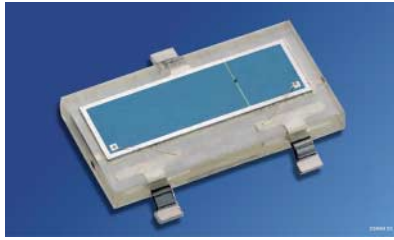


2fach-Silizium-PIN Fotodiode in SMT

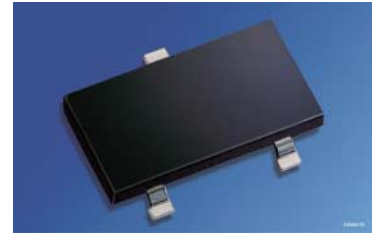
2-Chip Silicon PIN Photodiode in SMT

Lead (Pb) Free Product - RoHS Compliant

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 880nm (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 for 880nm (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	Q65110A2703
KOM 2125 FA	Q65110A2702

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

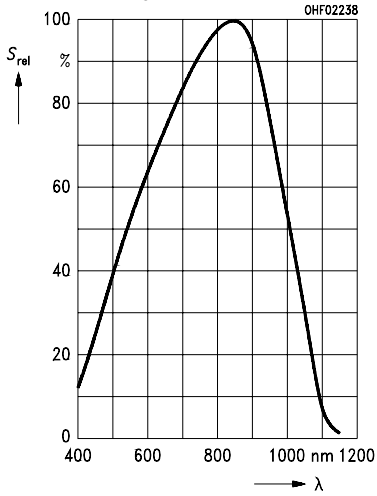
Kennwerte ($T_A = 25$ °C)
Characteristics ($T_A = 25$ °C)

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 $T = 2856$ K, $E_V = 1000$ lx Diode B $V_R = 5$ V; $\lambda = 870$ nm, $E_e = 1$ mW/cm ² Diode A Diode B	I_P I_P	40 (≥ 30) 100 (≥ 75)	26 (≥ 20) 70 (≥ 50)	μ A μ 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}	λ	400 ...1100	750 ...1100	nm
Bestrahlungsempfindliche Fläche Diode A Radiant sensitive area Diode B	A	4 10	4 10	mm ²
Abmessung der bestrahlungsempfindlichen Fläche Diode A Dimensions of radiant sensitive area Diode B	$L \times B$ $L \times W$	2×2 2×5	2×2 2×5	mm \times mm
Halbwinkel Half angle	φ	± 60	± 60	Grad deg.
Dunkelstrom, $V_R = 10$ V Diode A Dark current Diode B	I_R	5 (≤ 30) 10 (≤ 30)	5 (≤ 30) 10 (≤ 30)	nA

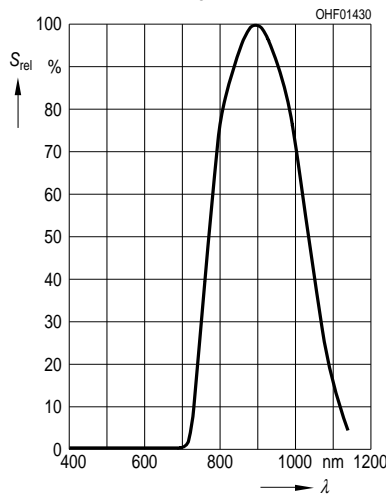
Kennwerte ($T_A = 25\text{ °C}$)Characteristics ($T_A = 25\text{ °C}$) (cont'd)

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 $\lambda = 870\text{ nm}$, $E_e = 1\text{ mW/cm}^2$	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	μA μA
Anstiegszeit/Abfallzeit Rise and fall time $R_L = 50\ \Omega$; $V_R = 5\text{ V}$; $\lambda = 850\text{ nm}$	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 $\lambda = 870\text{ nm}$	TC_I	0.18	0.14	%/K
Rauschäquivalente Strahlungsleistung Diode A Noise equivalent power $V_R = 10\text{ V}$	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 Detection limit $V_R = 10\text{ V}$	Diode A Diode B D^*	3.1×10^{12} 3.5×10^{12}	3.1×10^{12} 3.5×10^{12}	$\frac{\text{cm} \times \sqrt{\text{Hz}}}{\text{W}}$

