

Silicon PIN Photodiode

Version 1.4

BPW 34



Features:

- Especially suitable for applications from 400 nm to 1100 nm
- Short switching time (typ. 20 ns)
- DIL plastic package with high packing density

Applications

- Photointerrupters
- Industrial electronics
- For control and drive circuits
- IR remote control of hi-fi and TV sets, dimmers, remote controls of various equipment

Ordering Information

| Type: | Photocurrent I_P [μA] $E_V = 1000 \text{ lx, Std. Light A, } V_R = 5 \text{ V}$ | Ordering Code |
|--------|--|---------------|
| BPW 34 | 80 (≥ 50) | Q62702P0073 |

Maximum Ratings ($T_A = 25\text{ °C}$)

| Parameter | Symbol | Values | Unit |
|---|-------------------|-------------|------|
| Operating and storage temperature range | $T_{op}; T_{stg}$ | -40 ... 100 | °C |
| Reverse voltage | V_R | 32 | V |
| Total Power dissipation | P_{tot} | 150 | mW |
| ESD withstand voltage (acc. to ANSI/ ESDA/ JEDEC JS-001 - HBM) | V_{ESD} | 2000 | V |

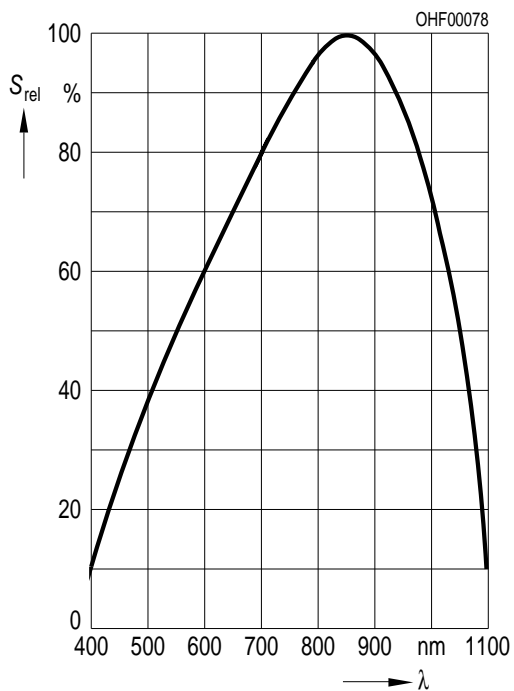
Characteristics ($T_A = 25\text{ °C}$)

| Parameter | Symbol | Values | Unit |
|--|--------------------------------|-----------------------|--------------------|
| Spectral sensitivity ($V_R = 5\text{ V}$, standard light A, $T = 2856\text{ K}$) | (typ) S | 80 | nA/lx |
| Photocurrent ($E_v = 1000\text{ lx}$, Std. Light A, $V_R = 5\text{ V}$) | (typ (min)) I_P | 80 (≥ 50) | μA |
| Wavelength of max. sensitivity | (typ) $\lambda_{S\text{ max}}$ | 850 | nm |
| Spectral range of sensitivity | (typ) $\lambda_{10\%}$ | (typ) 400 ... 1100 | nm |
| Radiant sensitive area | (typ) A | 7.02 | mm^2 |
| Dimensions of radiant sensitive area | (typ) L x W | 2.65 x 2.65 | mm x mm |
| Half angle | (typ) φ | ± 60 | ° |
| Dark current ($V_R = 10\text{ V}$) | (typ (max)) I_R | 2 (≤ 30) | nA |
| Spectral sensitivity of the chip ($\lambda = 850\text{ nm}$) | (typ) $S_{\lambda\text{ typ}}$ | 0.62 | A / W |
| Quantum yield of the chip ($\lambda = 850\text{ nm}$) | (typ) η | 0.90 | Electrons / Photon |
| Open-circuit voltage ($E_v = 1000\text{ lx}$, Std. Light A) | (typ (min)) V_O | 365 (≥ 300) | mV |
| Short-circuit current ($E_v = 1000\text{ lx}$, Std. Light A) | (typ) I_{SC} | 80 | μA |
| Rise and fall time ($V_R = 5\text{ V}$, $R_L = 50\ \Omega$, $\lambda = 850\text{ nm}$, $I_P = 800\ \mu\text{A}$) | (typ) t_r, t_f | 0.02 | μs |
| Forward voltage ($I_F = 100\text{ mA}$, $E = 0$) | (typ) V_F | 1.3 | V |
| Capacitance ($V_R = 0\text{ V}$, $f = 1\text{ MHz}$, $E = 0$) | (typ) C_0 | 72 | pF |
| Temperature coefficient of V_O | (typ) TC_V | -2.6 | mV / K |

