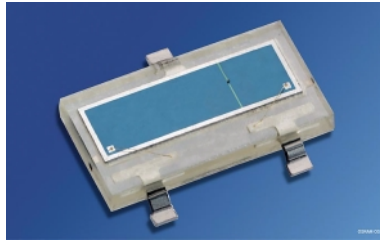
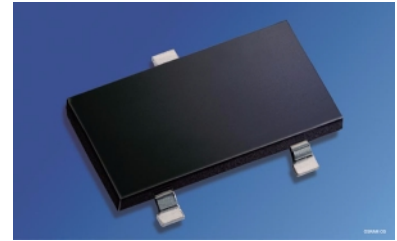


## 2fach-Silizium-PIN Fotodiode in SMT 2-Chip Silicon PIN Photodiode in SMT

**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

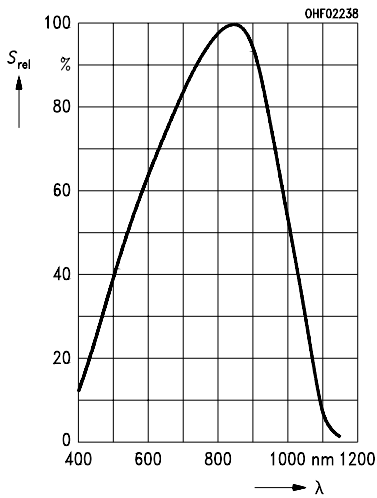
**Kennwerte ( $T_A = 25\text{ °C}$ )**  
**Characteristics ( $T_A = 25\text{ °C}$ )**

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 Radiant sensitive area	Diode A Diode B	$A$ 4 10	4 10	$\text{mm}^2$
Abmessung der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	Diode A Diode B	$L \times B$ $L \times W$	$2 \times 2$ $2 \times 5$	mm × mm mm × mm
Abstand Chipoberfläche zu Vergußoberfläche Distance chip front to case seal	$H$	0.3	0.3	mm
Halbwinkel Half angle	$\varphi$	± 60	± 60	Grad deg.
Dunkelstrom, $V_R = 10\text{ V}$ Dark current	Diode A Diode B	$I_R$ 5 (≤ 30) 10 (≤ 30)	5 (≤ 30) 10 (≤ 30)	nA

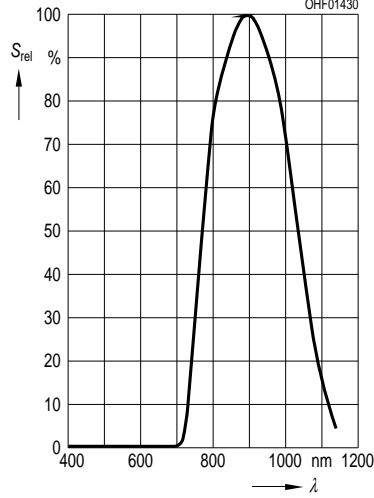
Kennwerte ( $T_A = 25\text{ °C}$ )Characteristics ( $T_A = 25\text{ °C}$ ) (cont'd)

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 Diode A Diode B	$I_{SC}$ $I_{SC}$	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	$D^*$	$3.1 \times 10^{12}$ $3.5 \times 10^{12}$	$3.1 \times 10^{12}$ $3.5 \times 10^{12}$	$\frac{\text{cm} \times \sqrt{\text{Hz}}}{\text{W}}$

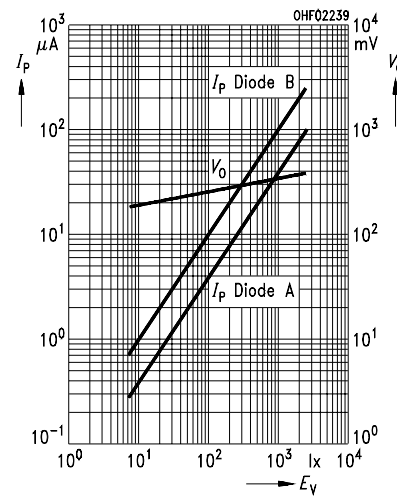
**Relative Spectral Sensitivity**  
KOM 2125,  $S_{rel} = f(\lambda)$



