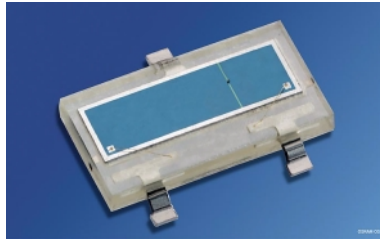
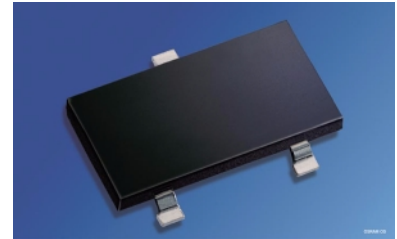


2fach-Silizium-PIN Fotodiode in SMT 2-Chip Silicon PIN Photodiode in SMT

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

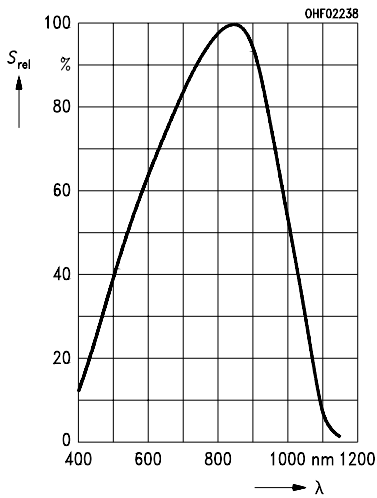
Kennwerte ($T_A = 25\text{ °C}$)
Characteristics ($T_A = 25\text{ °C}$)

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)	μA μA
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}	λ	400 ... 1100	750 ... 1100	nm
Bestrahlungsempfindliche Fläche Radiant sensitive area	Diode A Diode B	A 4 10	4 10	mm^2
Abmessung der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	Diode A Diode B	$L \times B$ $L \times W$	2×2 2×5	mm × mm mm × mm
Abstand Chipoberfläche zu Vergußoberfläche Distance chip front to case seal	H	0.3	0.3	mm
Halbwinkel Half angle	φ	± 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

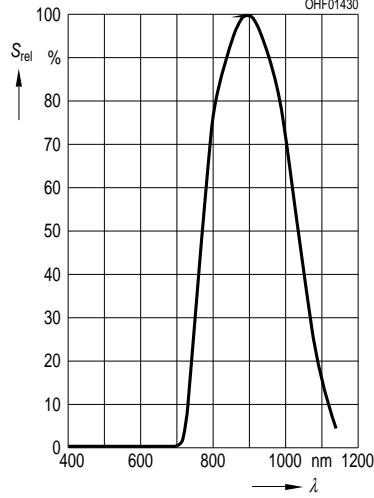
Kennwerte ($T_A = 25\text{ °C}$)Characteristics ($T_A = 25\text{ °C}$) (cont'd)

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	μA μA
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	6.4×10^{-14} 9.1×10^{-14}	6.4×10^{-14} 9.1×10^{-14} $\frac{\text{W}}{\sqrt{\text{Hz}}}$
Nachweisgrenze, $V_R = 10\text{ V}$ Detection limit	Diode A Diode B	D^*	3.1×10^{12} 3.5×10^{12}	3.1×10^{12} 3.5×10^{12} $\frac{\text{cm} \times \sqrt{\text{Hz}}}{\text{W}}$

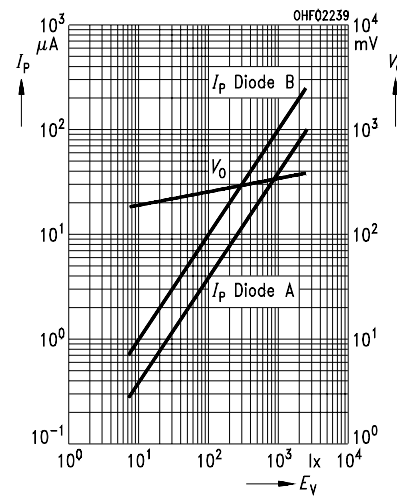
Relative Spectral Sensitivity
KOM 2125, $S_{rel} = f(\lambda)$



