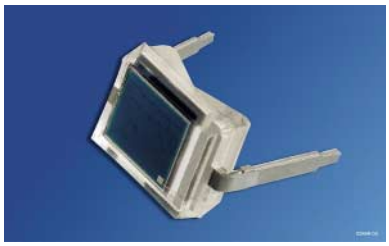
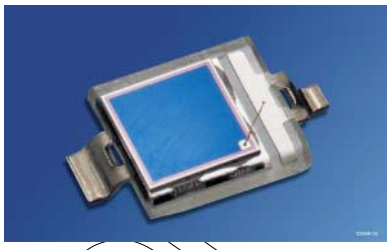
Silizium-PIN-Fotodiode mit erhöhter Blauempfindlichkeit; in SMT
Silicon PIN Photodiode with Enhanced Blue Sensitivity; in SMT

BPW 34 B
BPW 34 BS





Wesentliche Merkmale

- Speziell geeignet für Anwendungen im Bereich von 350 nm bis 1100 nm
- Kurze Schaltzeit (typ. 25 ns)
- DIL-Plastikbauform mit hoher Packungsdichte

Features

- Especially suitable for applications from 350 nm to 1100 nm
- Short switching time (typ. 25 ns)
- DIL plastic package with high packing density

Anwendungen

- Lichtschranken für Gleich- und Wechsellichtbetrieb im sichtbaren Lichtbereich
- Industrieelektronik
- „Messen/Steuern/Regeln“

Applications

- Photointerrupters
- Industrial electronics
- For control and drive circuits

Typ Type	Bestellnummer Ordering Code
BPW 34 B	Q62702-P945
BPW 34 BS	Q62702-P1601

Grenzwerte
Maximum Ratings

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Betriebs- und Lagertemperatur Operating and storage temperature range	T_{op}; T_{stg}	– 40 … + 85	°C
Sperrspannung Reverse voltage	V_R	32	V
Verlustleistung, T_A = 25 °C Total power dissipation	P_{tot}	150	mW

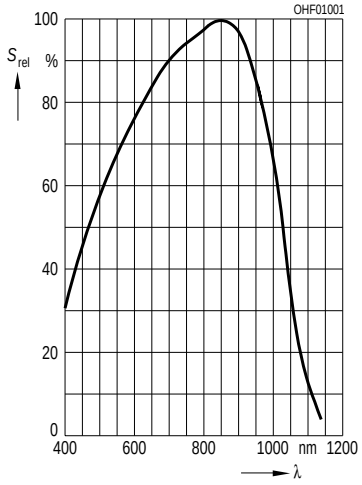
Kennwerte (T_A = 25 °C, Normlicht A, T = 2856 K)
Characteristics (T_A = 25 °C, standard light A, T = 2856 K)

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Fotoempfindlichkeit, V_R = 5 V Spectral sensitivity	S	75	nA/lx
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\,max}$	850	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	7.45	mm^2
Abmessung der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	$L \times B$ $L \times W$	2.73 × 2.73	mm × mm
Halbwinkel Half angle	φ	± 60	Grad deg.
Dunkelstrom, V_R = 10 V Dark current	I_R	2 (≤ 30)	nA
Spektrale Fotoempfindlichkeit, λ = 400 nm Spectral sensitivity	S_λ	0.2	A/W
Quantenausbeute, λ = 400 nm Quantum yield	η	0.62	Electrons Photon
Leerlaufspannung, E_v = 1000 lx Open-circuit voltage	V_O	390	mV

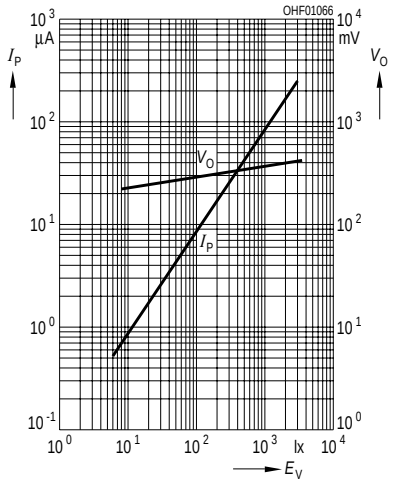
Kennwerte (T_A = 25 °C, Normlicht A, T = 2856 K)
Characteristics (T_A = 25 °C, standard light A, T = 2856 K) (cont'd)

