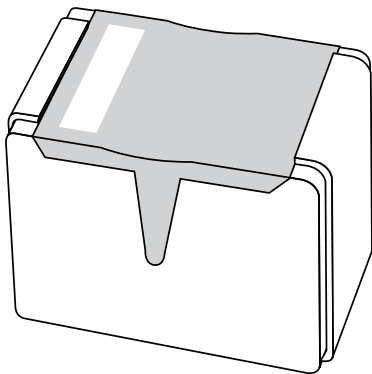


DATA SHEET



BAT254 Schottky barrier diode

Product specification
Supersedes data of 1999 Apr 22

2002 May 28

Schottky barrier diode

BAT254

FEATURES

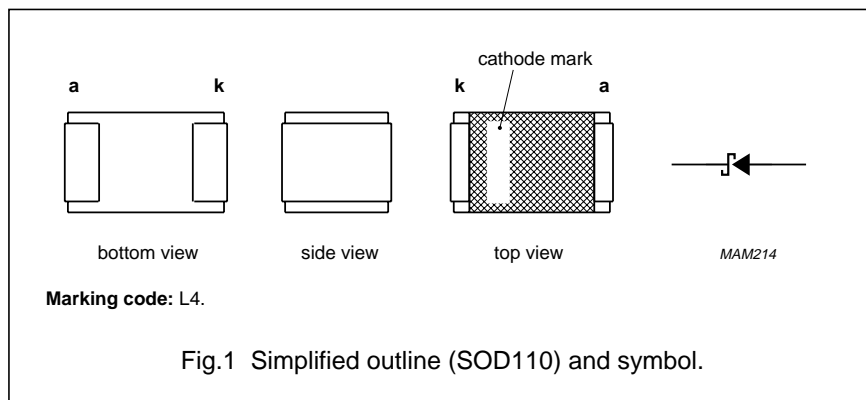
- Low forward voltage
- Guard ring protected
- Very small ceramic SMD package.

APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes.

DESCRIPTION

Planar Schottky barrier diode encapsulated in a SOD110 very small ceramic SMD package.



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	30	V
I_F	continuous forward current		–	200	mA
I_{FRM}	repetitive peak forward current	$t_p \leq 1 \text{ s}; \delta \leq 0.5$	–	300	mA
I_{FSM}	non-repetitive peak forward current	$t_p < 10 \text{ ms}$	–	600	mA
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	125	°C
T_{amb}	operating ambient temperature		–65	+125	°C

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ELECTRICAL CHARACTERISTICS $T_{amb} = 25\text{ °C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	forward voltage	see Fig.2 $I_F = 0.1\text{ mA}$ $I_F = 1\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 30\text{ mA}$ $I_F = 100\text{ mA}$	240 320 400 500 800	mV mV mV mV mV
I_R	reverse current	$V_R = 25\text{ V}$; note 1; see Fig.3	2	μA
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.5	5	ns
C_d	diode capacitance	$f = 1\text{ MHz}$; $V_R = 1\text{ V}$; see Fig.4	10	pF