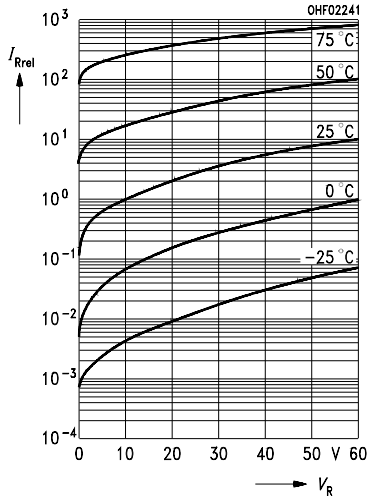
Relative Spectral Sensitivity
KOM 2125 FA, $S_{rel} = f(\lambda)$



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

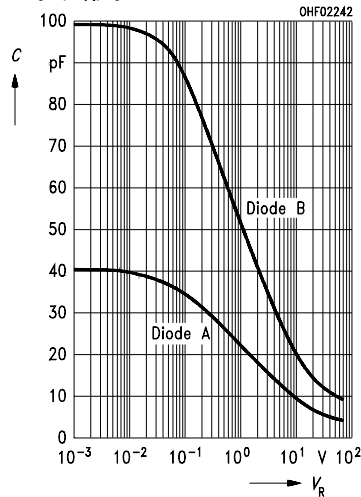


Dark Current, $I_R = f(V_R)$, $E = 0$
normalized to 10 V/25 °C

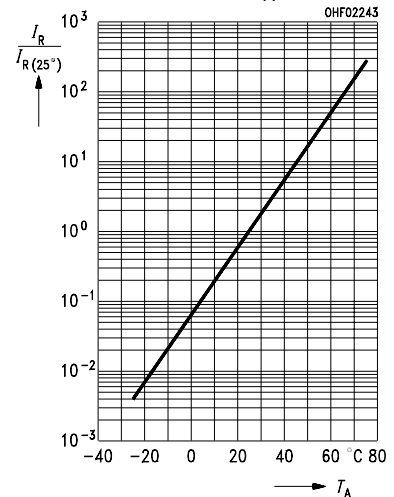


Capacitance

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

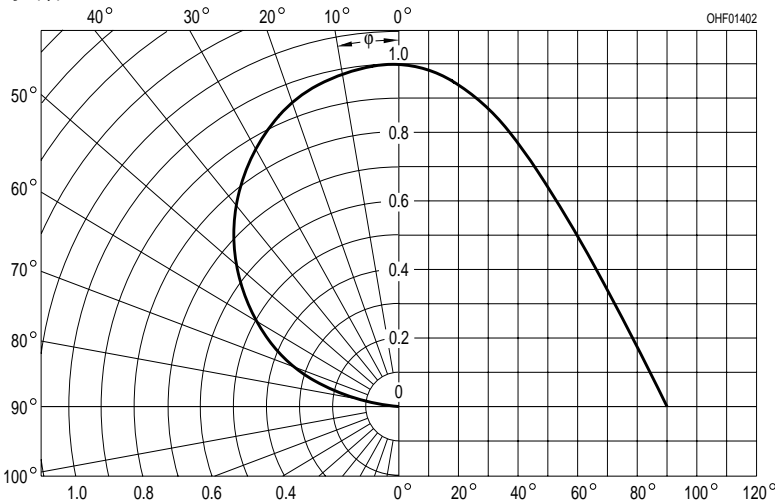


Dark Current $I_R = f(T_A)$, $V_R = 10 V$,
 $E = 0$, normalized to $T_A = 25 \text{ °C}$



