

Request For Quotation

Order the parts you need from our real-time inventory database. Simply complete a request for quotation form with your part information and a sales representative will respond to you with price and availability.

[Request For Quotation](#)

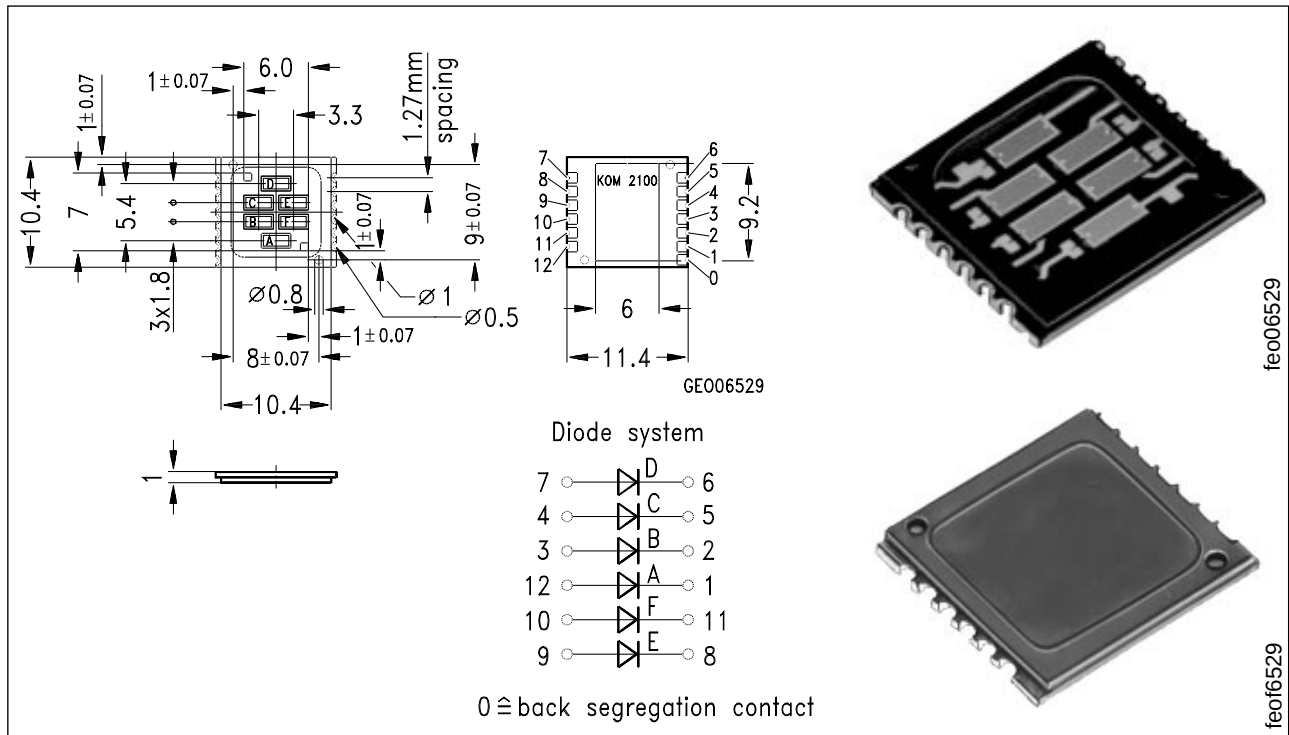
Your free datasheet starts on the next page.

More datasheets and data books are available from our homepage: <http://www.datasheetarchive.com>

6fach-Silizium-PIN-Fotodiodenarray

6-Chip Silicon PIN Photodiode Array

KOM 2100 B
KOM 2100 BF



Maße in mm, wenn nicht anders angegeben/Dimensions in mm, unless otherwise specified.

Wesentliche Merkmale

- Speziell geeignet für Anwendungen im Bereich von 400 nm bis 1100 nm (KOM 2100 B) und bei 880 nm (KOM 2100 BF)
- Kurze Schaltzeit (typ. 13 ns)
- Kathode = Chipunterseite
- Geeignet für Diodenbetrieb (mit Vorspannung) und Elementbetrieb
- SMT-fähig

Anwendungen

- Universell, z.B. Drehwinkelgeber

Features

- Especially suitable for applications from 400 nm to 1100 nm (KOM 2100 B) and of 880 nm (KOM 2100 BF)
- Short switching time (typ. 13 ns)
- Cathode = back contact
- Available as photodiode with reverse voltage or photovoltaic cell
- Suitable for SMT

Applications

- General-purpose, e.g. encoders

Typ Type	Bestellnummer Ordering Code	Gehäuse Package
KOM 2100 B	Q62702-K35	Platine mit SMT-Flanken, Abdeckrahmen mit klarem bzw. schwarzem Epoxyverguß pcb with SMT flanks, cover frame sealed with transparent or black epoxy
KOM 2100 BF	Q62702-K34	