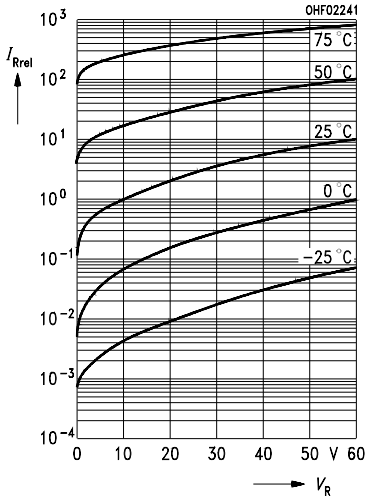
**Relative Spectral Sensitivity**  
KOM 2125 FA,  $S_{rel} = f(\lambda)$



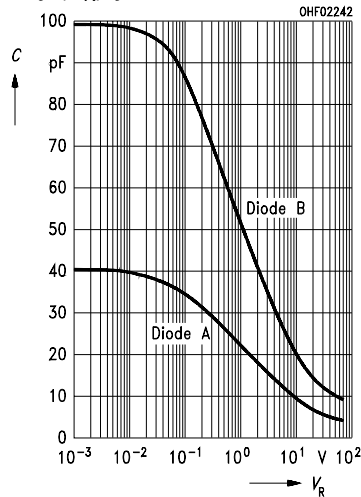
**Photocurrent  $I_P = f(E_V)$ ,  $V_R = 5 V$**   
**Open-Circuit Voltage  $V_O = f(E_V)$**



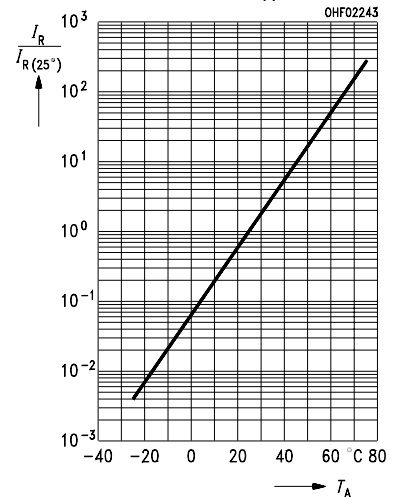
**Dark Current,  $I_R = f(V_R)$ ,  $E = 0$**   
normalized to 10 V/25 °C



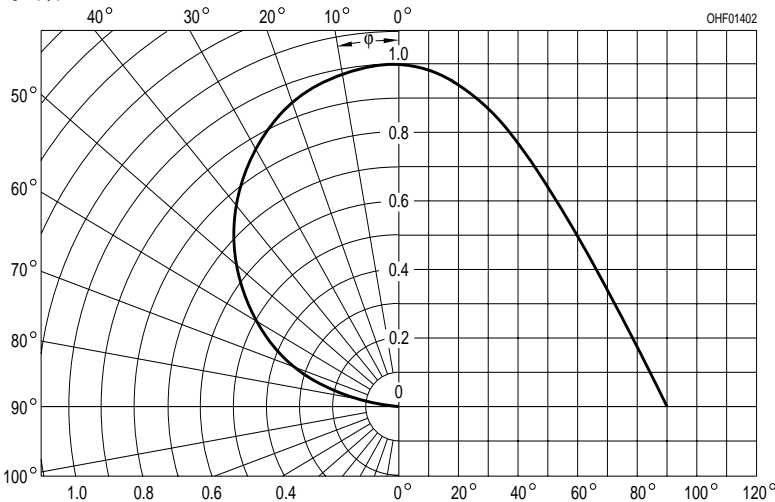
**Capacitance**  
 $C = f(V_R)$ ,  $f = 1 MHz$ ,  $E = 0$



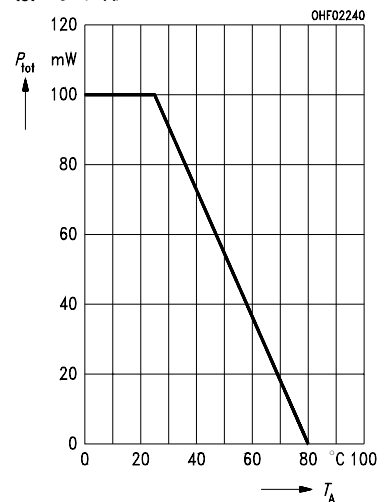
**Dark Current  $I_R = f(T_A)$ ,  $V_R = 10 V$ ,**  
 $E = 0$ , normalized to  $T_A = 25 °C$