| Parameter | | Symbol | Values | Unit |
|---|-------|--------|----------------------|---|
| Temperature coefficient of I_{SC} (Std. Light A) | (typ) | TC_1 | 0.18 | % / K |
| Noise equivalent power ($V_R = 10\text{ V}$, $\lambda = 850\text{ nm}$) | (typ) | NEP | 0.041 | $\mu\text{W} / \text{Hz}^{1/2}$ |
| Detection limit ($V_R = 10\text{ V}$, $\lambda = 850\text{ nm}$) | (typ) | D^* | 6.5×10^{12} | $\text{cm} \times \text{Hz}^{1/2} / \text{W}$ |

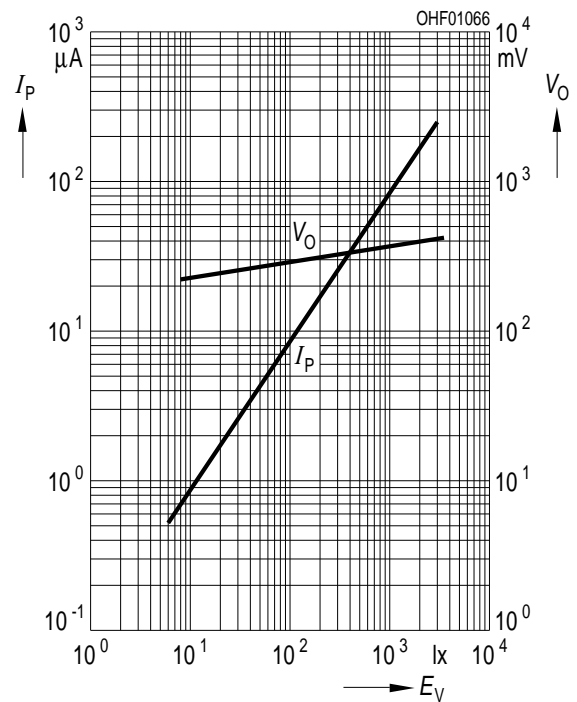
Relative Spectral Sensitivity ^{1) page 7}

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



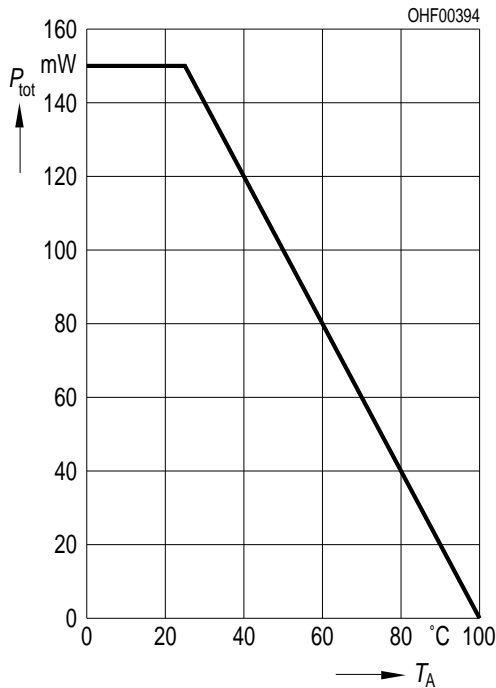
Photocurrent / Open-Circuit Voltage ^{1) page 7}

