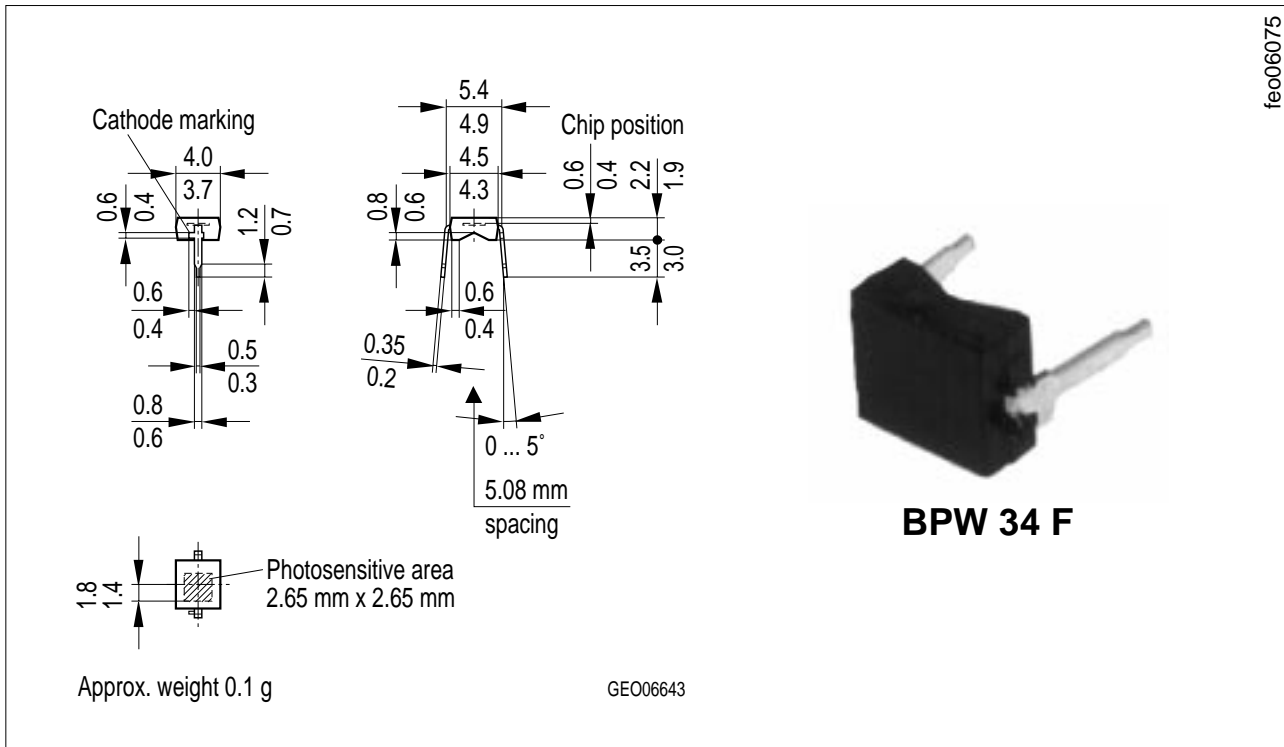


**Silizium-PIN-Fotodiode mit Tageslichtsperrfilter**  
**NEU: in SMT und als Reverse Gullwing**  
**Silicon PIN Photodiode with Daylight Filter**  
**NEW: in SMT and as Reverse Gullwing**

**BPW 34 F**  
**BPW 34 FS**  
**BPW 34 FS (E9087)**



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

### Wesentliche Merkmale

- Speziell geeignet für Anwendungen bei 950 nm
- kurze Schaltzeit (typ. 20 ns)
- DIL-Plastikbauform mit hoher Packungsdichte
- BPW 34 FS/(E9087); geeignet für Vapor-Phase Löten und IR-Reflow Löten

### Anwendungen

- IR-Fernsteuerung von Fernseh- und Rundfunkgeräten, Videorecordern, Gerätefernsteuerungen
- Lichtschranken für Gleich- und Wechsellichtbetrieb

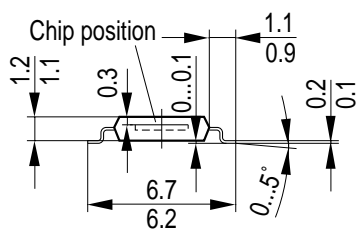
### Features

- Especially suitable for applications of 950 nm
- Short switching time (typ. 20 ns)
- DIL plastic package with high packing density
- BPW 34 FS/(E9087); suitable for vapor-phase and IR-reflow soldering

