NPN-Silizium-Fototransistor Zeilen
Silicon NPN Phototransistor Arrays
Lead (Pb) Free Product - RoHS Compliant

BPX 80
BPX 82 … 89

Wesentliche Merkmale

- Speziell geeignet für Anwendungen im Bereich von 450 nm bis 1100 nm
- Hohe Linearität
- Mehrstellige Zeilenbauform aus klarem Epoxy

Features

- Especially suitable for applications from 450 nm to 1100 nm
- High linearity
- Multiple-digit array package of transparent epoxy

Anwendungen

- Miniaturlichtschranken
- Industrieelektronik
- „Messen/Steuern/Regeln“

Applications

- Miniature photointerrupters
- Industrial electronics
- For control and drive circuits

Typ **Type**	**Bestellnummer** **Ordering Code**	**Fotostrom** , E_e= 0.5 mW/cm^2, λ = 950 nm, V_{CE} = 5 V **Photocurrent** I_{PCE} (mA)
BPX 82	Q62702P0021	> 0.32
BPX 83	Q62702P0025	> 0.32
BPX 84	Q62702P0030	> 0.32
BPX 85	Q62702P0031	> 0.32
BPX 86	Q62702P0022	> 0.32
BPX 87	Q62702P0032	> 0.32
BPX 88	Q62702P0033	> 0.32
BPX 89	Q62702P0026	> 0.32
BPX 80	Q62702P0028	> 0.32

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
Kollektor-Emitterspannung Collector-emitter voltage	V_{CE}	35	V
Kollektorstrom Collector current	I_C	50	mA
Kollektorspitzenstrom, $\tau < 10$ µs Collector surge current	I_{CS}	200	mA
Verlustleistung, $T_A = 25$ °C Total power dissipation	P_{tot}	90	mW
Wärmewiderstand Thermal resistance	R_{thJA}	750	K/W

Kennwerte (T_A = 25 °C, λ = 950 nm)
Characteristics

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\ max}$	850	nm
Spektraler Bereich der Fotoempfindlichkeit S = 10% von S_{max} Spectral range of sensitivity S = 10% of S_{max}	λ	450 … 1100	nm
Bestrahlungsempfindliche Fläche Radiant sensitive area	A	0.11	mm^2
Abmessung der Chipfläche Dimensions of chip area	$L \times B$ $L \times W$	0.5 × 0.5	mm × mm
Halbwinkel Half angle	φ	± 18	Grad deg.
Kapazität Capacitance V_{CE} = 0 V, f = 1 MHz, E = 0	C_{CE}	7.5	pF
Dunkelstrom Dark current V_{CE} = 20 V, E = 0	I_{CEO}	1 (≤ 50)	nA

Die Fototransistoren werden nach ihrer Fotoempfindlichkeit gruppiert und mit Buchstaben gekennzeichnet.
The phototransistors are grouped according to their spectral sensitivity and distinguished by alphabetic characters.

Bezeichnung Parameter	Symbol Symbol	Werte Value			Einheit Unit
		-A	-B	-C	
Fotostrom Photocurrent E_e = 0.5 mW/cm², λ = 950 nm, V_{CE} = 5 V E_v = 1000 lx, Normlicht/standard light A, V_{CE} = 5 V	 I_{PCE} I_{PCE}	 0.32…0.63 1.5	 0.40…0.80 1.9	 ≥ 0.50 2.3	 mA mA
Anstiegszeit/Abfallzeit Rise and fall time I_C = 1 mA, V_{CC} = 5 V, R_L = 1 kΩ	t_r, t_f	5.5	6	8	µs
Kollektor-Emitter-Sättigungsspannung Collector-emitter saturation voltage $I_C = I_{PCEmin}$ [1] × 0.3, E_e = 0.5 mW/cm², λ = 950 nm	V_{CEsat}	150	150	150	mV

[1] I_{PCEmin} ist der minimale Fotostrom der jeweiligen Gruppe.