Note

1. Pulse test: $t_p = 300\ \mu\text{s}$; $\delta = 0.02$.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	315	K/W

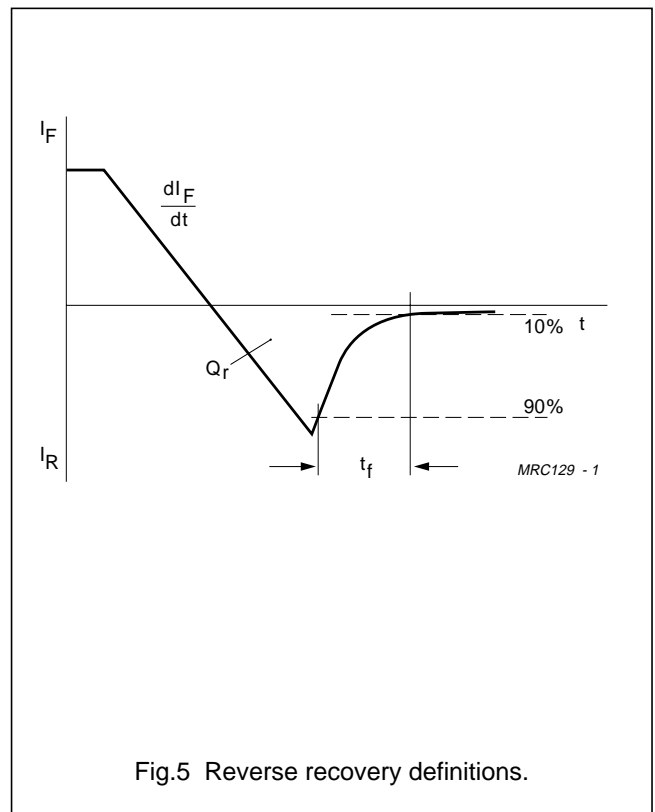
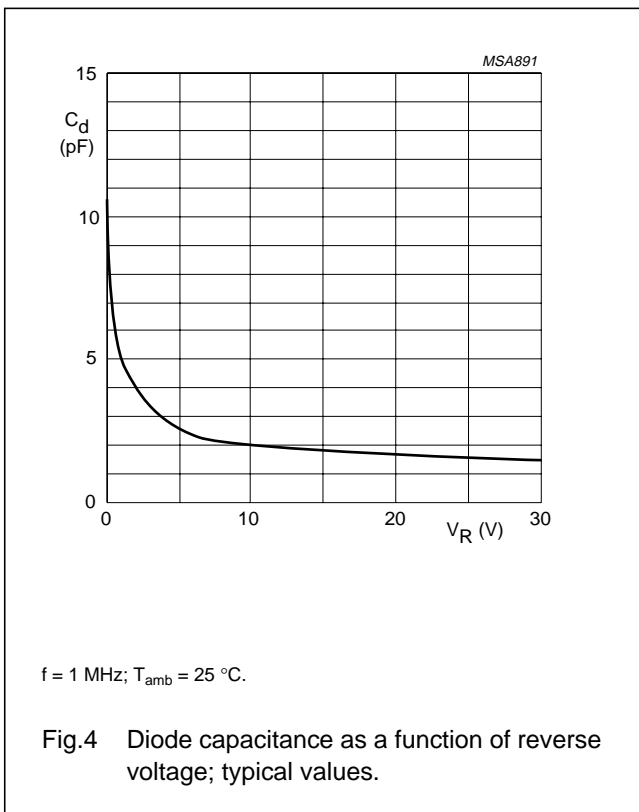
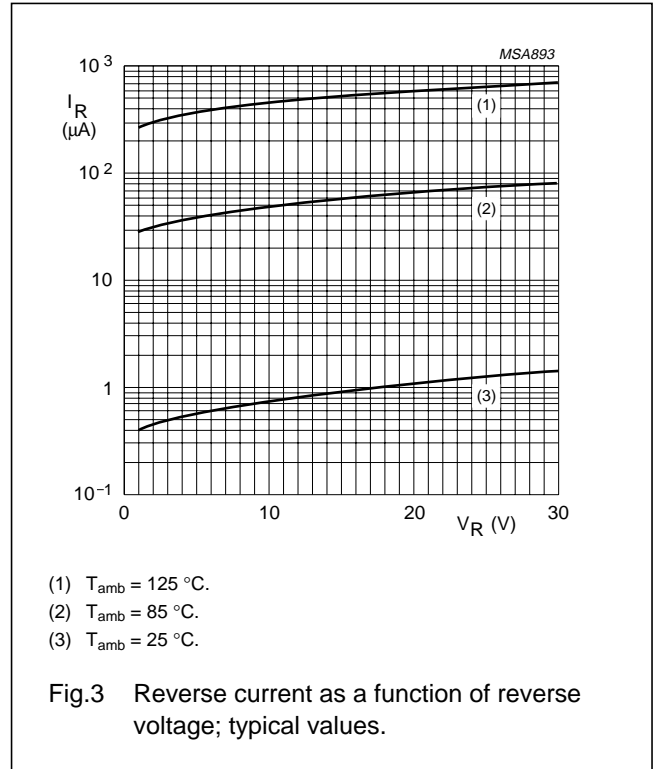
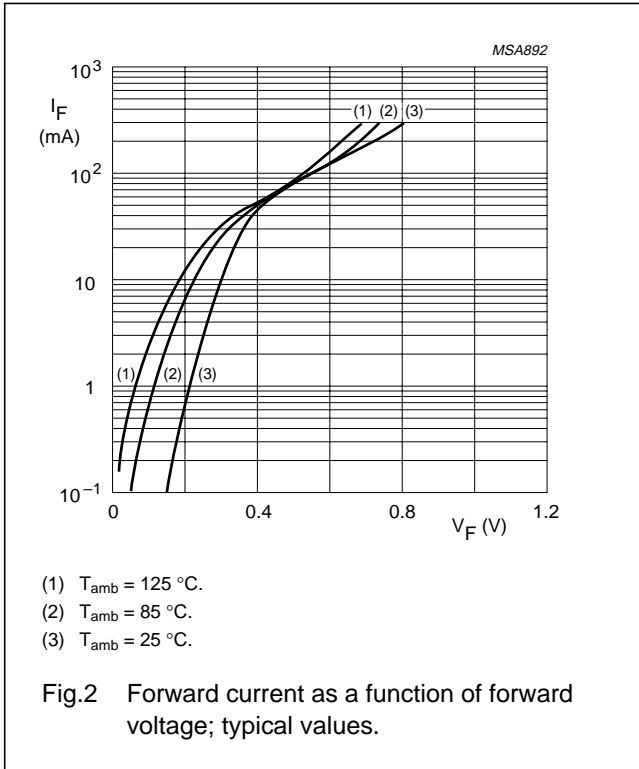
Note

1. Refer to SOD110 standard mounting conditions.

Schottky barrier diode

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GRAPHICAL DATA



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PACKAGE OUTLINE

Very small ceramic rectangular surface mounted package

SOD110

The technical drawing shows three views of the SOD110 package. The top view shows a rectangular package with a width dimension D . The side view shows a height dimension A and a length dimension E . The cross-sectional view shows a central cathode region with a hatched pattern, labeled 'cathode identifier', and two leads labeled '1' and '2'. A scale bar indicates 0, 0.5, and 1 mm. A small detail shows a lead with a width dimension y .

DIMENSIONS (mm are the original dimensions)

UNIT	A max.	D	E	y
mm	1.6	2.10 1.90	1.40 1.10	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD110						97-04-14

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DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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