$$I_P (V_R = 5\text{ V}) / V_O = f(E_V)$$



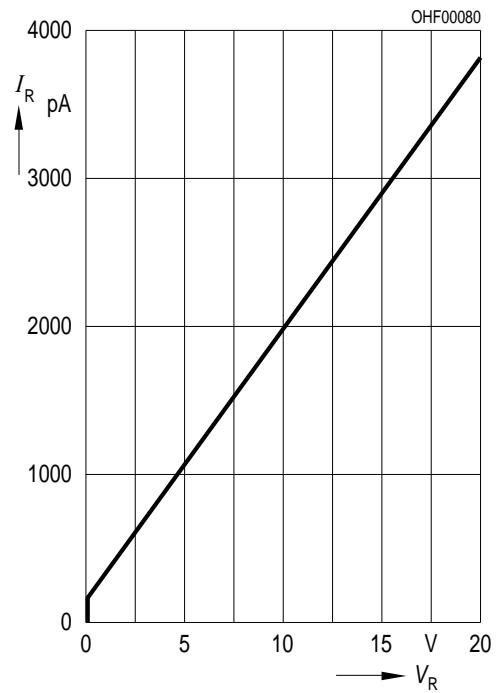
Power Consumption

$P_{tot} = f(T_A)$



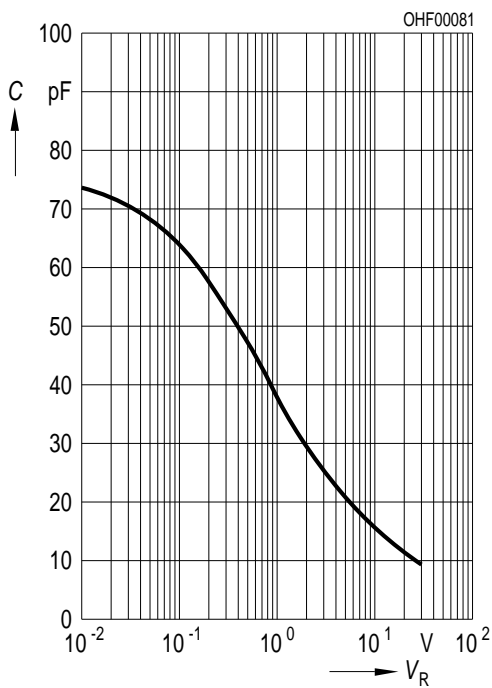
Dark Current ^{1) page 7}

$I_R = f(V_R), E = 0$



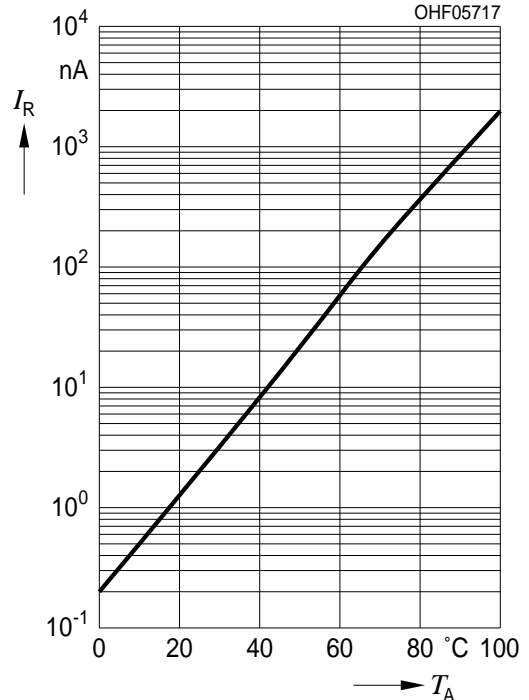
Capacitance ^{1) page 7}

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



