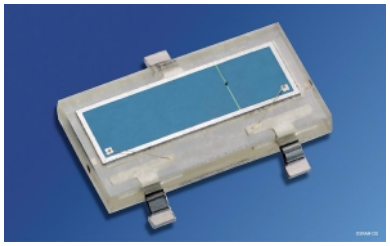
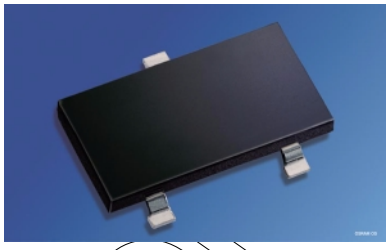
2fach-Silizium-PIN Fotodiode in SMT
2-Chip Silicon PIN Photodiode in SMT

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 °C Total power dissipation	P_{tot}	150	mW

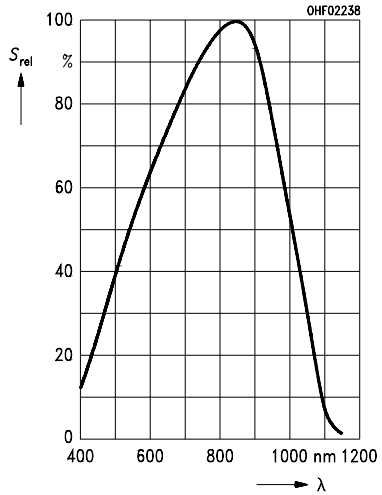
Kennwerte (T_A = 25 °C)
Characteristics (T_A = 25 °C)

Bezeichnung **Parameter**		**Symbol** **Symbol**	**Wert** **Value**		**Einheit** **Unit**
			KOM 2125	**KOM 2125 FA**	
Fotostrom Photocurrent					
V_R = 5 V, Normlicht/standard light A	Diode A	I_P	40 (> 30)	–	µA
T = 2856 K, E_v = 1000 lx	Diode B		100 (> 75)	–	
V_R = 5 V, λ = 870 nm, E_e = 1mW/cm²	Diode A	I_P	–	26 (> 20)	µA
	Diode B		–	70 (> 50)	
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	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 V Dark current	Diode A Diode B	I_R	5 (≤ 30) 10 (≤ 30)	5 (≤ 30) 10 (≤ 30)	nA

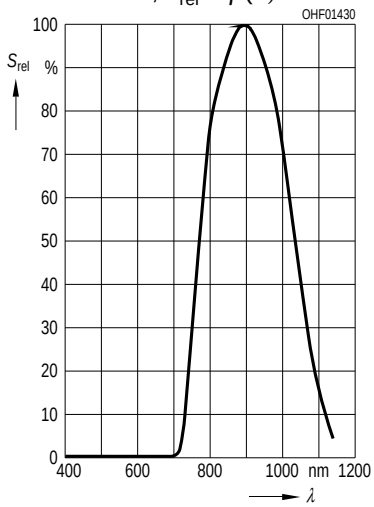
Kennwerte (T_A = 25 °C)
Characteristics (T_A = 25 °C) (cont'd)

Bezeichnung **Parameter**		**Symbol** **Symbol**	**Wert** **Value**		**Einheit** **Unit**
			KOM 2125	**KOM 2125 FA**	
Leerlaufspannung Open-circuit voltage E_v = 1000 lx, Normlicht/standard light A E_e = 1 mW/cm², λ = 850 nm		 V_O V_O	 350 (> 300) –	 – 350 (> 300)	 mV mV
Kurzschlussstrom Short-circuit current Normlicht/standard light A T = 2856 K, E_v = 1000 lx λ = 870 nm, E_e = 1 mW/cm²	 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 Ω; V_R = 5 V; λ = 850 nm; I_P = 800 µA	Diode A Diode B	t_r, t_f	18 25	18 25	ns
Durchlassspannung, I_F = 100 mA; E = 0 Forward voltage		V_F	1.0	1.0	V
Kapazität Capacitance V_R = 0 V; f = 1 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 λ = 850 nm		 TC_I	 0.18 –	 – 0.2	 %/K
Rauschäquivalente Strahlungsleistung Noise equivalent power V_R = 10 V	 Diode A Diode B	NEP	6.4×10^{-14} 9.1×10^{-14}	6.4×10^{-14} 9.1×10^{-14}	$\frac{W}{\sqrt{Hz}}$
Nachweisgrenze, V_R = 10 V Detection limit	Diode A Diode B	D*	3.1×10^{12} 3.5×10^{12}	3.1×10^{12} 3.5×10^{12}	$\frac{cm \times \sqrt{Hz}}{W}$

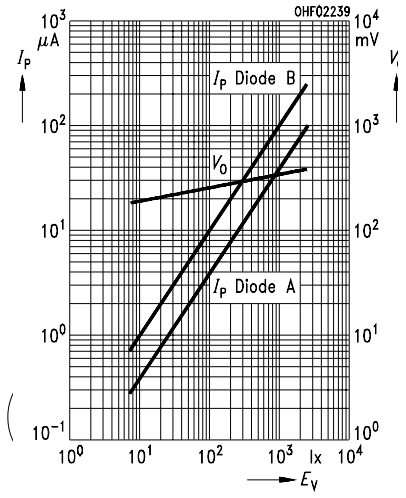
Relative Spectral Sensitivity
KOM 2125, $S_{rel} = f(\lambda)$



