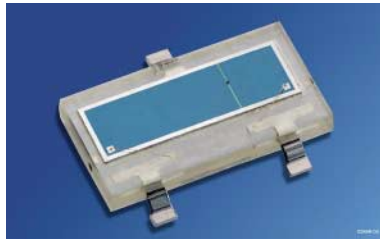
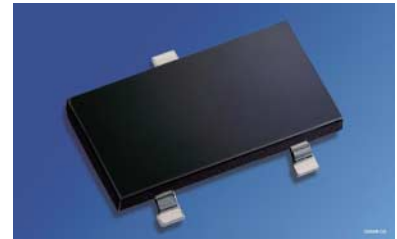


## 2fach-Silizium-PIN Fotodiode in SMT 2-Chip Silicon PIN Photodiode in SMT

### KOM 2125 KOM 2125 FA



KOM 2125



KOM 2125 FA

#### Wesentliche Merkmale

- Speziell geeignet für Anwendungen im Bereich von 400 nm bis 1100 nm und bei 880 nm (KOM 2125 FA)
- Kurze Schaltzeit (typ. 25 ns)
- geeignet für Vapor-Phase Löten und IR-Reflow-Löten
- SMT-fähig

#### Anwendungen

- Nachlaufsteuerungen
- Kantenführung
- Industrieelektronik
- „Messen/Steuern/Regeln“

#### Features

- Especially suitable for applications from 400 nm to 1100 nm and of 880 nm (KOM 2125 FA)
- Short switching time (typ. 25 ns)
- Suitable for vapor-phase and IR-reflow soldering
- Suitable for SMT

#### Applications

- Follow-up controls
- Edge drives
- Industrial electronics
- For control and drive circuits

Typ Type	Bestellnummer Ordering Code
KOM 2125	Q62702-K0047
KOM 2125 FA	Q62702-P5313

**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
Sperrspannung Reverse voltage	$V_R$	60	V
Verlustleistung, $T_A = 25\text{ °C}$ Total power dissipation	$P_{tot}$	150	mW

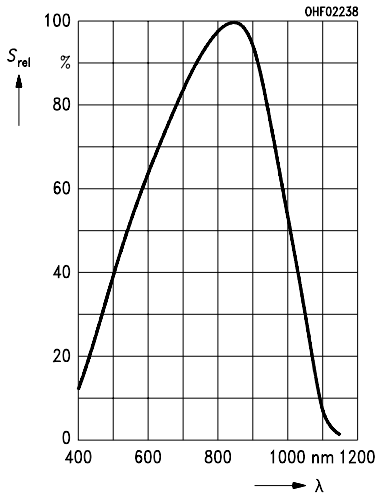
**Kennwerte ( $T_A = 25\text{ °C}$ )**  
**Characteristics ( $T_A = 25\text{ °C}$ )**

Bezeichnung Parameter	Symbol Symbol	Wert Value		Einheit Unit
		KOM 2125	KOM 2125 FA	
Fotostrom Photocurrent $V_R = 5\text{ V}$ , Normlicht/standard light A Diode A $T = 2856\text{ K}$ , $E_V = 1000\text{ lx}$ Diode B $V_R = 5\text{ V}$ , $\lambda = 870\text{ nm}$ , $E_e = 1\text{ mW/cm}^2$ Diode A Diode B	$I_P$  $I_P$	40 (> 30) 100 (> 75) – –	– – 26 (> 20) 70 (> 50)	$\mu\text{A}$  $\mu\text{A}$
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\max}$	850	900	nm
Spektraler Bereich der Fotoempfindlichkeit $S = 10\%$ von $S_{\max}$ Spectral range of sensitivity $S = 10\%$ of $S_{\max}$	$\lambda$	400 ... 1100	750 ... 1100	nm
Bestrahlungsempfindliche Fläche Diode A Radiant sensitive area Diode B	$A$	4 10	4 10	$\text{mm}^2$
Abmessung der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	$L \times B$  $L \times W$	$2 \times 2, 2 \times 5$	$2 \times 2, 2 \times 5$	$\text{mm} \times \text{mm}$
Abstand Chipoberfläche zu Vergußoberfläche Distance chip front to case seal	$H$	0.3	0.3	mm
Halbwinkel Half angle	$\varphi$	$\pm 60$	$\pm 60$	Grad deg.
Dunkelstrom, $V_R = 10\text{ V}$ Diode A Dark current Diode B	$I_R$	5 ( $\leq 30$ ) 10 ( $\leq 30$ )	5 ( $\leq 30$ ) 10 ( $\leq 30$ )	nA