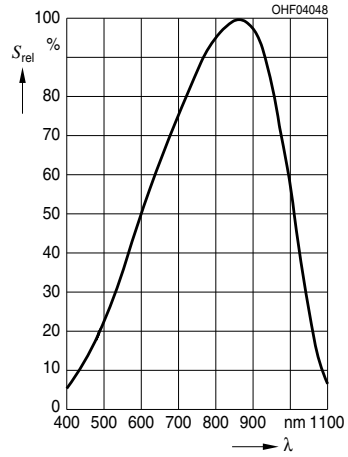
[1] I_{PCEmin} is the min. photocurrent of the specified group.

Die gelieferten Bauelemente sind mit -A, -B, -C gekennzeichnet. Wegen Ausbeuteschwankungen ist jedoch die Bestellung einer definierten Gruppe -A, -B, -C nicht möglich.

For delivery the components are marked -A, -B, -C. Due to differing yields, it is not possible to order a definite group.

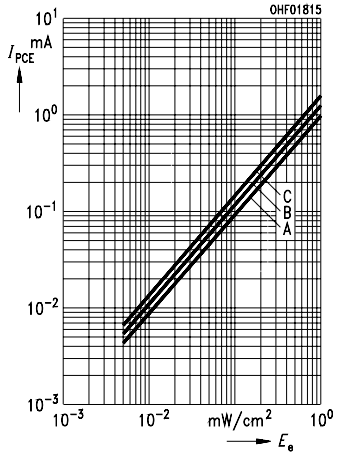
Relative Spectral Sensitivity

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



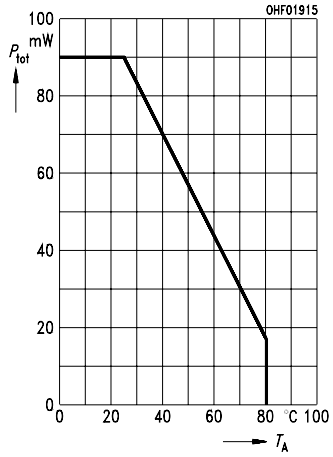
Photocurrent

$I_{PCE} = f(E_e)$, V_{CE} = 5 V



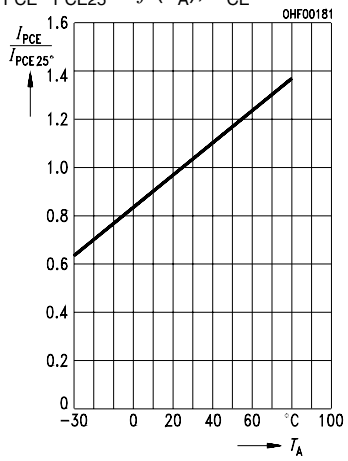
