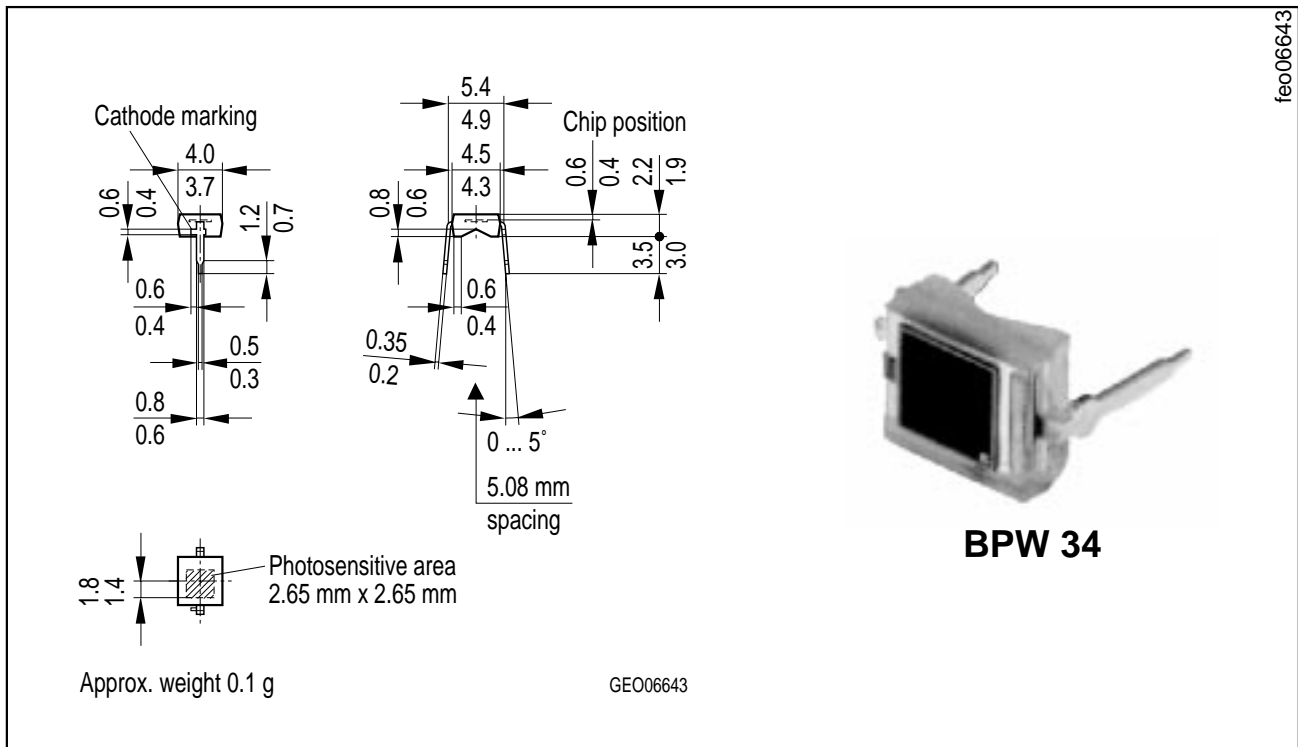


**Silizium-PIN-Fotodiode**  
**NEU: in SMT und als Reverse Gullwing**  
**Silicon PIN Photodiode**  
**NEW: in SMT and as Reverse Gullwing**

**BPW 34**  
**BPW 34 S**  
**BPW 34 S (E9087)**



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

## Wesentliche Merkmale

- Speziell geeignet für Anwendungen im Bereich von 400 nm bis 1100 nm
- Kurze Schaltzeit (typ. 20 ns)
- DIL-Plastikbauform mit hoher Packungsdichte
- BPW 34 S/(E9087): geeignet für Vapor-Phase Löten und IR-Reflow Löten (JEDEC level 4)

## Anwendungen

- Lichtschranken für Gleich- und Wechsellichtbetrieb
- IR-Fernsteuerungen
- Industrieelektronik
- "Messen/Steuern/Regeln"

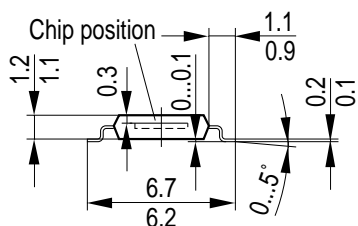
## Features

- Especially suitable for applications from 400 nm to 1100 nm
- Short switching time (typ. 20 ns)
- DIL plastic package with high packing density
- BPW 34 S/(E9087): suitable for vapor-phase and IR-reflow soldering (JEDEC level 4)

