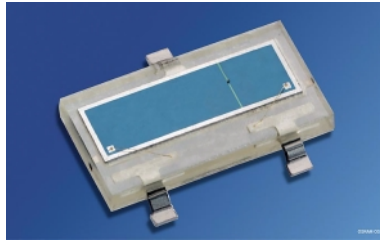
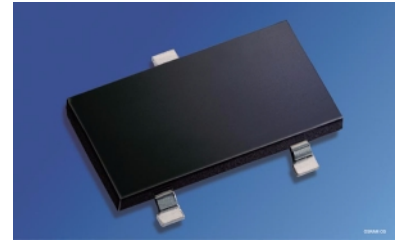


2fach-Silizium-PIN Fotodiode in SMT 2-Chip Silicon PIN Photodiode in SMT

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 |

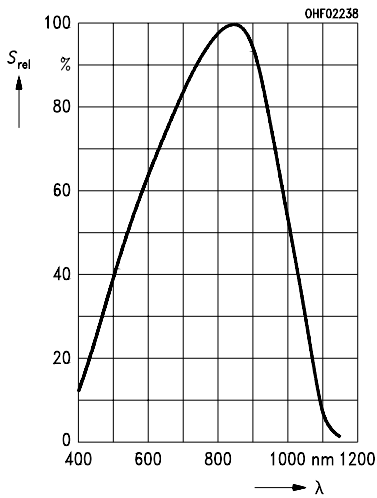
Kennwerte ($T_A = 25\text{ °C}$)
Characteristics ($T_A = 25\text{ °C}$)

| 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 |

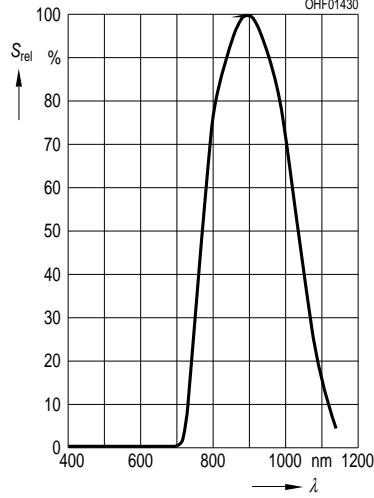
Kennwerte ($T_A = 25\text{ °C}$)Characteristics ($T_A = 25\text{ °C}$) (cont'd)

| 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} $\frac{\text{cm} \times \sqrt{\text{Hz}}}{\text{W}}$ |

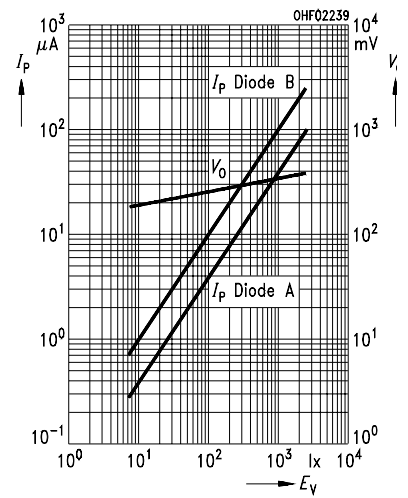
Relative Spectral Sensitivity
KOM 2125, $S_{rel} = f(\lambda)$



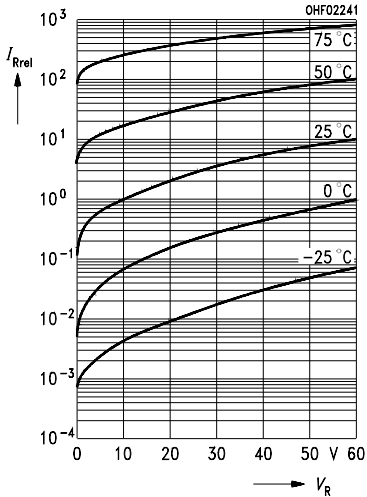
Relative Spectral Sensitivity
KOM 2125 FA, $S_{rel} = f(\lambda)$



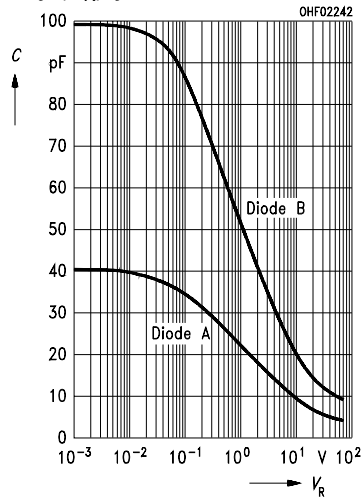
Photocurrent $I_P = f(E_V)$, $V_R = 5 V$
Open-Circuit Voltage $V_O = f(E_V)$



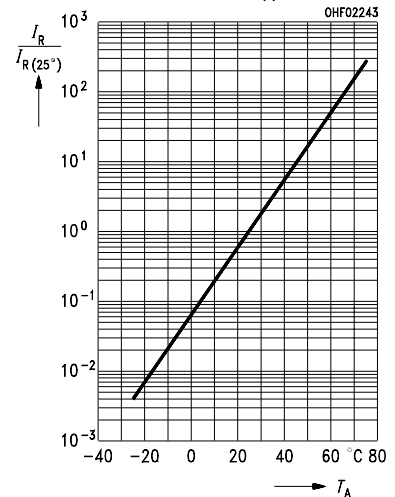
Dark Current, $I_R = f(V_R)$, $E = 0$
normalized to 10 V/25 °C