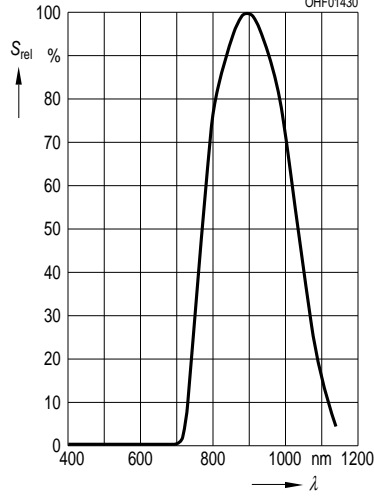
**Kennwerte** ( $T_A = 25\text{ °C}$ )  
**Characteristics** ( $T_A = 25\text{ °C}$ ) (cont'd)

Bezeichnung Parameter	Symbol Symbol	Wert Value		Einheit Unit
		KOM 2125	KOM 2125 FA	
Leerlaufspannung Open-circuit voltage $E_v = 1000\text{ lx}$ , Normlicht/standard light A $E_e = 1\text{ mW/cm}^2$ , $\lambda = 850\text{ nm}$	$V_O$ $V_O$	350 (> 300) –	– 350 (> 300)	mV mV
Kurzschlussstrom Short-circuit current Normlicht/standard light A $T = 2856\text{ K}$ , $E_v = 1000\text{ lx}$ $\lambda = 870\text{ nm}$ , $E_e = 1\text{ mW/cm}^2$	Diode A Diode B $I_{SC}$ Diode A Diode B $I_{SC}$	38 95 – –	– – 24 66	$\mu\text{A}$ $\mu\text{A}$
Anstiegszeit/Abfallzeit Rise and fall time $R_L = 50\ \Omega$ ; $V_R = 5\text{ V}$ ; $\lambda = 850\text{ nm}$ ; $I_P = 800\ \mu\text{A}$	Diode A Diode B $t_r, t_f$	18 25	18 25	ns
Durchlassspannung, $I_F = 100\text{ mA}$ ; $E = 0$ Forward voltage	$V_F$	1.0	1.0	V
Kapazität Capacitance $V_R = 0\text{ V}$ ; $f = 1\text{ MHz}$ ; $E = 0$	Diode A Diode B $C_0$	40 100	40 100	pF
Temperaturkoeffizient von $V_O$ Temperature coefficient of $V_O$	$TC_V$	– 2.6	– 2.6	mV/K
Temperaturkoeffizient von $I_P$ Temperature coefficient of $I_P$ Normlicht/standard light A $\lambda = 850\text{ nm}$	$TC_I$	0.18 –	– 0.2	%/K
Rauschäquivalente Strahlungsleistung Noise equivalent power $V_R = 10\text{ V}$	Diode A Diode B $NEP$	$6.4 \times 10^{-14}$ $9.1 \times 10^{-14}$	$6.4 \times 10^{-14}$ $9.1 \times 10^{-14}$	$\frac{\text{W}}{\sqrt{\text{Hz}}}$
Nachweisgrenze, $V_R = 10\text{ V}$ Detection limit	Diode A Diode B $D^*$	$3.1 \times 10^{12}$ $3.5 \times 10^{12}$	$3.1 \times 10^{12}$ $3.5 \times 10^{12}$	$\frac{\text{cm} \times \sqrt{\text{Hz}}}{\text{W}}$