Total Power Dissipation

$P_{tot} = f(T_A)$



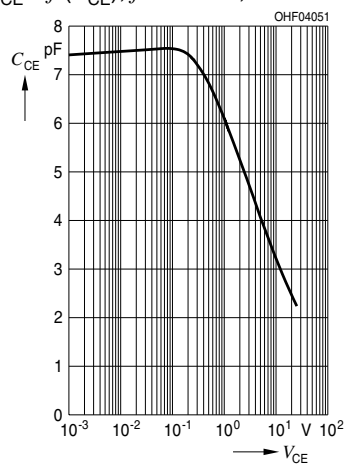
Photocurrent

$I_{PCE}/I_{PCE25°} = f(T_A)$, V_{CE} = 5 V



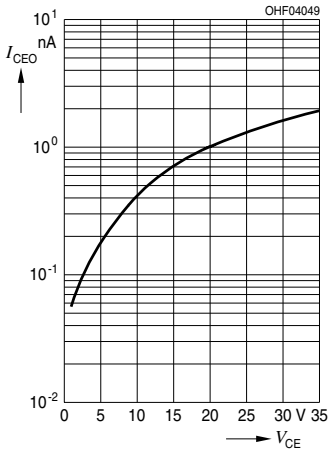
Collector-Emitter Capacitance

$C_{CE} = f(V_{CE})$, f = 1 MHz, E = 0



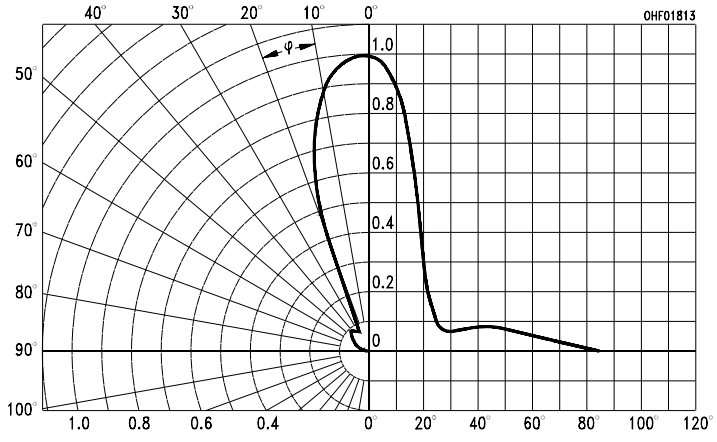
Dark Current

$I_{CEO} = f(V_{CE})$, E = 0



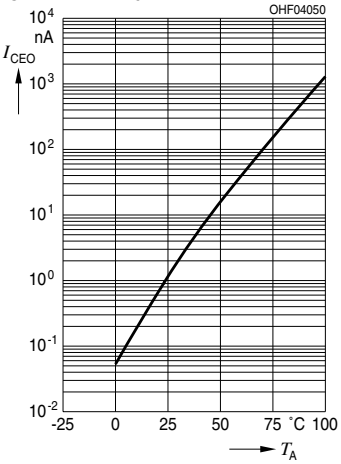
Directional Characteristics

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

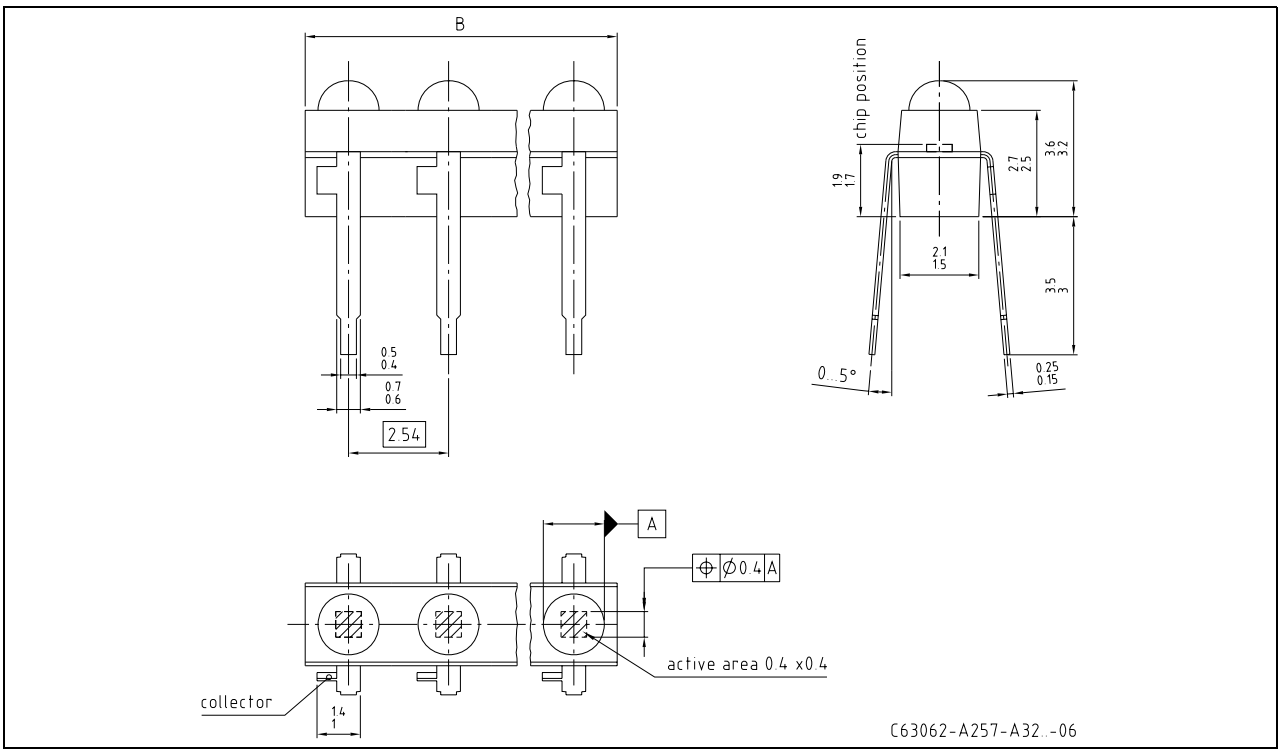


Dark Current

$I_{CEO} = f(T_A)$, V_{CE} = 20 V, E = 0



Maßzeichnung
Package Outlines



Maße in mm / Dimensions in mm.