Grenzwerte Maximum Ratings

Bezeichnung Description	Symbol Symbol	Wert Value	Einheit Unit
Betriebs- und Lagertemperatur Operating and storage temperature range	$T_A; T_{stg}$	– 40 ... + 80	°C
Sperrspannung Reverse voltage	V_R	20	V
Verlustleistung, $T_A = 25\text{ °C}$ Total power dissipation	P_{tot}	150	mW

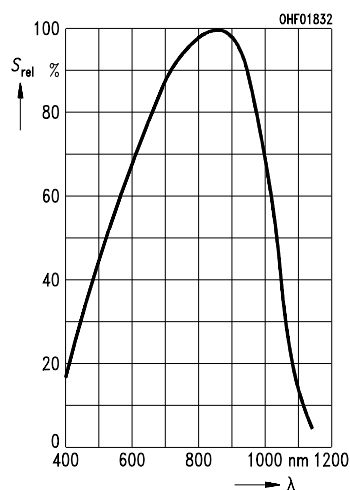
Kennwerte ($T_A = 25\text{ °C}$, $\lambda = 950\text{ nm}$) für jede Einzeldiode Characteristics ($T_A = 25\text{ °C}$, $\lambda = 950\text{ nm}$) per single diode

Bezeichnung Description	Sym- bol	Wert Value		Einheit Unit
		KOM 2100 B	KOM 2100 BF	
Fotoempfindlichkeit Spectral sensitivity $V_R = 5\text{ V}$, $E_e = 0.5\text{ mW/cm}^2$	S	9 (≥ 7)	8.5 (≥ 6.6)	μA
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\text{ max}}$	870	870	nm
Spektraler Bereich der Fotoempfindlichkeit $S = 10\%$ von S_{max} Spectral range of sensitivity $S = 10\%$ of S_{max}	λ	400 ... 1100	730 ... 1100	nm
Bestrahlungsempfindliche Fläche Radiant sensitive area	A	2.5	2.5	mm^2
Abmessung der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	$L \times B$ $L \times W$	1×2.5	1×2.5	mm x mm
Abstand Chipoberfläche zu Vergußober- fläche Distance chip front to case seal	H	0.4 ... 0.6	0.4 ... 0.6	mm
Halbwinkel Half angle	φ	± 60	± 60	Grad deg.
Dunkelstrom, $V_R = 10\text{ V}$ Dark current	I_R	1 (≤ 10)	1 (≤ 10)	nA
Spektrale Fotoempfindlichkeit Spectral sensitivity	S_λ	0.68	0.64	A/W

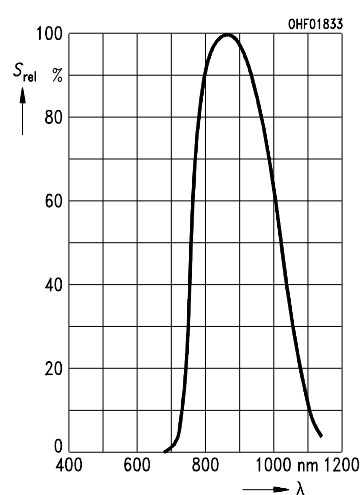
Kennwerte ($T_A = 25\text{ °C}$, $\lambda = 950\text{ nm}$) für jede Einzeldiode
Characteristics ($T_A = 25\text{ °C}$, $\lambda = 950\text{ nm}$) per single diode

Bezeichnung Description	Sym- bol	Wert Value		Einheit Unit
		KOM 2100 B	KOM 2100 BF	
Quantenausbeute Quantum yield	η	0.9	0.85	<u>Electrons</u> Photon
Maximale Abweichung der Fotoempfindlichkeit vom Mittelwert Max. deviation of the system spectral sensitivity from the average	ΔS	± 10	± 10	%
Kurzschlußstrom, $E_e = 0.5\text{ mW/cm}^2$ Short-circuit current	I_{SC}	8.5	8	μA
Leerlaufspannung, $E_e = 0.5\text{ mW/cm}^2$ Open-circuit voltage	V_O	320 (≥ 250)	320 (≥ 250)	mV
Anstiegszeit/Abfallzeit des Fotostromes Rise and fall time of the photocurrent $R_L = 50\text{ }\Omega$, $V_R = 10\text{ V}$; $\lambda = 850\text{ nm}$; $I_P = 800\text{ }\mu\text{A}$	t_r, t_f	13	13	ns
Durchlaßspannung, $I_F = 100\text{ mA}$; $E = 0$ Forward voltage	V_F	1.2	1.2	V
Kapazität Capacitance $V_R = 0\text{ V}$; $f = 1\text{ MHz}$; $E = 0$	C_0	25	25	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	TC_I	0.18	0.18	%/K
Rauschäquivalente Strahlungsleistung Noise equivalent power $V_R = 10\text{ V}$	NEP	2.6×10^{-14}	2.8×10^{-14}	$\frac{\text{W}}{\sqrt{\text{Hz}}}$
Nachweisgrenze, $V_R = 10\text{ V}$ Detection limit	D^*	6.1×10^{12}	5.7×10^{12}	$\frac{\text{cm} \cdot \sqrt{\text{Hz}}}{\text{W}}$