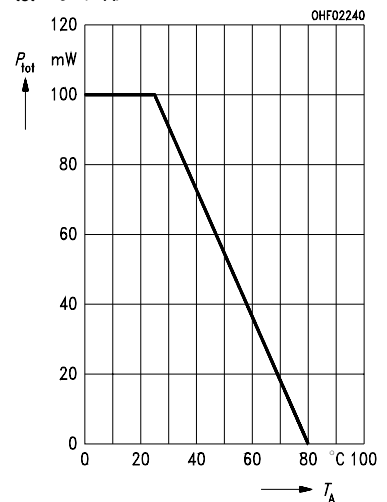
Directional Characteristics

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

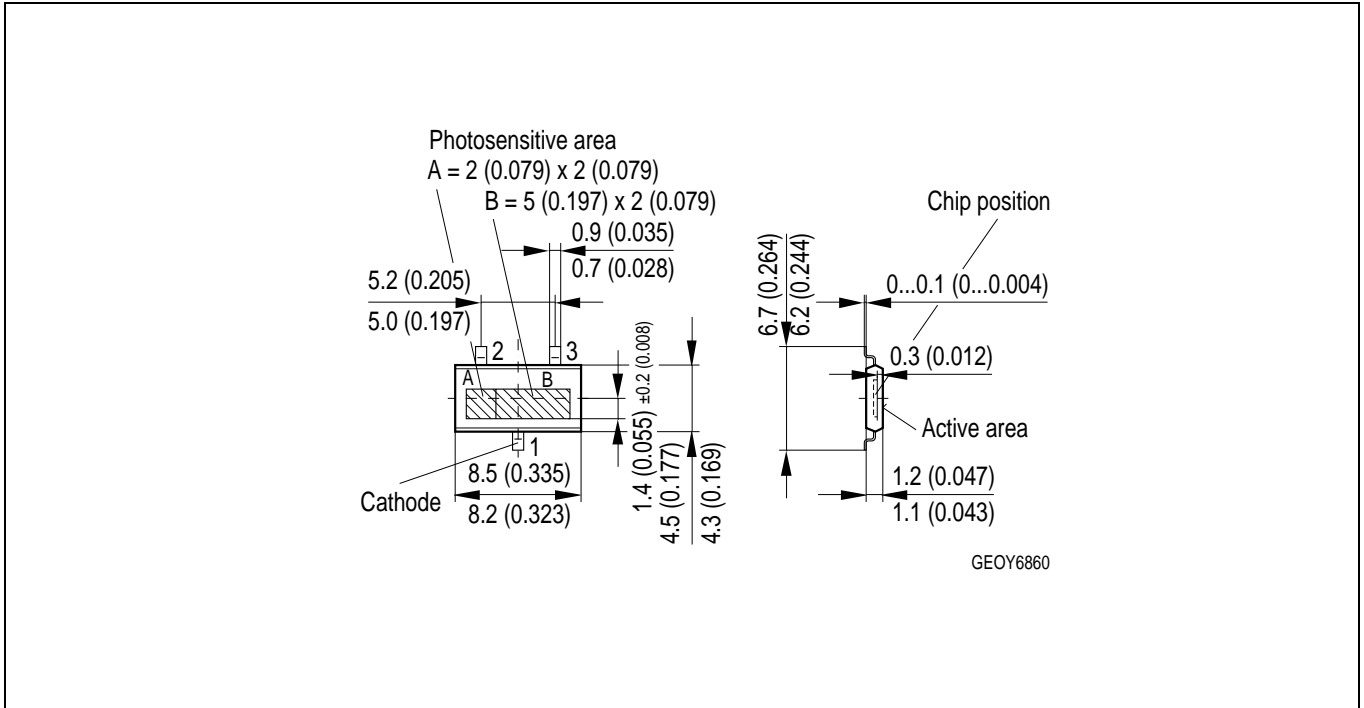


Total Power Dissipation

$P_{tot} = f(T_A)$



**Maßzeichnung
Package Outlines**



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

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Attention please!

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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.

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¹ 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.

² 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.