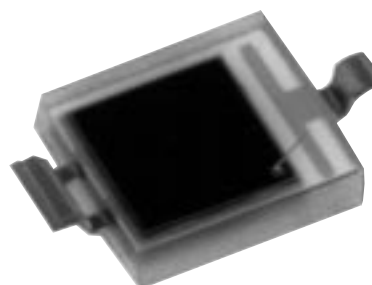
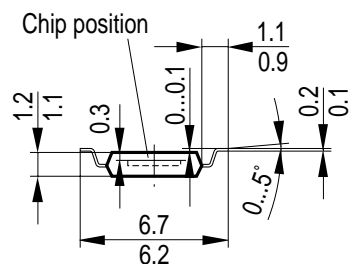
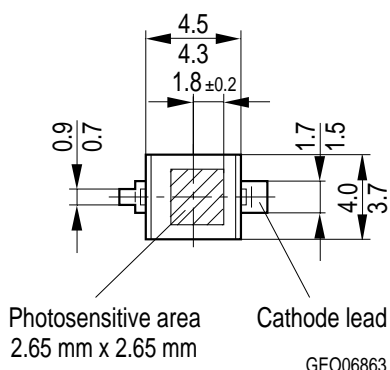
## Applications

- Photointerrupters
- IR remote controls
- Industrial electronics
- For control and drive circuits

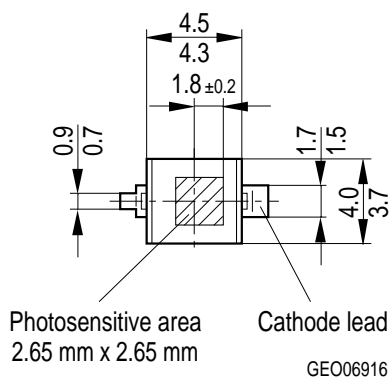
feo06862



**BPW 34 S**



**BPW 34 S (E9087)**



BPW34S

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

Typ Type	Bestellnummer Ordering Code
BPW 34	Q62702-P73
BPW 34 S	Q62702-P1602
BPW 34 S (E9087)	Q62702-P1790

### Grenzwerte Maximum Ratings

Bezeichnung Description	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, $T_A = 25\text{ °C}$ Total power dissipation	$P_{tot}$	150	mW

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

Bezeichnung Description	Symbol Symbol	Wert Value	Einheit Unit
Fotoempfindlichkeit, $V_R = 5\text{ V}$ Spectral sensitivity	$S$	80 ( $\geq 50$ )	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 $S_{\max}$	$\lambda$	400 ... 1100	nm
Bestrahlungsempfindliche Fläche Radiant sensitive area	$A$	7.00	mm <sup>2</sup>
Abmessung der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	$L \times B$ $L \times W$	$2.65 \times 2.65$	mm × mm
Halbwinkel Half angle	$\varphi$	$\pm 60$	Grad deg.
Dunkelstrom, $V_R = 10\text{ V}$ Dark current	$I_R$	2 ( $\leq 30$ )	nA
Spektrale Fotoempfindlichkeit, $\lambda = 850\text{ nm}$ Spectral sensitivity	$S_\lambda$	0.62	A/W
Quantenausbeute, $\lambda = 850\text{ nm}$ Quantum yield	$\eta$	0.90	Electrons Photon
Leerlaufspannung, $E_v = 1000\text{ lx}$ Open-circuit voltage	$V_O$	365 ( $\geq 300$ )	mV

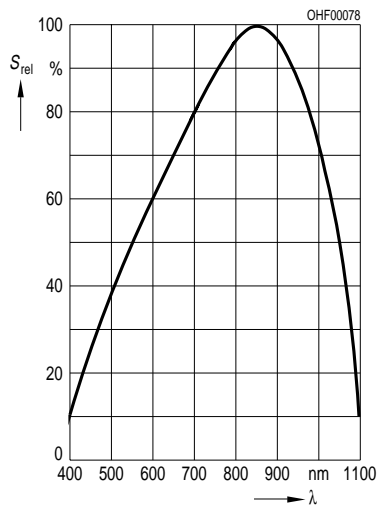
**Kennwerte** ( $T_A = 25\text{ °C}$ , Normlicht A,  $T = 2856\text{ K}$ )