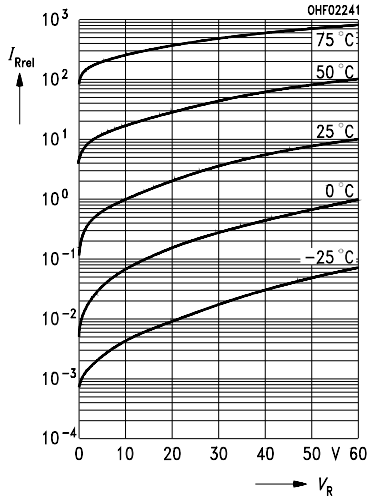
Relative Spectral Sensitivity
KOM 2125 FA, $S_{rel} = f(\lambda)$



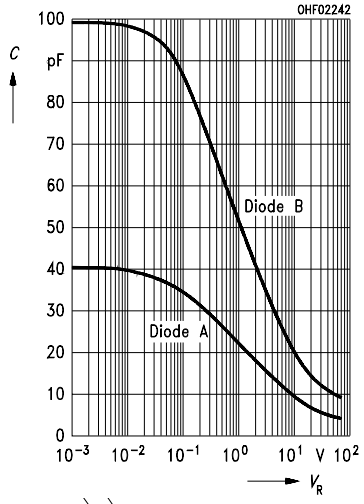
Photocurrent $I_P = f(E_v)$, V_R = 5 V
Open-Circuit Voltage $V_O = f(E_v)$



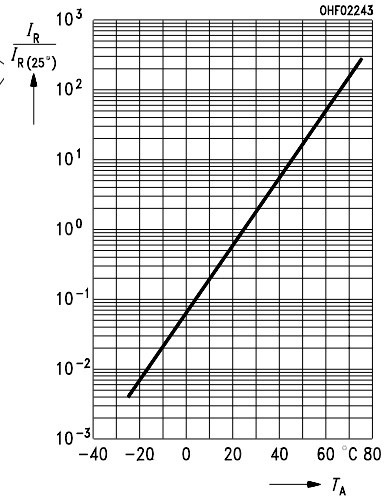
Dark Current, $I_R = f(V_R)$, E = 0
normalized to 10 V/25 °C



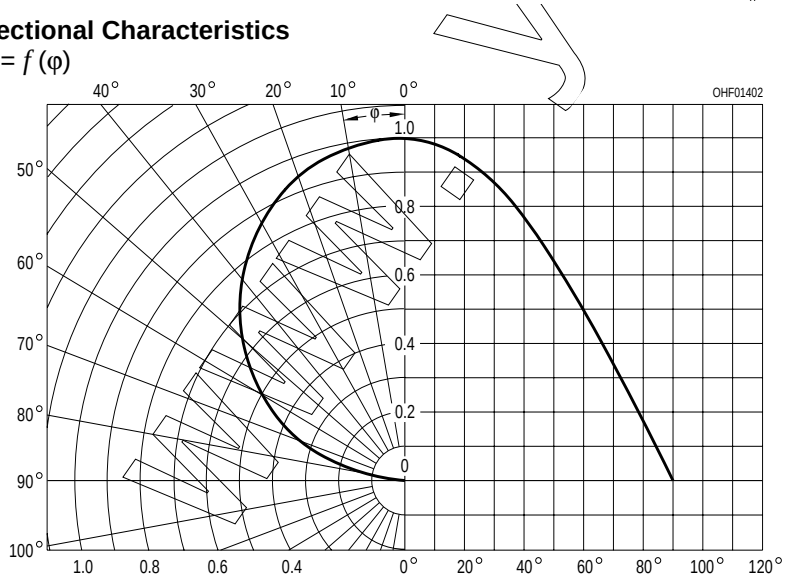
Capacitance
$C = f(V_R)$, f = 1 MHz, E = 0



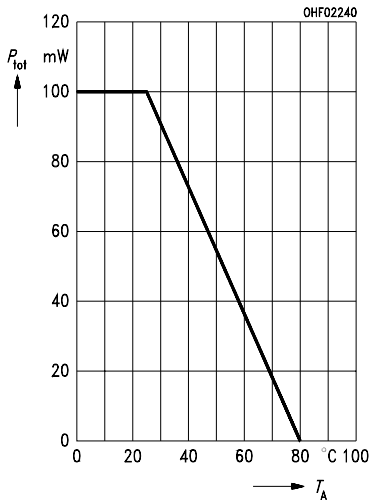
Dark Current $I_R = f(T_A)$, V_R = 10 V,
E = 0, normalized to T_A = 25 °C



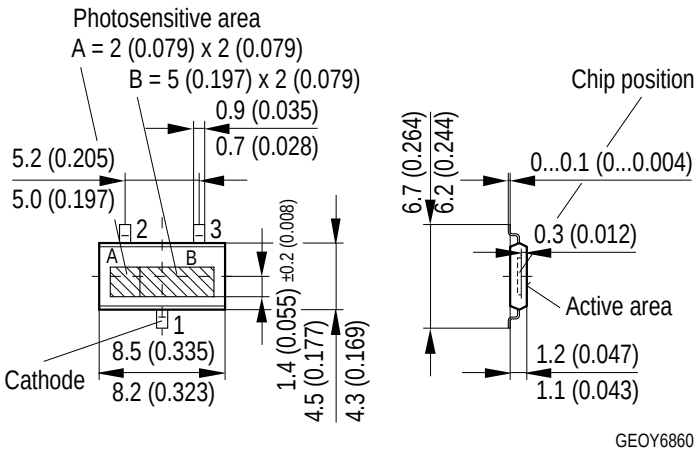
Directional Characteristics
$S_{rel} = f(\varphi)$



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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