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Kurzschlußstrom Short-circuit current E_e = 0.5 mW/cm^2, λ = 400 nm	I_{SC}	7.4 (≥ 5.4)	µA
Anstiegs- und Abfallzeit des Fotostromes Rise and fall time of the photocurrent R_L = 50 Ω; V_R = 5 V; λ = 850 nm; I_p = 800 µA	t_r, t_f	25	ns
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	72	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	0.18	%/K
Rauschäquivalente Strahlungsleistung Noise equivalent power V_R = 10 V, λ = 400 nm	NEP	1.3×10^{-13}	$\frac{W}{\sqrt{Hz}}$
Nachweisgrenze, V_R = 10 V, λ = 400 nm Detection limit	D*	2.1×10^{12}	$\frac{cm \times \sqrt{Hz}}{W}$

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

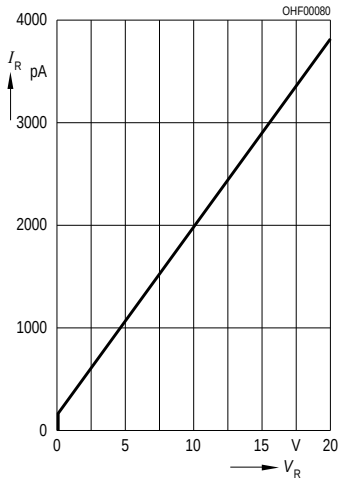


Photocurrent $I_P = f(E_v)$, V_R = 5 V
Open-Circuit Voltage $V_O = f(E_v)$

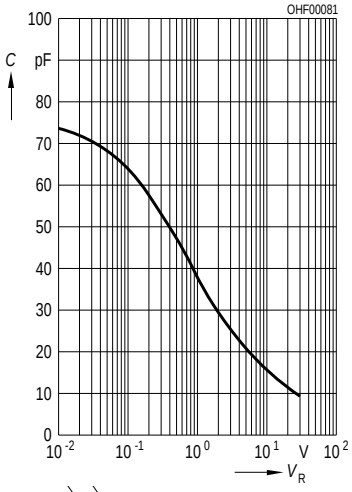


Total Power Dissipation
$P_{tot} = f(T_A)$

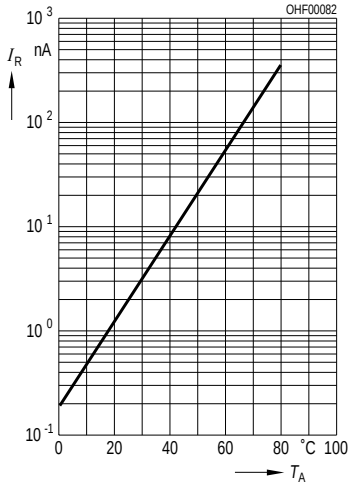
Dark Current
$I_R = f(V_R)$, E = 0



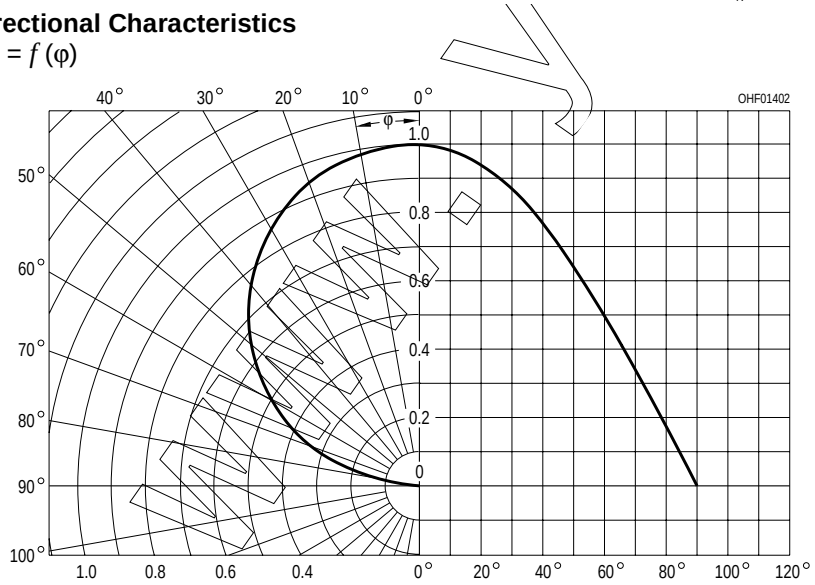
Capacitance
$C = f(V_R)$, f = 1 MHz, E = 0