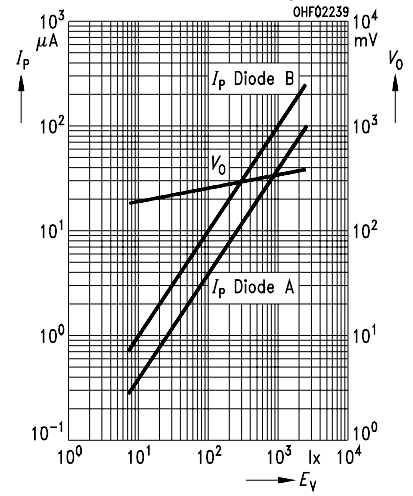
Relative Spectral Sensitivity
KOM 2125, $S_{rel} = f(\lambda)$



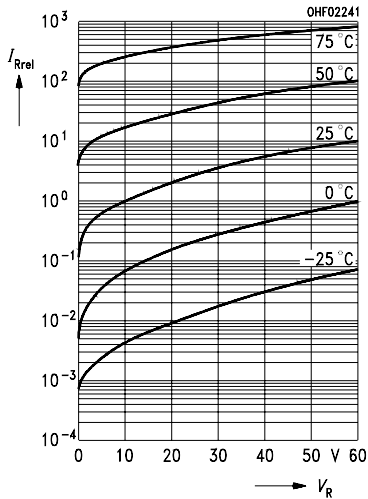
Relative Spectral Sensitivity
KOM 2125FA, $S_{rel} = f(\lambda)$



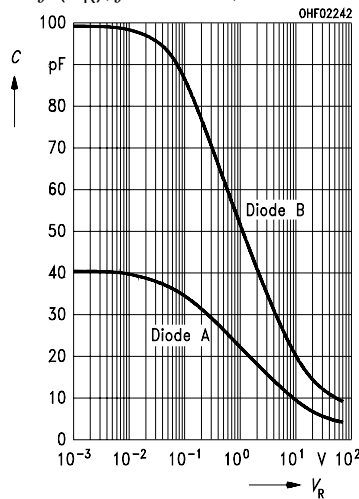
Photocurrent $I_p = f(E_v)$, $V_R = 5 V$
Open-Circuit Voltage $V_O = f(E_v)$



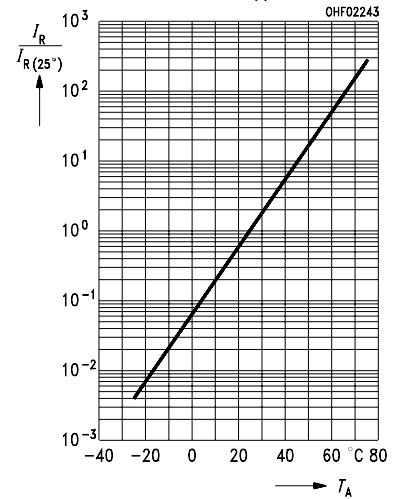
Dark Current, $I_R = f(V_R)$, $E = 0$
normalized to 10 V/25 °C



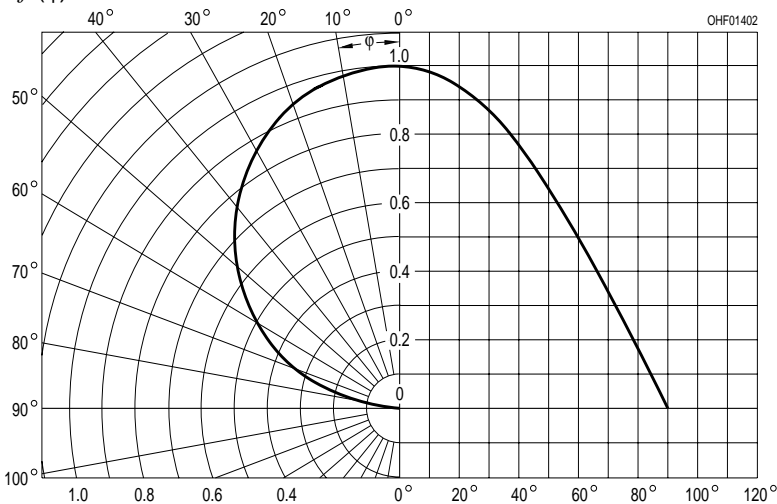
Capacitance
 $C = f(V_R)$, $f = 1 MHz$, $E = 0$



