

Silicon Diode

BYD147

400V/1A

DATASHEET

OEM – Philips

Source: Philips Databook 1999

Ultra fast low-loss rectifiers

BYD147

FEATURES

- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- Available in ammo-pack.
- Smallest surface mount rectifier outline.

DESCRIPTION

Cavity free cylindrical glass SOD87 package through ImplotecTM(1) technology. This package is

hermetically sealed and fatigue free as coefficients of expansion of all used parts are matched.

(1) Implotec is a trademark of Philips.

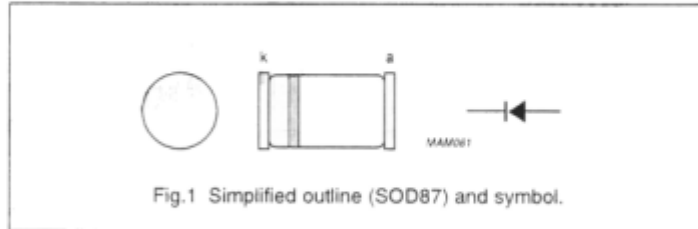


Fig.1 Simplified outline (SOD87) and symbol.

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{RRM}	repetitive peak reverse voltage		–	400	V
V_R	continuous reverse voltage		–	400	V
$I_{F(AV)}$	average forward current	$T_{ip} = 135\text{ °C}$; averaged over any 20 ms period; see Figs 5 and 6	–	1	A
		$T_{ip} = 80\text{ °C}$; averaged over any 20 ms period; see Figs 5 and 6	–	2	A
I_{FSM}	non-repetitive peak forward current	$t = 10\text{ ms}$ half sinewave; $V_R = V_{RRMmax}$	–	25	A
T_{stg}	storage temperature		–65	+175	°C
T_j	junction temperature		–65	+175	°C

ELECTRICAL CHARACTERISTICS

$T_j = 25\text{ °C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	forward voltage	$I_F = 1\text{ A}$; see Fig.2; $T_j = 150\text{ °C}$	0.95	V
		$I_F = 1\text{ A}$; see Fig.2	1.15	V
I_R	reverse current	$V_R = V_{RRMmax}$; see Fig.3	5	μA
		$V_R = V_{RRMmax}$; $T_j = 150\text{ °C}$; see Fig.3	150	μA
t_{rr}	reverse recovery time	when switched from $I_F = 0.5\text{ A}$ to $I_R = 1\text{ A}$; measured at $I_R = 0.25\text{ A}$	50	ns

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point		30	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	150	K/W

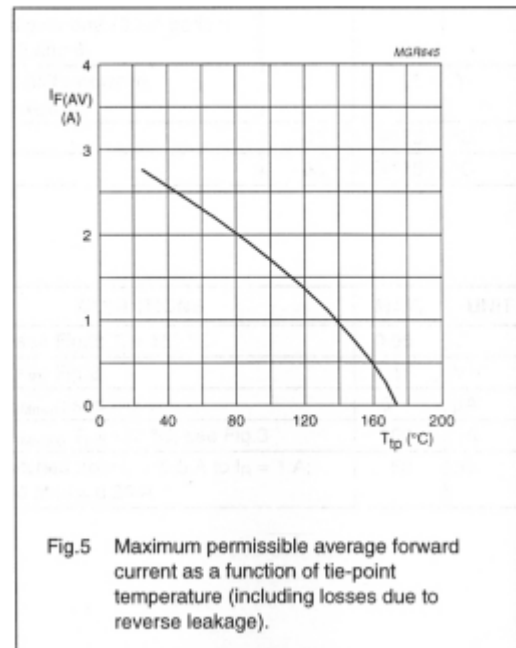
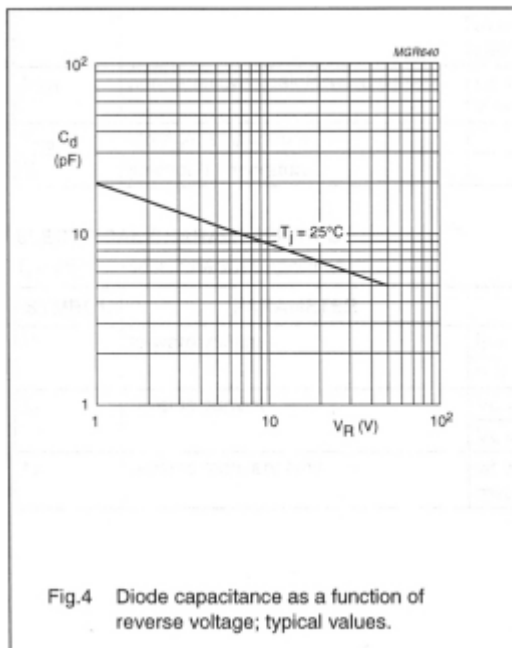
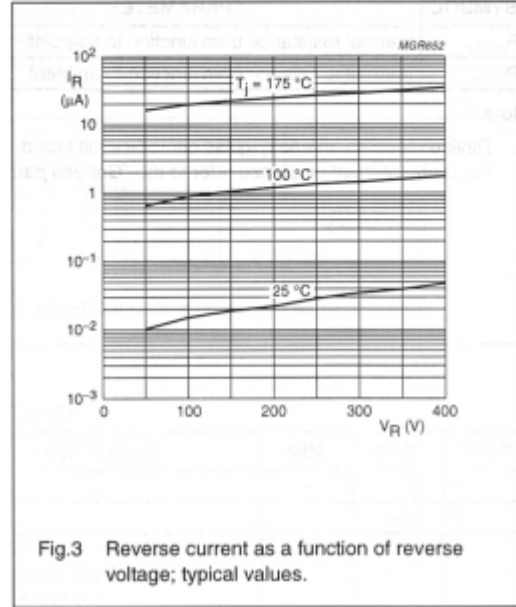
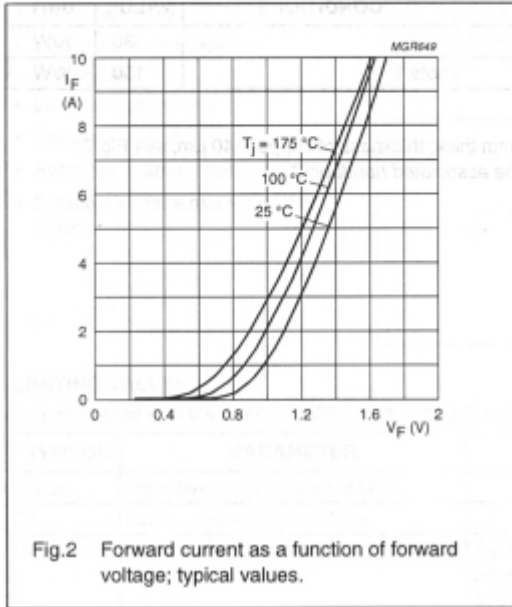
Note

1. Device mounted on epoxy-glass printed-circuit board, 1.5 mm thick; thickness of copper $\geq 40\ \mu\text{m}$, see Fig.7.
For more information please refer to the "General part of the associated handbook".

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GRAPHICAL DATA



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