

Low-leakage diode

BAS45A

FEATURES

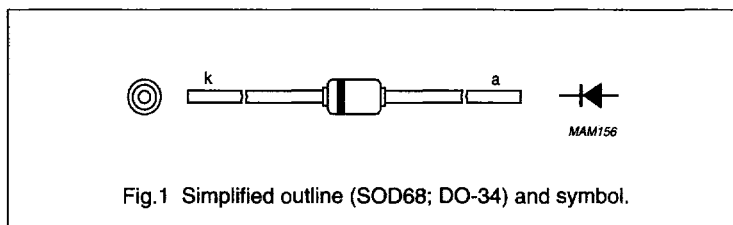
- Continuous reverse voltage: max. 125 V
- Repetitive peak forward current: max. 625 mA
- Low reverse current: max. 1 nA
- Switching time: typ. 1.5 μ s.

APPLICATION

- Low leakage current applications.

DESCRIPTION

Epitaxial medium-speed switching diode with a low leakage current in a hermetically-sealed glass SOD68 (DO-34) package.



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{RRM}	repetitive peak reverse voltage		–	125	V
V_R	continuous reverse voltage		–	125	V
I_F	continuous forward current	see Fig.2; note 1	–	250	mA
I_{FRM}	repetitive peak forward current		–	625	mA
I_{FSM}	non-repetitive peak forward current	square wave; $T_j = 25\text{ }^\circ\text{C}$ prior to surge; see Fig.4			
		$t_p = 1\text{ }\mu\text{s}$	–	4	A
		$t_p = 1\text{ ms}$	–	1	A
		$t_p = 1\text{ s}$	–	0.5	A
P_{tot}	total power dissipation	$T_{amb} = 25\text{ }^\circ\text{C}$	–	300	mW
T_{stg}	storage temperature		–65	+175	$^\circ\text{C}$
T_j	junction temperature		–	175	$^\circ\text{C}$

Note

1. Device mounted on a printed-circuit board without metallization pad.

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ELECTRICAL CHARACTERISTICS $T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V_F	forward voltage	see Fig.3 $I_F = 1\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 100\text{ mA}$	– – –	780 860 1000	mV mV mV
I_R	reverse current	see Fig.5 $V_R = 125\text{ V}; E_{\text{max}} = 100\text{ lx}$ $V_R = 30\text{ V}; T_j = 125\text{ }^\circ\text{C}; E_{\text{max}} = 100\text{ lx}$ $V_R = 125\text{ V}; T_j = 125\text{ }^\circ\text{C}; E_{\text{max}} = 100\text{ lx}$ $V_R = 125\text{ V}; T_j = 150\text{ }^\circ\text{C}; E_{\text{max}} = 100\text{ lx}$	– – – –	1 300 500 2	nA nA nA μA
C_d	diode capacitance	$f = 1\text{ MHz}; V_R = 0$; see Fig.6	–	4	pF
t_{rr}	reverse recovery time	when switched from $I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}; R_L = 100\ \Omega$; measured at $I_R = 1\text{ mA}$; see Fig.7	1.5	–	μs

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point	8 mm from the body	300	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	lead length 10 mm; note 1	500	K/W