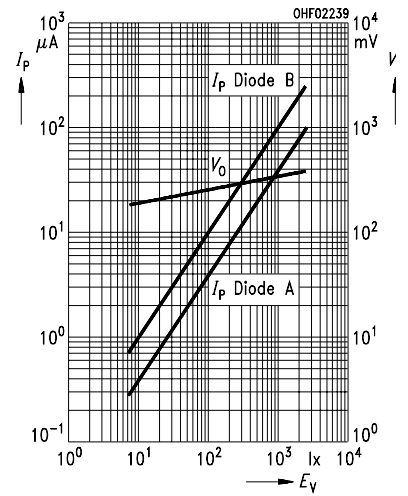
**Relative Spectral Sensitivity**  
KOM 2125,  $S_{rel} = f(\lambda)$



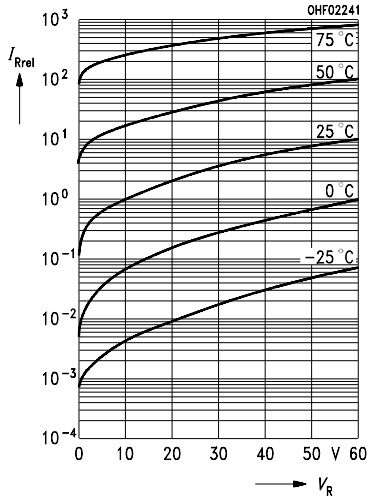
**Relative Spectral Sensitivity**  
KOM 2125 FA,  $S_{rel} = f(\lambda)$



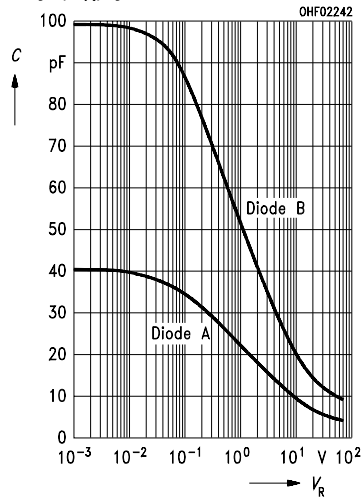
**Photocurrent  $I_P = f(E_V)$ ,  $V_R = 5 V$**   
**Open-Circuit Voltage  $V_O = f(E_V)$**



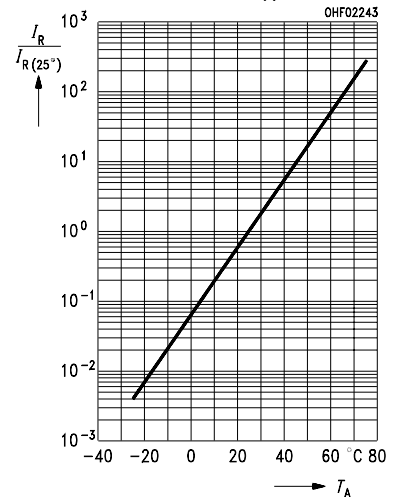
**Dark Current,  $I_R = f(V_R)$ ,  $E = 0$**   
normalized to 10 V/25 °C



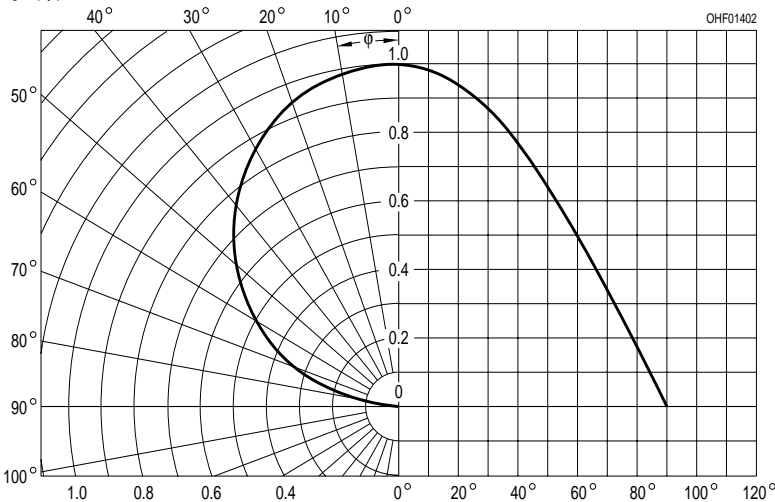
**Capacitance**  
 $C = f(V_R)$ ,  $f = 1 MHz$ ,  $E = 0$



