ\text{C}$, Normlicht A, $T = 2856\text{ K}$)

Characteristics ($T_A = 25^\circ\text{C}$, standard light A, $T = 2856\text{ K}$)

Bezeichnung Description	Symbol Symbol	Wert Value	Einheit Unit
Anstiegs und Abfallzeit des Fotostromes Rise and fall time of the photocurrent $R_L = 1\text{ k}\Omega$; $V_R = 1\text{ V}$; $\lambda = 850\text{ nm}$; $I_p = 150\text{ }\mu\text{A}$	t_r, t_f	6	μs
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	0.2	%/K
Kapazität, $V_R = 10\text{ V}$, $f = 1\text{ MHz}$, $E_v = 0\text{ lx}$ Capacitance	C_0	2500	pF

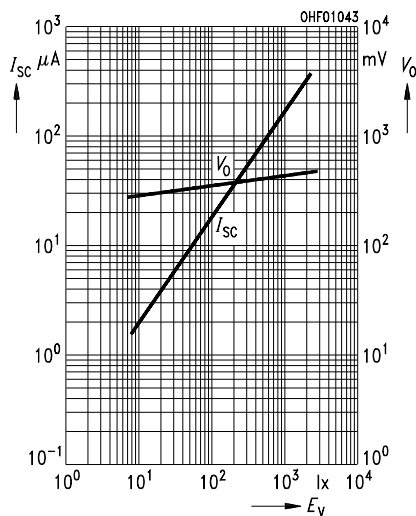
Relative spectral sensitivity

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



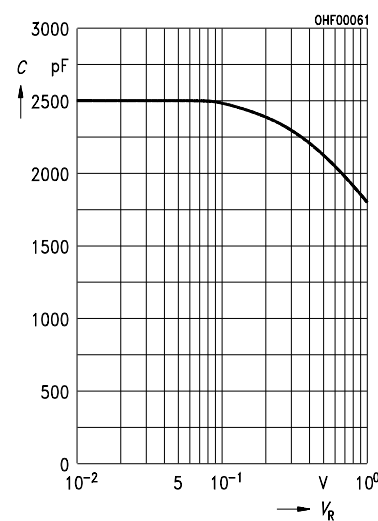
Open-circuit voltage $V_O = f(E_V)$

Short-circuit current $I_{SC} = f(E_V)$



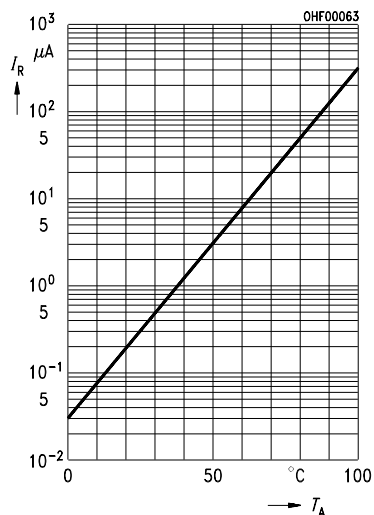
Capacitance

$$C = f(V_R), f = 1 \text{ MHz}, E = 0$$



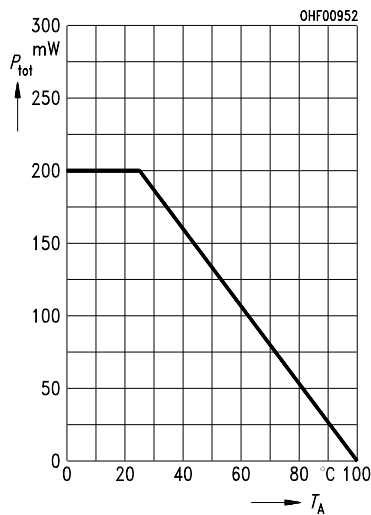
Dark current

$$I_R = f(T_A), V_R = 1 \text{ V}, E = 0$$

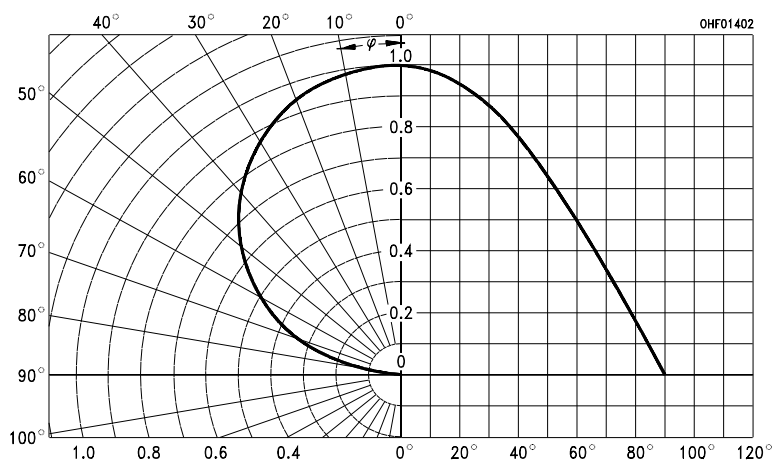


Total power dissipation

$$P_{tot} = f(T_A)$$



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





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