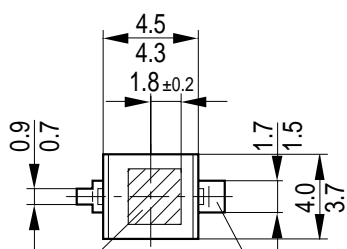
### Applications

- IR remote control of hi-fi and TV sets, video tape recorders, remote controls of various equipment
- Photointerrupters

feo06861



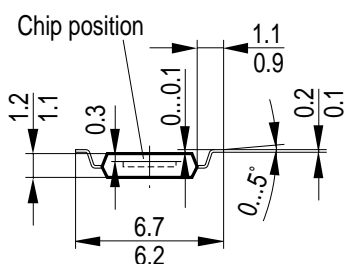
**BPW 34 FS**



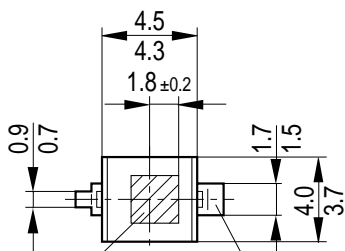
Photosensitive area  
2.65 mm x 2.65 mm

Cathode lead

GEO06863



**BPW 34 FAS (E9087)**



Photosensitive area  
2.65 mm x 2.65 mm

Cathode lead

GEO06916

feo06916

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

Typ Type	Bestellnummer Ordering Code
BPW 34 F	Q62702-P929
BPW 34 FS	Q62702-P1604
BPW 34 FS (E9087)	Q62702-P1826

### 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

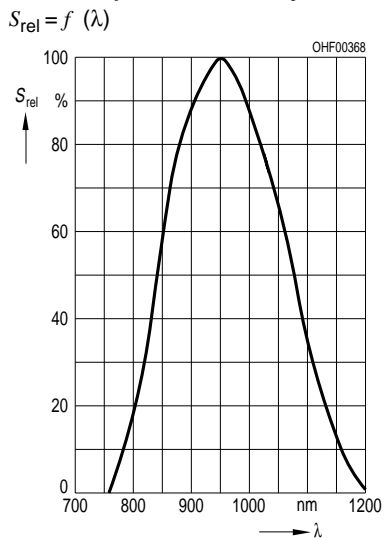
### Kennwerte ( $T_A = 25\text{ °C}$ , $\lambda = 950\text{ nm}$ ) Characteristics

Bezeichnung Description	Symbol Symbol	Wert Value	Einheit Unit
Fotoempfindlichkeit Spectral sensitivity $V_R = 5\text{ V}$ , $E_e = 1\text{ mW/cm}^2$	$S$	50 ( $\geq 40$ )	$\mu\text{A}$
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\text{ max}}$	950	nm
Spektraler Bereich der Fotoempfindlichkeit $S = 10\%$ von $S_{\text{max}}$ Spectral range of sensitivity $S = 10\%$ of $S_{\text{max}}$	$\lambda$	780 ... 1100	nm
Bestrahlungsempfindliche Fläche Radiant sensitive area	$A$	7.00	$\text{mm}^2$
Abmessung der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	$L \times B$ $L \times W$	$2.65 \times 2.65$	$\text{mm} \times \text{mm}$
Halbwinkel Half angle	$\varphi$	$\pm 60$	Grad deg.
Dunkelstrom, $V_R = 10\text{ V}$ Dark current	$I_R$	2 ( $\leq 30$ )	nA
Spektrale Fotoempfindlichkeit Spectral sensitivity	$S_\lambda$	0.59	A/W
Quantenausbeute Quantum yield	$\eta$	0.77	<u>Electrons</u> Photon
Leerlaufspannung, $E_e = 0.5\text{ mW/cm}^2$ Open-circuit voltage	$V_O$	330 ( $\geq 275$ )	mV