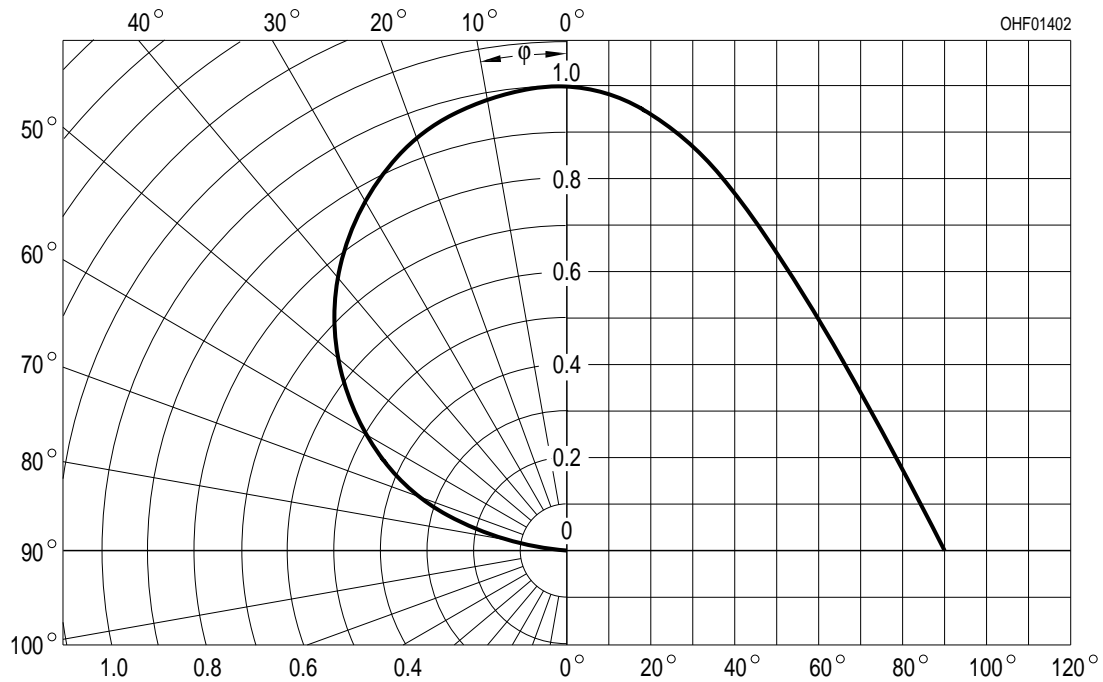
Dark Current ^{1) page 7}

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

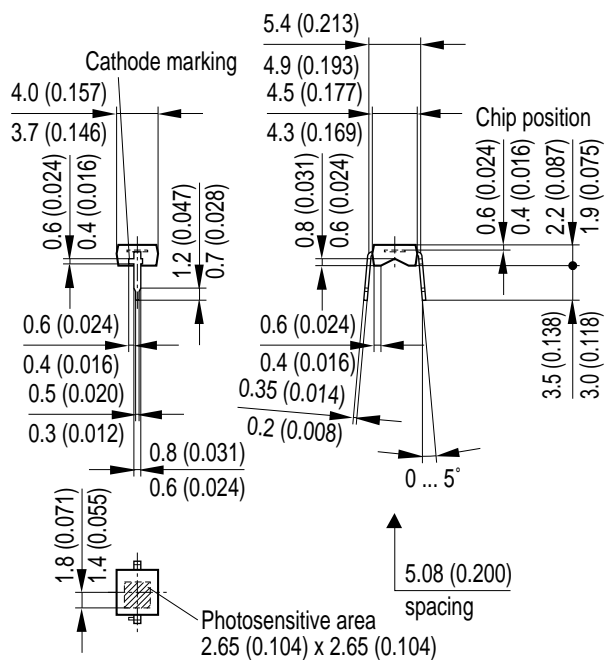


Directional Characteristics ^{1) page 7}

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



Package Outline



GEOY6643

Dimensions in mm (inch).