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

Bezeichnung Description	Symbol Symbol	Wert Value	Einheit Unit
Kurzschlußstrom, $E_v = 1000\text{ lx}$ Short-circuit current	$I_{SC}$	80	$\mu\text{A}$
Anstiegs- und Abfallzeit des Fotostromes Rise and fall time of the photocurrent $R_L = 50\ \Omega$ ; $V_R = 5\text{ V}$ ; $\lambda = 850\text{ nm}$ ; $I_p = 800\ \mu\text{A}$	$t_r, t_f$	20	ns
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	$C_0$	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 $V_R = 10\text{ V}$ , $\lambda = 850\text{ nm}$	$NEP$	$4.1 \times 10^{-14}$	$\frac{\text{W}}{\sqrt{\text{Hz}}}$
Nachweisgrenze, $V_R = 10\text{ V}$ , $\lambda = 850\text{ nm}$ Detection limit	$D^*$	$6.6 \times 10^{12}$	$\frac{\text{cm} \cdot \sqrt{\text{Hz}}}{\text{W}}$

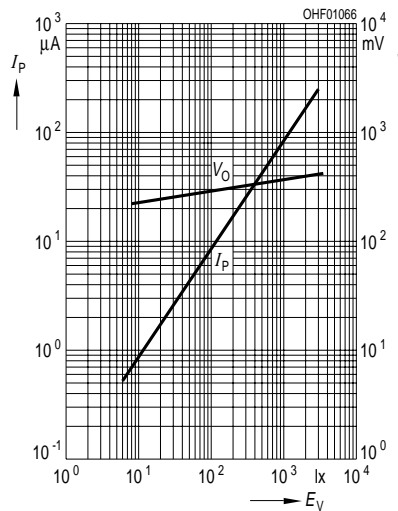
### Relative spectral sensitivity

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

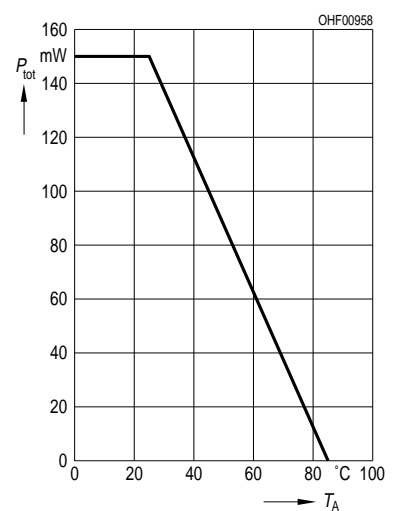


### Photocurrent $I_P = f(E_V), V_R = 5 V$

$$\text{Open-circuit voltage } V_O = f(E_V)$$

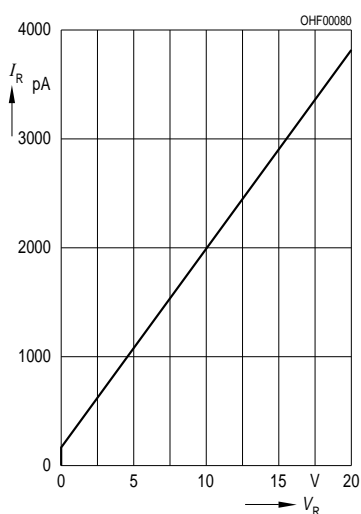


### Total power dissipation $P_{tot} = f(T_A)$



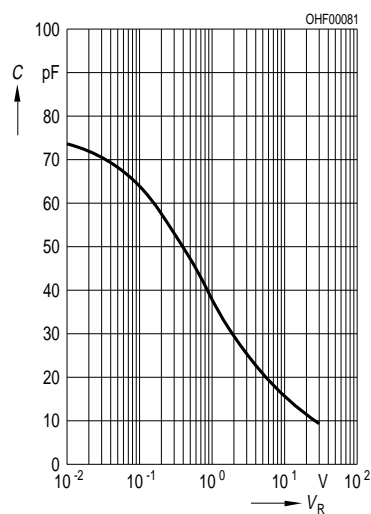
### Dark current

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



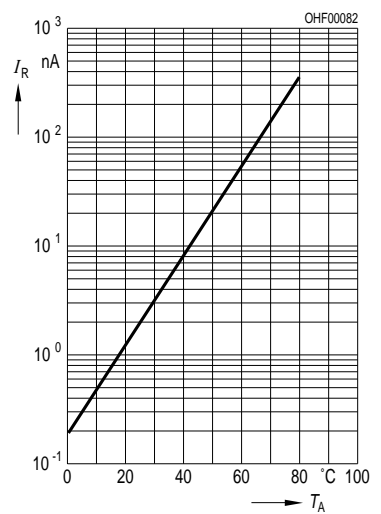
### Capacitance

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



### Dark current

$$I_R = f(T_A), V_R = 10 V, E = 0$$



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