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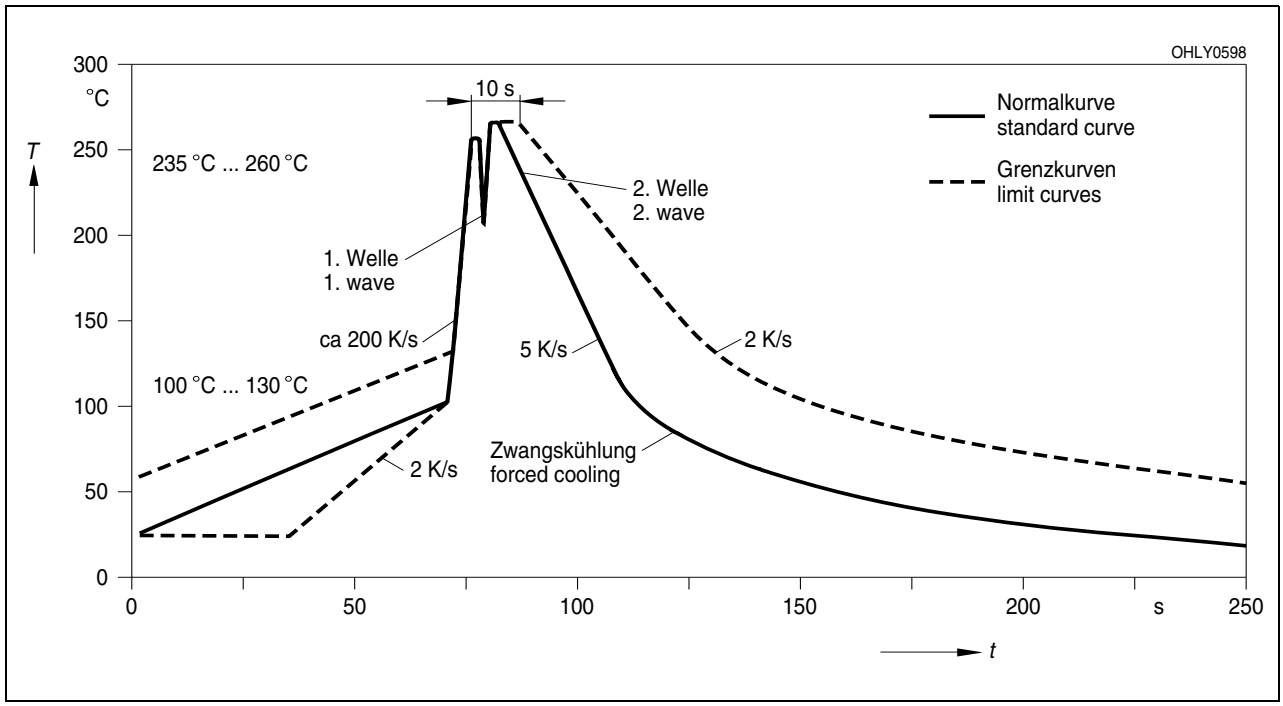
Transistoren pro Zeile Number of Transistors per Array	Maß „B“ Dimension “B”
2	4.5 ... 4.9
3	7.0 ... 7.4
4	9.6 ... 10.0
5	12.1 ... 12.5
6	14.6 ... 16.0
7	17.2 ... 17.6
8	19.7 ... 20.1
9	22.3 ... 22.7
10	24.8 ... 25.2

Lötbedingungen
Soldering Conditions
Wellenlöten (TTW) (nach CECC 00802)
TTW Soldering (acc. to CECC 00802)



Published by
OSRAM Opto Semiconductors GmbH
Leibnizstraße 4, D-93055 Regensburg
www.osram-os.com

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