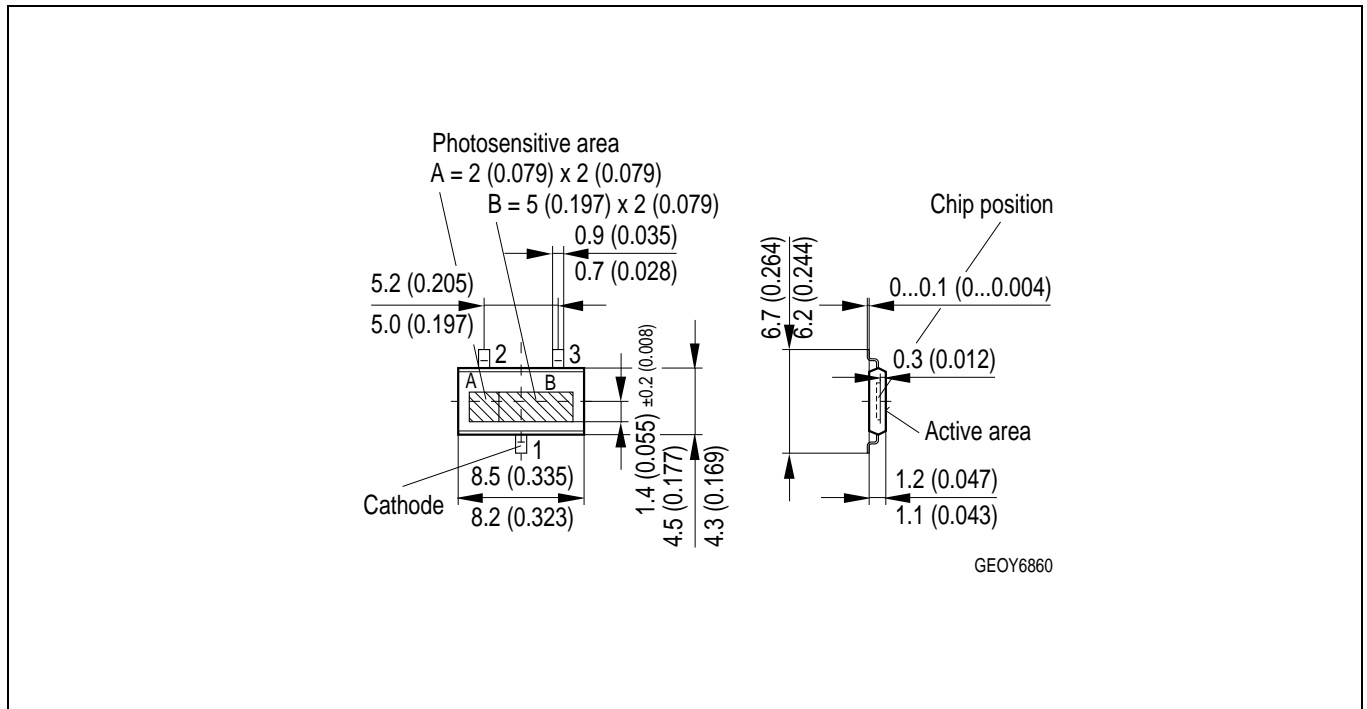
**Directional Characteristics**  
 $S_{rel} = f(\phi)$



**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).

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### Attention please!

The information describes the type of component and shall not be considered as assured characteristics. Terms of delivery and rights to change design reserved. Due to technical requirements components may contain dangerous substances. For information on the types in question please contact our Sales Organization.

### Packing

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You must bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

**Components used in life-support devices or systems must be expressly authorized for such purpose!** Critical components <sup>1</sup>, may only be used in life-support devices or systems <sup>2</sup> with the express written approval of OSRAM OS.

<sup>1</sup> A critical component is a component used in a life-support device or system whose failure can reasonably be expected to cause the failure of that life-support device or system, or to affect its safety or effectiveness of that device or system.

<sup>2</sup> Life support devices or systems are intended (a) to be implanted in the human body, or (b) to support and/or maintain and sustain human life. If they fail, it is reasonable to assume that the health of the user may be endangered.