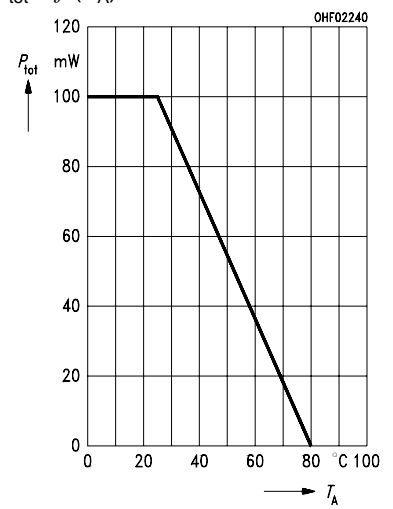
Dark Current $I_R = f(T_A)$, $V_R = 10 V$,
 $E = 0$, normalized to $T_A = 25 °C$



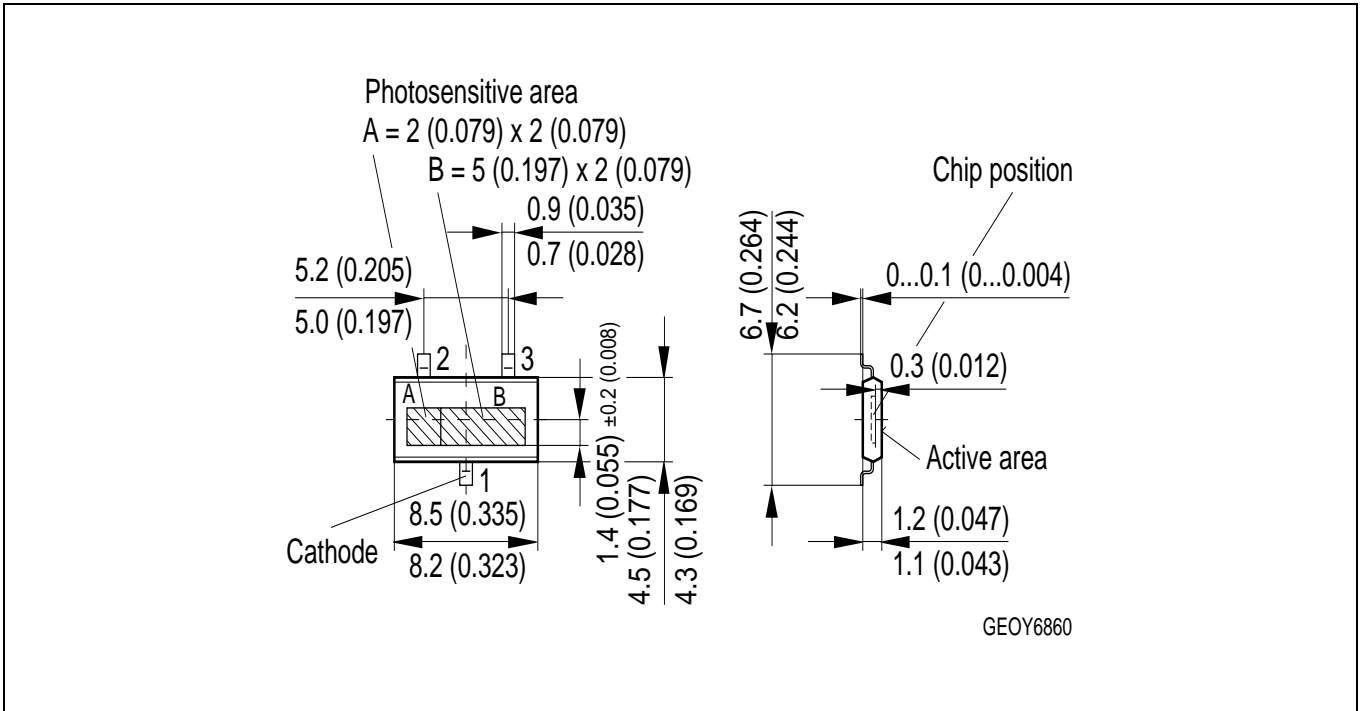
Directional Characteristics
 $S_{rel} = f(\phi)$



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).

