

Silicon Diode

BYD52G

400V/470mA

DATASHEET

OEM – Philips

Source: Philips Databook 1999

Fast soft-recovery controlled avalanche rectifiers

BYD52 series

FEATURES

- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- Guaranteed avalanche energy absorption capability
- Available in ammo-pack.

DESCRIPTION

Cavity free cylindrical glass SOD120 package through Implotec™⁽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.

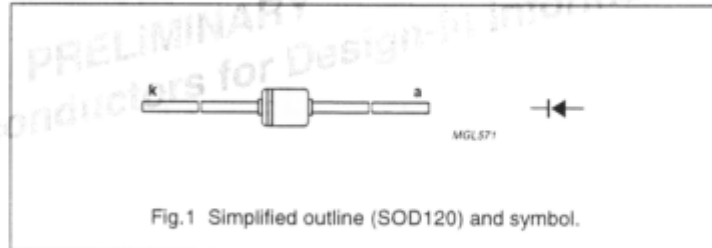


Fig.1 Simplified outline (SOD120) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{RRM}	repetitive peak reverse voltage				
	BYD52D		–	200	V
	BYD52G		–	400	V
	BYD52J		–	600	V
V_R	continuous reverse voltage				
	BYD52D		–	200	V
	BYD52G		–	400	V
	BYD52J		–	600	V
$I_{F(AV)}$	average forward current	$T_{amb} = 25\text{ °C}$; printed-circuit board mounting, pitch 5 mm, see Fig.6; averaged over any 20 ms period; see Fig.2	–	0.47	A
I_{FSM}	non-repetitive peak forward current	$t = 10\text{ ms}$ half sine wave; $T_j = 25\text{ °C}$; $V_R = V_{RRMmax}$	–	5	A
T_{stg}	storage temperature		–65	+175	°C
T_j	junction temperature	see fig.3	–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.4	3.6	V
I_R	reverse current	$V_R = V_{RRMmax}$	1	μA
		$V_R = V_{RRMmax}$; $T_j = 165\text{ °C}$; see Fig.5	100	μA
t_{rr}	reverse recovery time	when switched from $I_F = 0.5\text{ A}$ to $I_R = 1\text{ A}$; measured at $I_R = 0.25\text{ A}$; see Fig.7	30	ns

**Fast soft-recovery controlled
avalanche rectifiers**

BYD52 series

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-a)}$	thermal resistance from junction to ambient	note 1	150	K/W

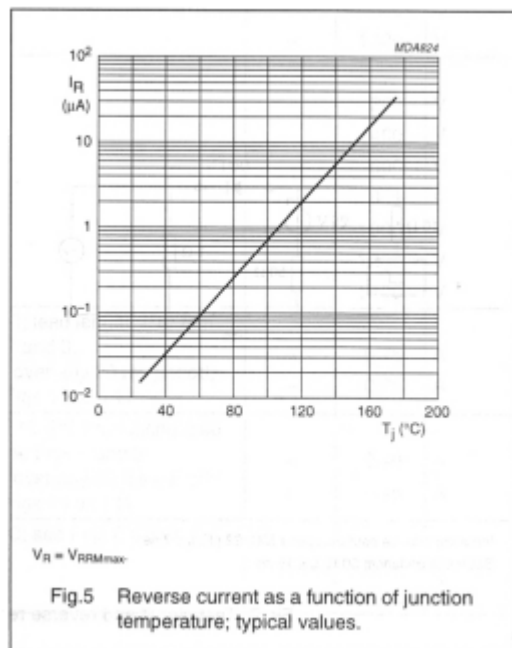
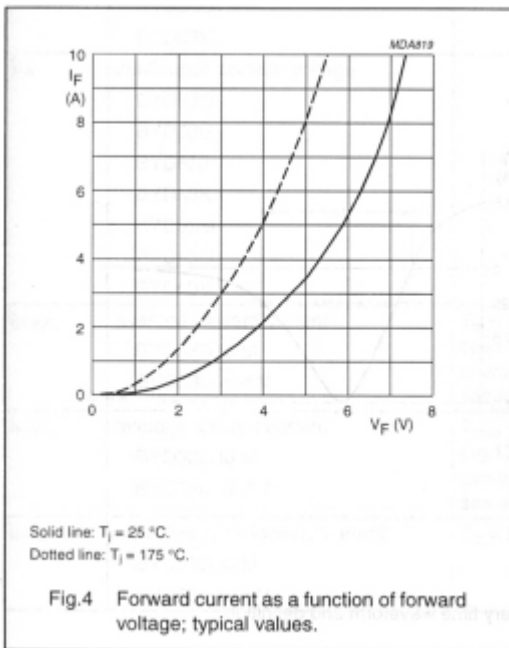
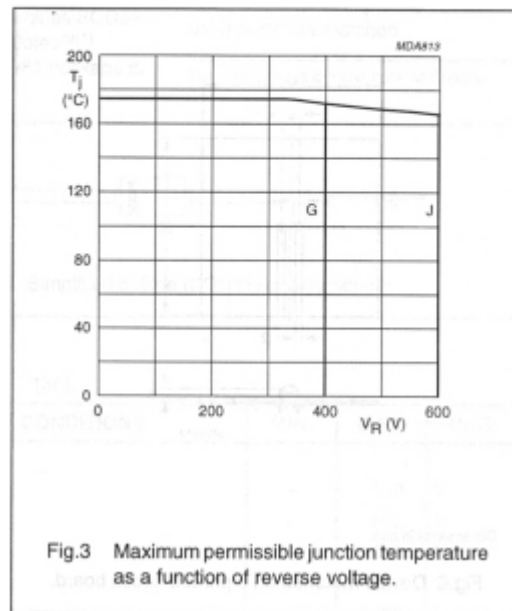
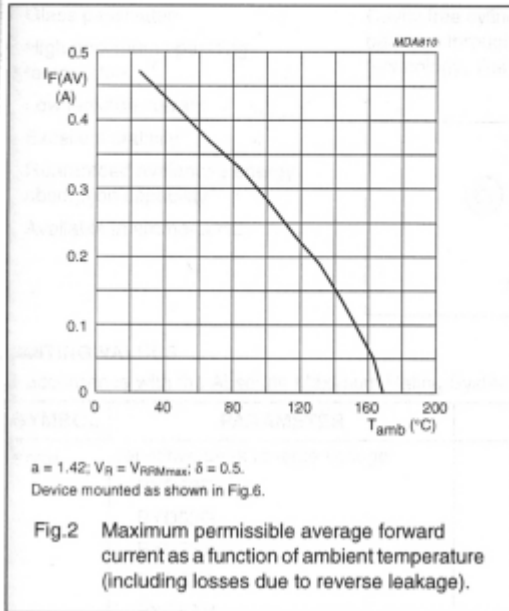
Note

1. Device mounted on an epoxy-glass printed-circuit board, 1.5 mm thick; thickness of copper layer $\geq 40 \mu\text{m}$, pitch 5 mm; see Fig.6.

Fast soft-recovery controlled avalanche rectifiers

BYD52 series

GRAPHICAL DATA



Fast soft-recovery controlled avalanche rectifiers

BYD52 series