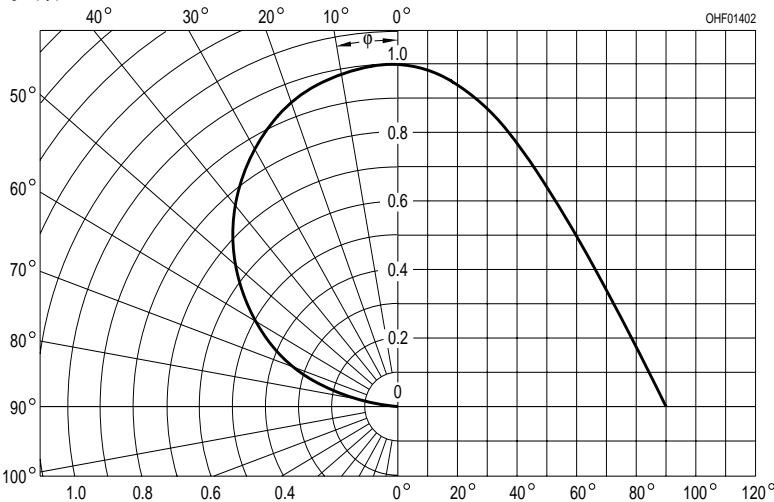
Capacitance
 $C = f(V_R)$, $f = 1 MHz$, $E = 0$



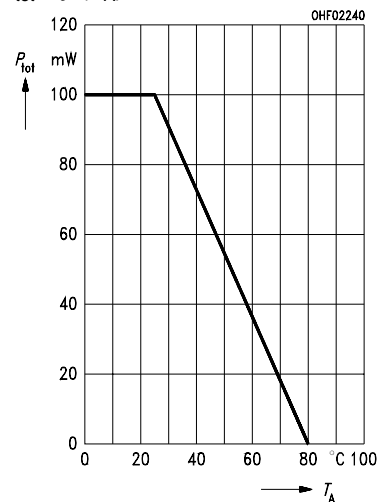
Dark Current $I_R = f(T_A)$, $V_R = 10 V$,
 $E = 0$, normalized to $T_A = 25 °C$



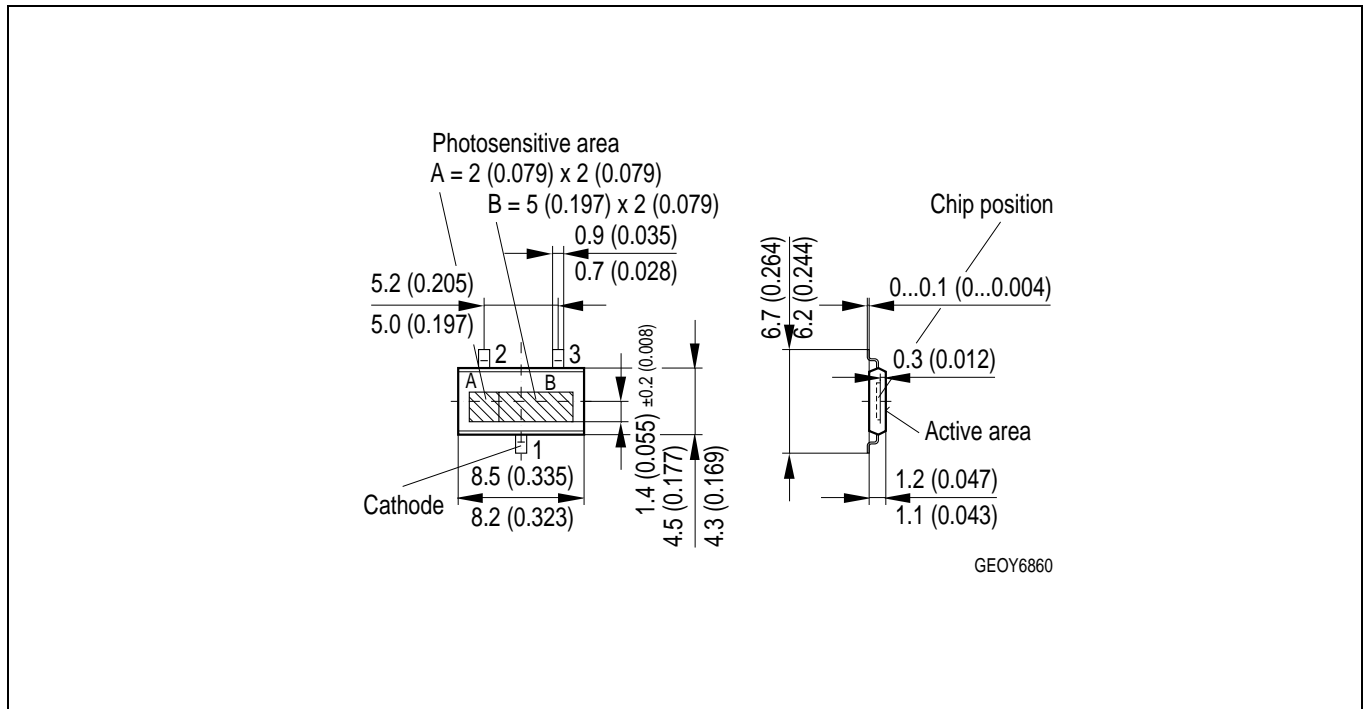
Directional Characteristics
 $S_{rel} = f(\phi)$



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!

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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.