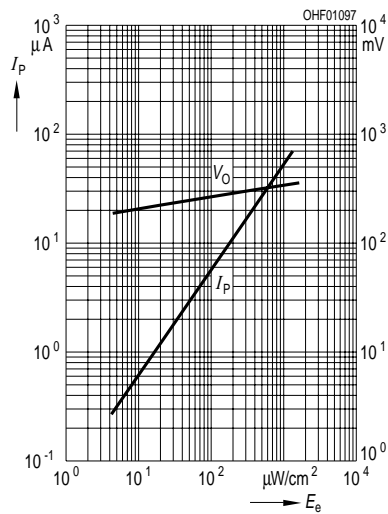
**Kennwerte** ( $T_A = 25\text{ °C}$ ,  $\lambda = 950\text{ nm}$ )  
**Characteristics** (cont'd)

Bezeichnung Description	Symbol Symbol	Wert Value	Einheit Unit
Kurzschlußstrom, $E_e = 0.5\text{ mW/cm}^2$ Short-circuit current	$I_{SC}$	25	$\mu\text{A}$
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 $V_R = 10\text{ V}$	$NEP$	$4.3 \times 10^{-14}$	$\frac{\text{W}}{\sqrt{\text{Hz}}}$
Nachweisgrenze, $V_R = 10\text{ V}$ Detection limit	$D^*$	$6.2 \times 10^{12}$	$\frac{\text{cm} \cdot \sqrt{\text{Hz}}}{\text{W}}$

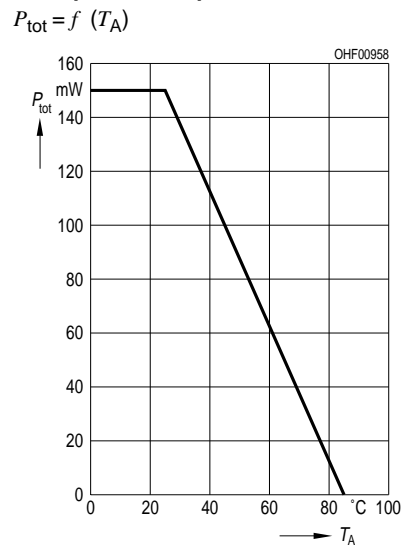
### Relative spectral sensitivity



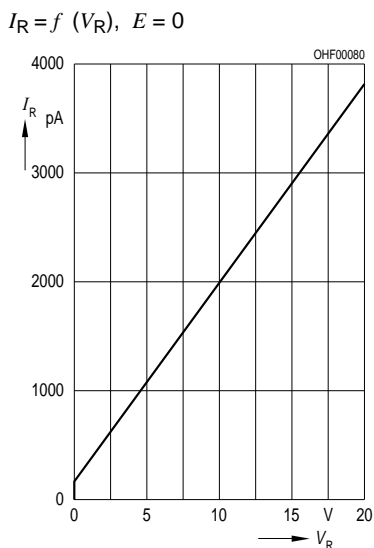
### Photocurrent $I_P = f(E_e), V_R = 5 V$ Open-circuit voltage $V_O = f(E_e)$



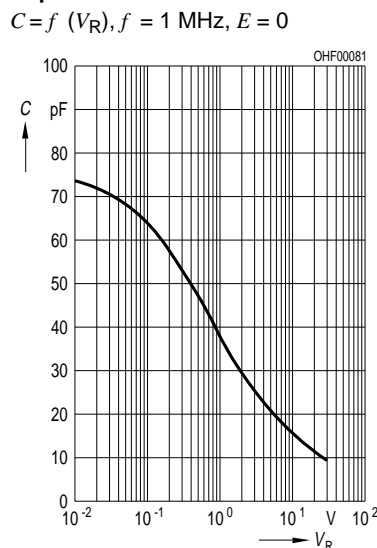
### Total power dissipation



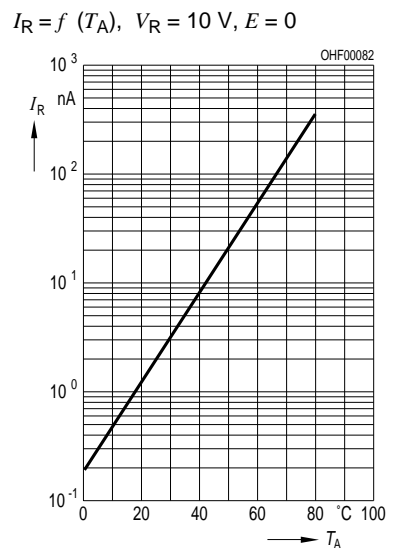
### Dark current



### Capacitance



### Dark current



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