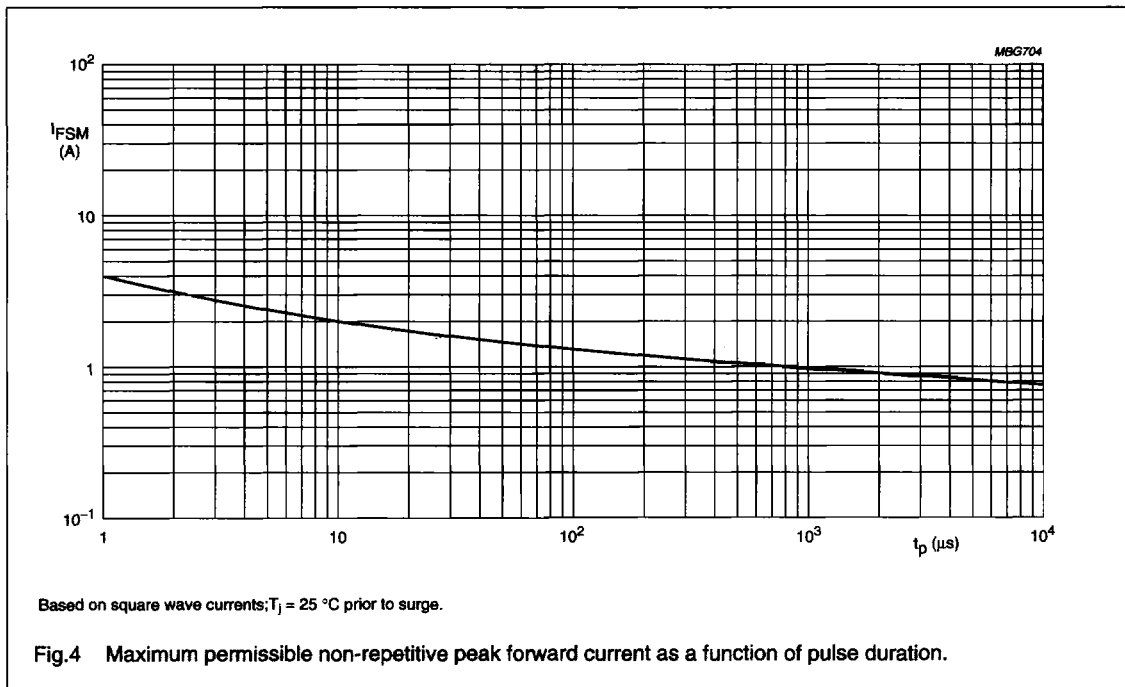
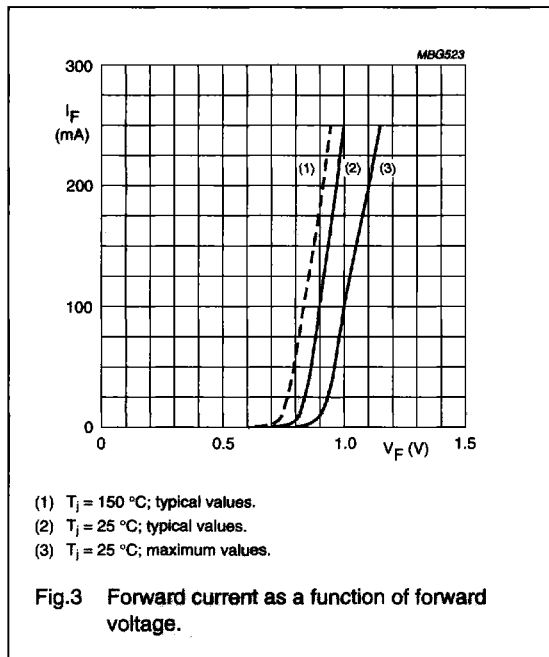
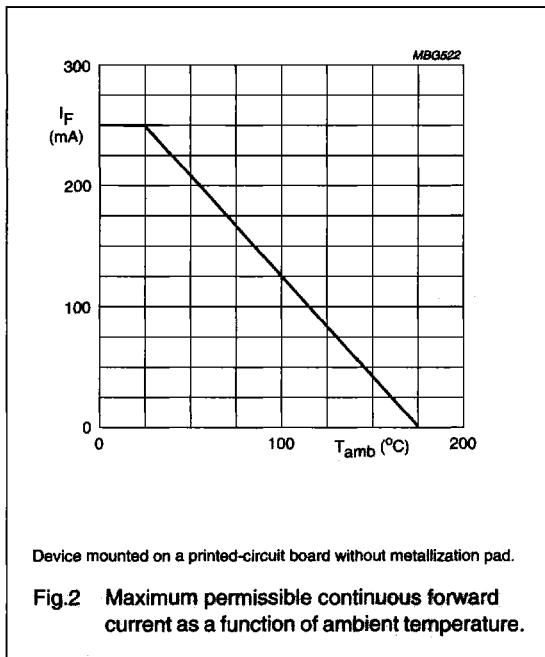
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GRAPHICAL DATA



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