Package

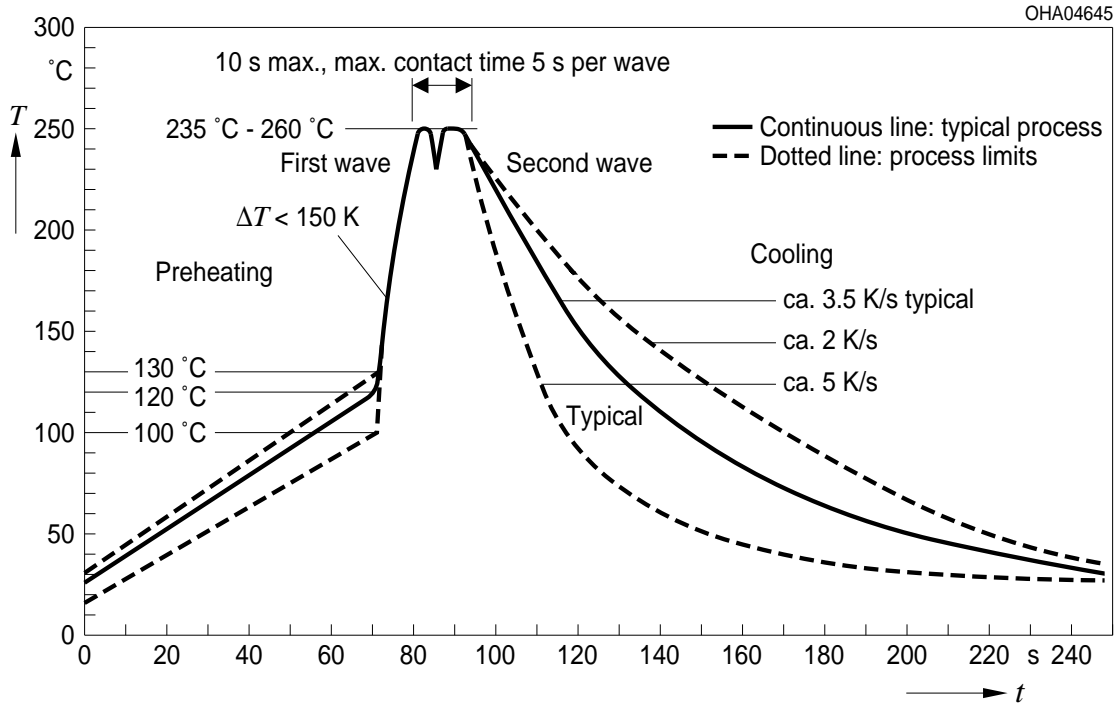
DIL, Epoxy

Approximate Weight:

78 mg

TTW Soldering

IEC-61760-1 TTW



Disclaimer

Language english will prevail in case of any discrepancies or deviations between the two language wordings.

Attention please!

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.

If printed or downloaded, please find the latest version in the Internet.

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

*) 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 the effectiveness of that device or system.

**) 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 and the life of the user may be endangered.

Glossary

- ¹⁾ **Typical Values:** Due to the special conditions of the manufacturing processes of LED, the typical data or calculated correlations of technical parameters can only reflect statistical figures. These do not necessarily correspond to the actual parameters of each single product, which could differ from the typical data and calculated correlations or the typical characteristic line. If requested, e.g. because of technical improvements, these typ. data will be changed without any further notice.

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

EU RoHS and China RoHS compliant product



此产品符合欧盟 RoHS 指令的要求；
按照中国的相关法规和标准，不含有毒有害物质或元素。

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Photodiodes](#) category:

Click to view products by [OSRAM](#) manufacturer:

Other Similar products are found below :

[LTR-526AD](#) [LV0221CS-TLM-H](#) [OED-SP-7L](#) [LTR-536AB](#) [LTR-743DBM1-TA](#) [LV0223CV-TLM-H](#) [67-21SYGC-S349-TR8](#) [SAH500M1](#)
[SFH 2200 A01](#) [BPW 34 S E9601](#) [SFH 2713](#) [SFH 2703](#) [LTR-546AD](#) [BP 104 SR-Z](#) [BPV23FL](#) [BPW 34 BS-Z](#) [BPW 34 FAS](#) [BPW 34 FS](#)
[IG17X1000S4I](#) [IG22X250S4I](#) [VTB9413BH](#) [VTD205H](#) [VTD205KH](#) [VTP1220FBH](#) [VTP1232FH](#) [VTP4085H](#) [1541201EEA400](#) [SFH 2400](#)
[OP913WSL](#) [OP955](#) [OPR5913](#) [PD15-21B/TR8](#) [PD3122FE000F](#) [PD93-21C/TR8](#) [LTR-536AD](#) [VTP8651H](#) [VTD206KH](#) [VTB1013H](#)
[BPV23NF](#) [OP905](#) [LTR-516AD](#) [BPW 34 FS-Z](#) [VTD34FH](#) [QSB34CGR](#) [SFH 2500 FA](#) [3001032](#) [3001048](#) [ARRAYC-60035-64P-PCB](#) [SFH](#)
[2240](#) [OPR2100T](#)