

Controlled avalanche diode

BAX12

FEATURES

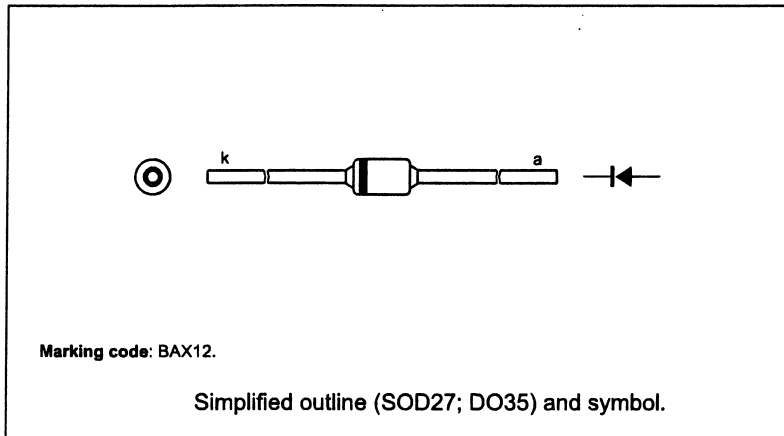
- Hermetically sealed leaded glass SOD27 (DO-35) package
- Switching speed: max. 50 ns
- General application
- Continuous reverse voltage: max. 90 V
- Repetitive peak reverse voltage: max. 90 V
- Repetitive peak forward current: max. 800 mA
- Repetitive peak reverse current: max. 600 mA
- Capable of absorbing transients repetitively.

APPLICATIONS

- Switching of inductive loads in semi-electronic telephone exchanges.

DESCRIPTION

The BAX12 is a controlled avalanche diode fabricated in planar technology, and encapsulated in the hermetically sealed leaded glass SOD27 (DO-35) 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		-	90	V
V _R	continuous reverse voltage		-	90	V
I _F	continuous forward current	see Fig.2; note 2	-	400	mA
I _{FRM}	repetitive peak forward current		-	800	mA
I _{FSM}	non-repetitive peak forward current	square wave; T _j = 25 °C prior to surge; see Fig.4 t = 1 μs t = 100 μs t = 10 ms	-	55 15 9	A A A
P _{tot}	total power dissipation	T _{amb} = 25 °C; note 2	-	450	mW
I _{RRM}	repetitive peak reverse current		-	600	mA
E _{RRM}	repetitive peak reverse energy	t _p ≥ 50 μs; f ≤ 20 Hz; T _j = 25 °C	-	5.0	mJ
T _{stg}	storage temperature		-65	+200	°C
T _j	junction temperature		-	200	°C

ELECTRICAL CHARACTERISTICST_j = 25 °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _F	forward voltage	see Fig.3			
		I _F = 10 mA	–	750	mV
		I _F = 50 mA	–	840	mV
		I _F = 100 mA	–	900	mV
		I _F = 200 mA	–	1.0	V
I _R	reverse current	see Fig.5			
		V _R = 90 V	–	100	nA
		V _R = 90 V; T _j = 150 °C	–	100	μA
V _{(BR)R}	reverse avalanche breakdown voltage	I _R = 1 mA	120	170	V
C _d	diode capacitance	f = 1 MHz; V _R = 0; see Fig.6	–	35	pF
t _{rr}	reverse recovery time	when switched from I _F = 30 mA to I _R = 30 mA; R _L = 100 Ω; measured at I _R = 3 mA; see Fig.10	–	50	ns

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th j-tp}	thermal resistance from junction to tie-point	lead length 10 mm	240	K/W
R _{th j-a}	thermal resistance from junction to ambient	lead length 10 mm; note 1	375	K/W

Note

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

PACKAGE OUTLINE