Lötbedingungen

Soldering Conditions

IR-Reflow Lötprofil für bleifreies Löten

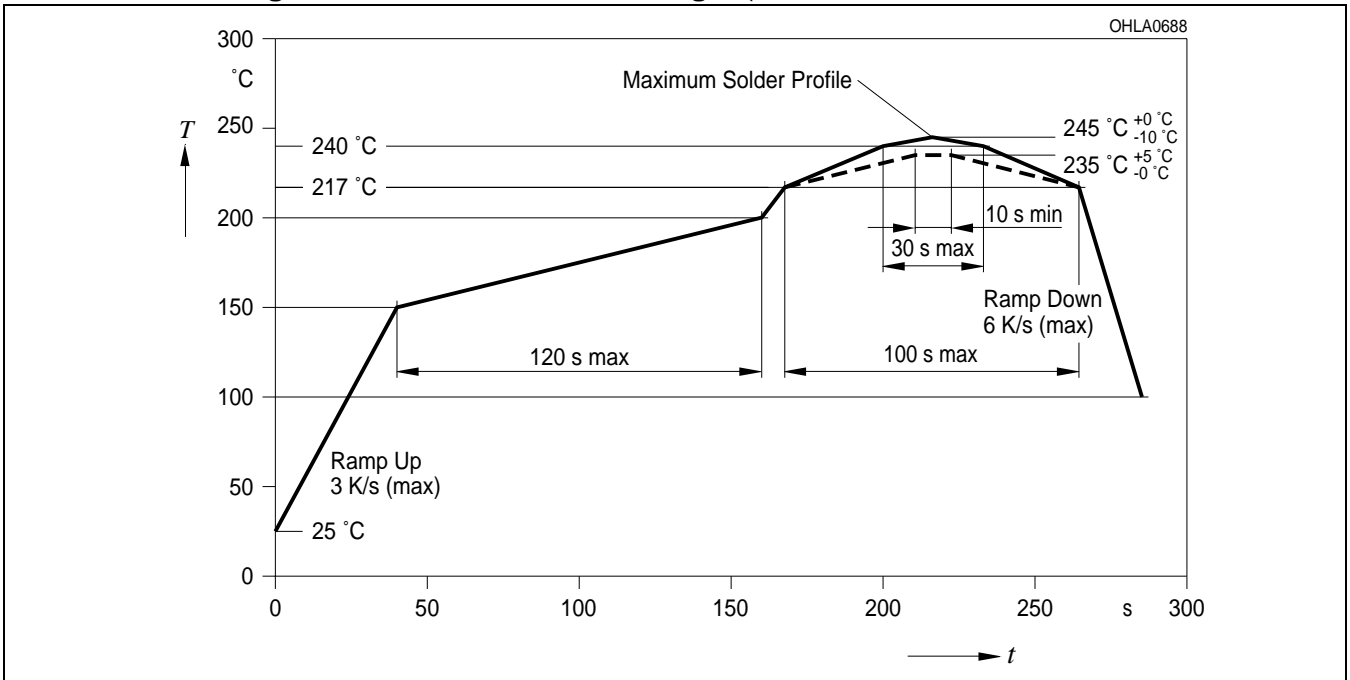
IR Reflow Soldering Profile for lead free soldering

Vorbehandlung nach JEDEC Level 4

Preconditioning acc. to JEDEC Level 4

(nach J-STD-020B)

(acc. to J-STD-020B)



Published by OSRAM Opto Semiconductors GmbH
Wernerwerkstrasse 2, D-93049 Regensburg

www.osram-os.com

© All Rights Reserved.

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 ¹, may only be used in life-support devices or systems ² with the express written approval of OSRAM OS.

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