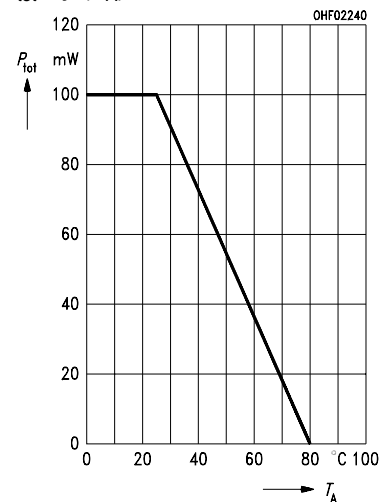
**Dark Current  $I_R = f(T_A)$ ,  $V_R = 10 V$ ,**  
 $E = 0$ , normalized to  $T_A = 25 °C$



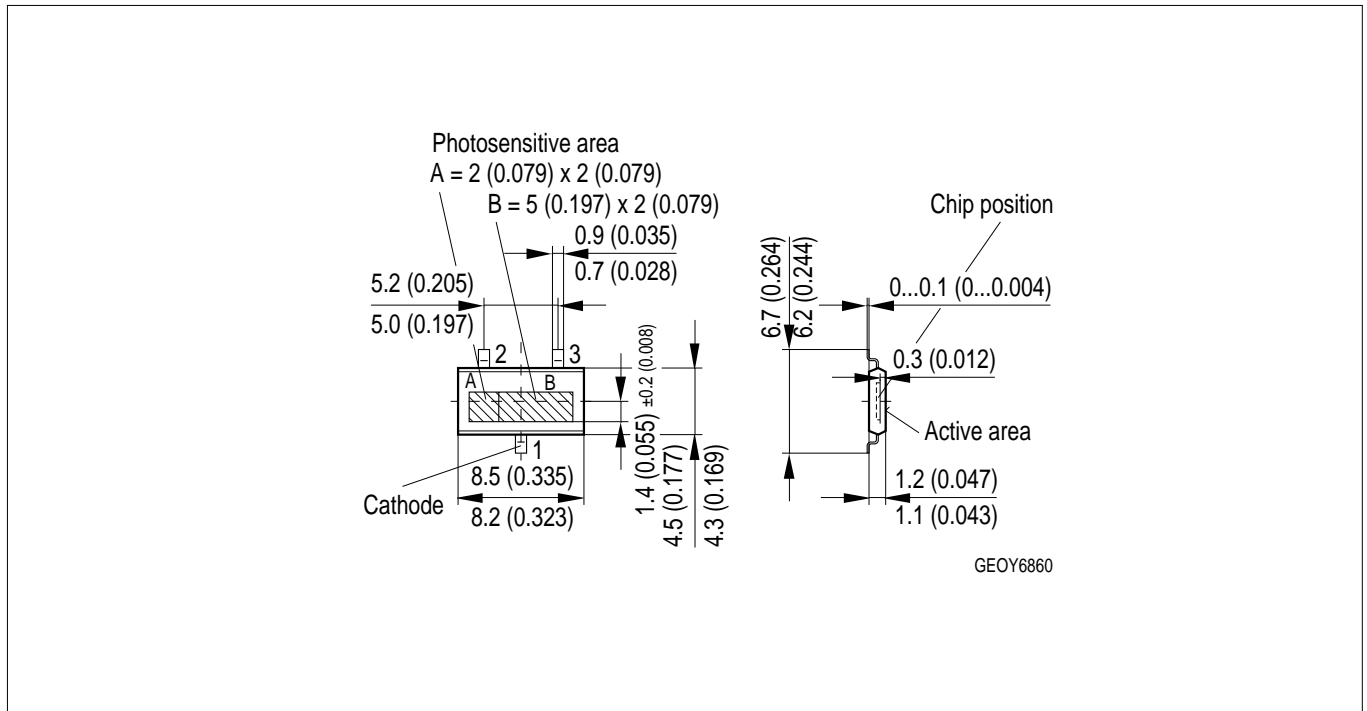
**Directional Characteristics**  
 $S_{rel} = f(\phi)$



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



Maßzeichnung  
Package Outlines



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