Dark Current
$I_R = f(T_A)$, V_R = 5 V, E = 0

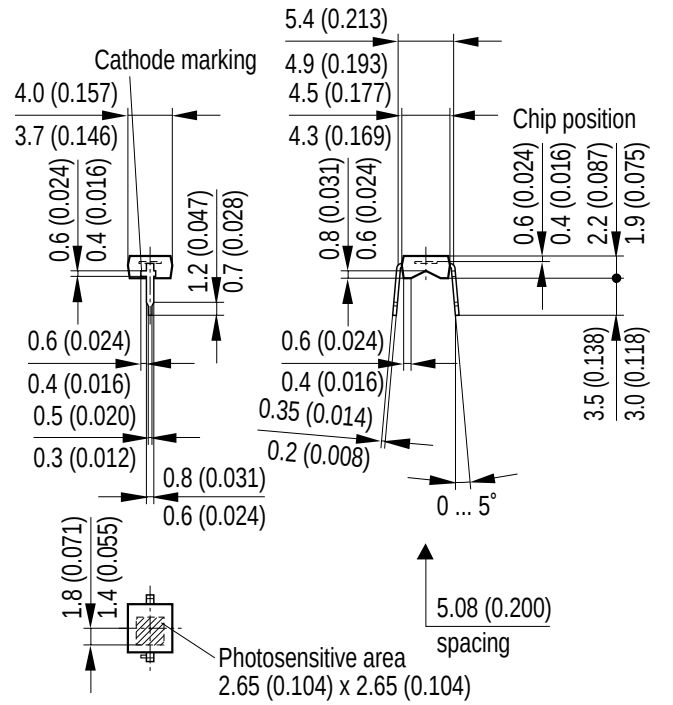


Directional Characteristics
$S_{rel} = f(\varphi)$

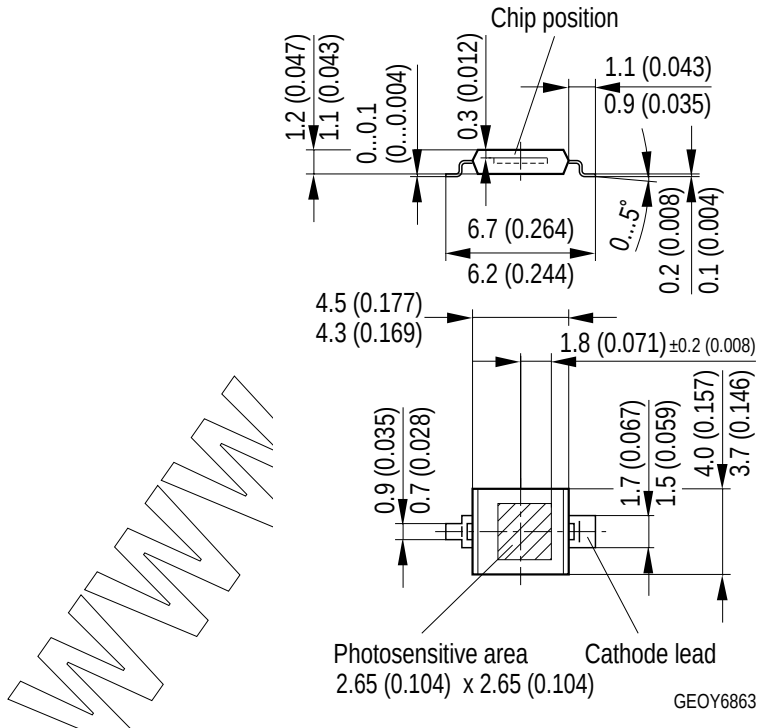


Maßzeichnung
Package Outlines

BPW 34 B



BPW 34 BS



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

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