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Band-switching diodes

BA482; BA483; BA484

FEATURES

- Continuous reverse voltage: max. 35 V
- Continuous forward current: max. 100 mA
- Low diode capacitance: max. 1.0 to 1.6 pF
- Low diode forward resistance: max. 0.7 to 1.2 Ω.

APPLICATION

- VHF television tuners.

DESCRIPTION

Planar high performance band-switching diode in a hermetically sealed glass SOD68 (DO-34) package.

The diodes are type branded.

Fig.1 Simplified outline (SOD68; DO-34) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_R	continuous reverse voltage	–	35	V
I_F	continuous forward current	–	100	mA
T_{stg}	storage temperature	–65	+150	°C
T_j	junction temperature	–	150	°C

ELECTRICAL CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V_F	forward voltage	I_F = 100 mA; see Fig.2	–	1.2	V
I_R	reverse current	see Fig.3			
		V_R = 20V	–	100	nA
		V_R = 20 V; T_{amb} = 75 °C	–	1	μA
C_d	diode capacitance	f = 1 to 100 MHz; V_R = 3 V; see Fig.4			
	BA482		0.8	1.2	pF
	BA483		0.7	1.0	pF
	BA484		1.0	1.6	pF
r_D	diode forward resistance	I_F = 3 mA; f = 200 MHz; see Fig.5			
	BA482		0.6	0.7	Ω
	BA483		0.8	1.2	Ω
	BA484		0.8	1.2	Ω

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages

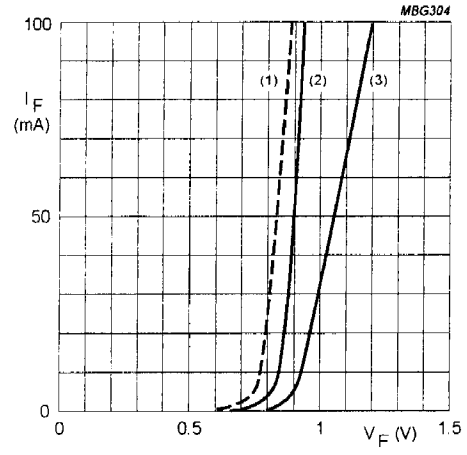
THERMAL CHARACTERISTICS

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

Note

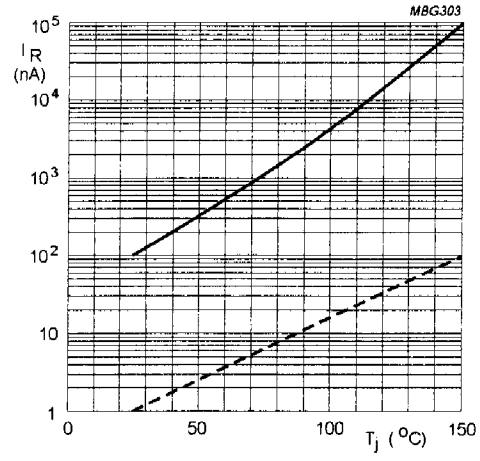
1. Device mounted on a FR4 printed-circuit board without metallization pad.

GRAPHICAL DATA



(1) T_j = 75 °C; typical values.
(2) T_j = 25 °C; typical values.
(3) T_j = 25 °C; maximum values.

Fig.2 Forward current as a function of forward voltage.



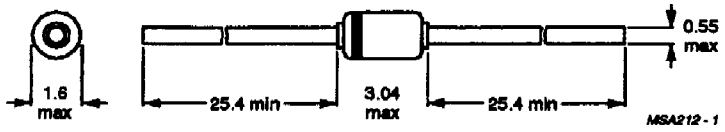
V_R = 20 V.
Solid line: maximum values.
Dotted line: typical values.

Fig.3 Reverse current as a function of junction temperature.

THERMAL CHARACTERISTICS

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

PACKAGE OUTLINE



Dimensions in mm.

Fig.6 SOD68; DO-34.

DEFINITIONS

Data Sheet Status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	