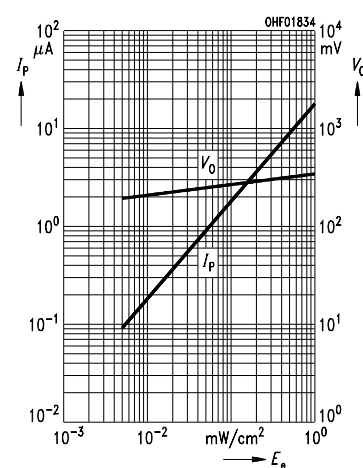
Relative spectral sensitivity
KOM 2100 B, $S_{\text{rel}} = f(\lambda)$



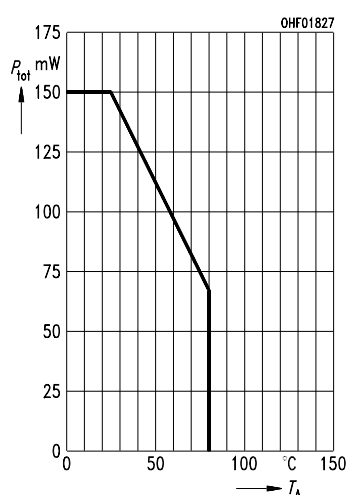
Relative spectral sensitivity
KOM 2100 BF, $S_{\text{rel}} = f(\lambda)$



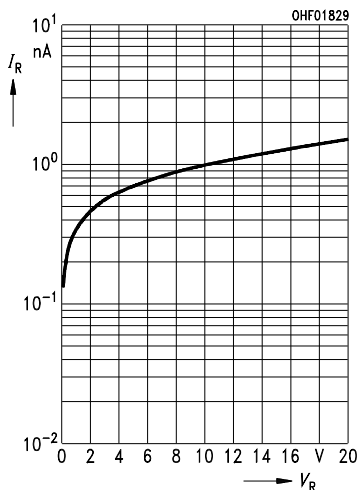
**Photocurrent, $I_P = f(E_e)$; $V_R = 5 \text{ V}$,
Open-circuit voltage $V_O = f(E_e)$**



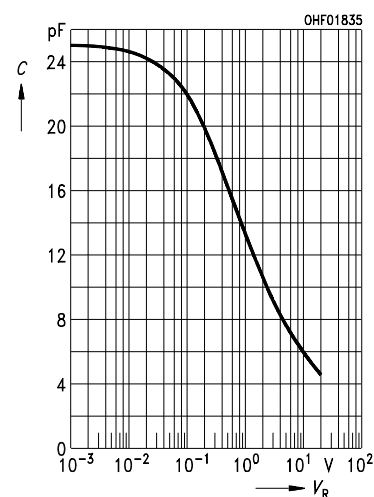
Total power dissipation
 $P_{\text{tot}} = f(T_A)$



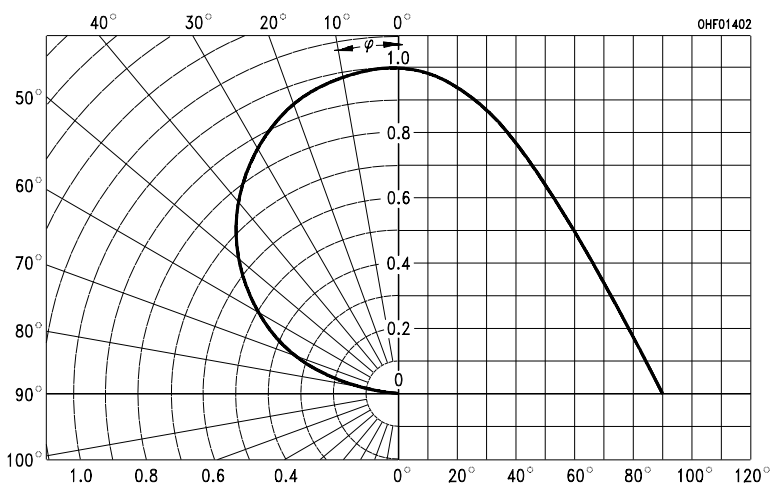
**Dark current $I_R = f(V_R)$,
 $E = 0$**



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



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



**Dark current $I_R = f(T_A)$,
 $V_R = 10 \text{ V}$, $E = 0$**

