

General purpose PIN diode

FEATURES

- ◆ Two elements in series configuration in a small SMD plastic package
- ◆ Low diode capacitance
- ◆ Low diode forward resistance.

APPLICATIONS

- ◆ General RF applications.

DESCRIPTION

- ◆ Two planar PIN diodes in series configuration in an SOT-323 small SMD plastic package.

Marking Code:6w

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V_R	continuous reverse voltage		–	50	V
I_F	continuous forward current		–	50	mA
P_{tot}	total power dissipation	$T_s = 90\text{ }^\circ\text{C}$	–	240	mW
T_{stg}	storage temperature		–65	+150	$^\circ\text{C}$
T_j	junction temperature		–65	+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

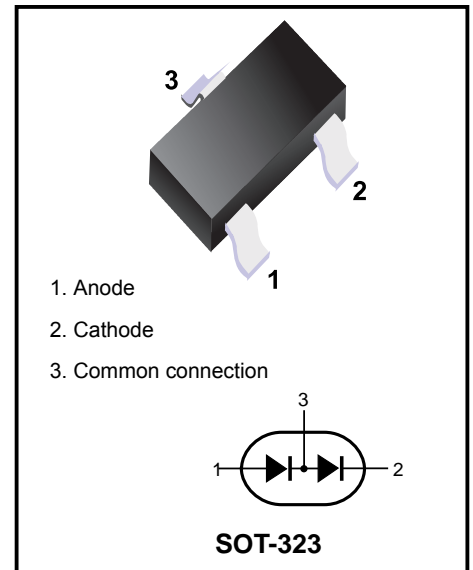
$T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per diode						
V_F	forward voltage	$I_F = 50\text{ mA}$	–	0.95	1.1	V
V_R	reverse voltage	$I_R = 10\text{ }\mu\text{A}$	50	–	–	V
I_R	reverse current	$V_R = 50\text{ V}$	–	–	100	nA
C_d	diode capacitance	$V_R = 0; f = 1\text{ MHz}$	–	0.45	–	pF
		$V_R = 1\text{ V}; f = 1\text{ MHz}$	–	0.35	0.6	pF
		$V_R = 5\text{ V}; f = 1\text{ MHz}$	–	0.30	0.5	pF
r_D	diode forward resistance	$I_F = 0.5\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	–	25	40	Ω
		$I_F = 1\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	–	14	25	Ω
		$I_F = 10\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	–	3	5	Ω
τ_L	charge carrier life time	when switched from $I_F = 10\text{ mA}$ to $I_R = 6\text{ mA}$; $R_L = 100\text{ }\Omega$; measured at $I_R = 3\text{ mA}$	–	1.05	–	μs
L_S	series inductance	$I_F = 10\text{ mA}; f = 100\text{ MHz}$	–	1.60	–	nH

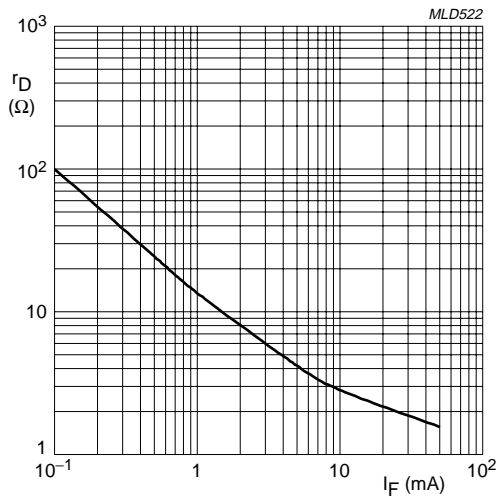
Note 1. Guaranteed on AQL basis: inspection level S4, AQL1.0.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R_{th-j-s}	thermal resistance from junction to soldering point	250	K/W

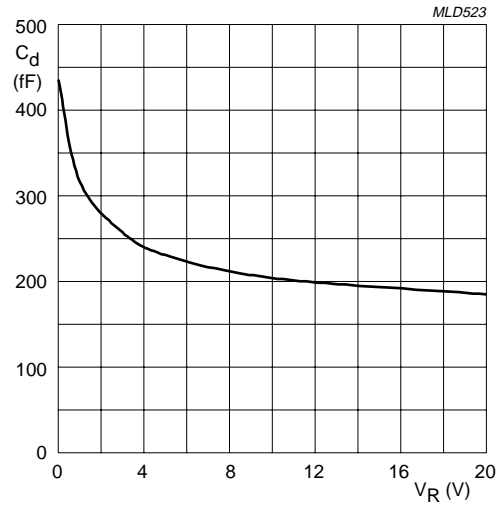


Typical Characteristics



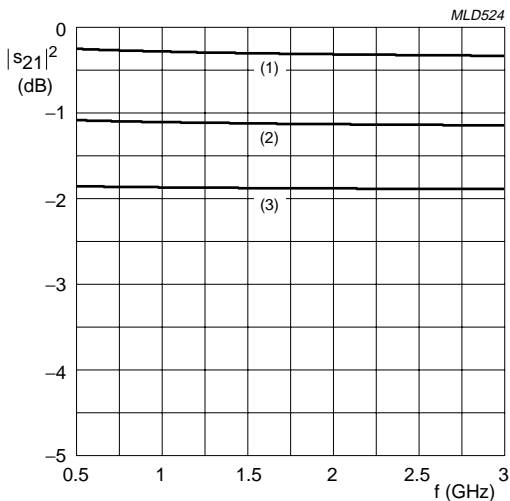
$f = 100 \text{ MHz}; T_j = 25 \text{ }^\circ\text{C}.$

Fig.2 Forward resistance as a function of forward current; typical values.



$f = 1 \text{ MHz}; T_j = 25 \text{ }^\circ\text{C}.$

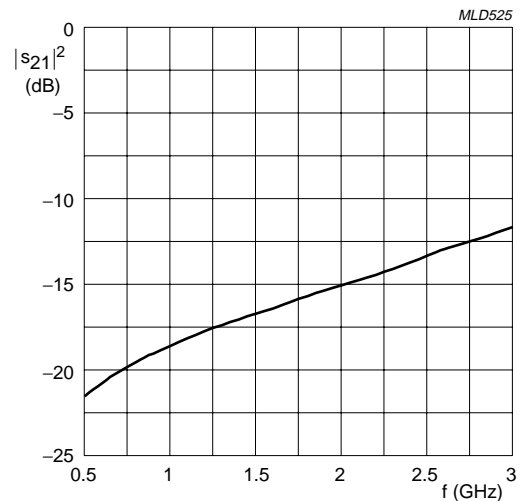
Fig.3 Diode capacitance as a function of reverse voltage; typical values.



(1) $I_F = 10 \text{ mA}.$ (2) $I_F = 1 \text{ mA}.$ (3) $I_F = 0.5 \text{ mA}.$

Diode inserted in series with a $50 \text{ } \Omega$ stripline circuit and biased via the analyzer Tee network.
 $T_{\text{amb}} = 25 \text{ }^\circ\text{C}.$

Fig.4 Insertion loss ($|s_{21}|^2$) of the diode in on-state as a function of frequency; typical values.

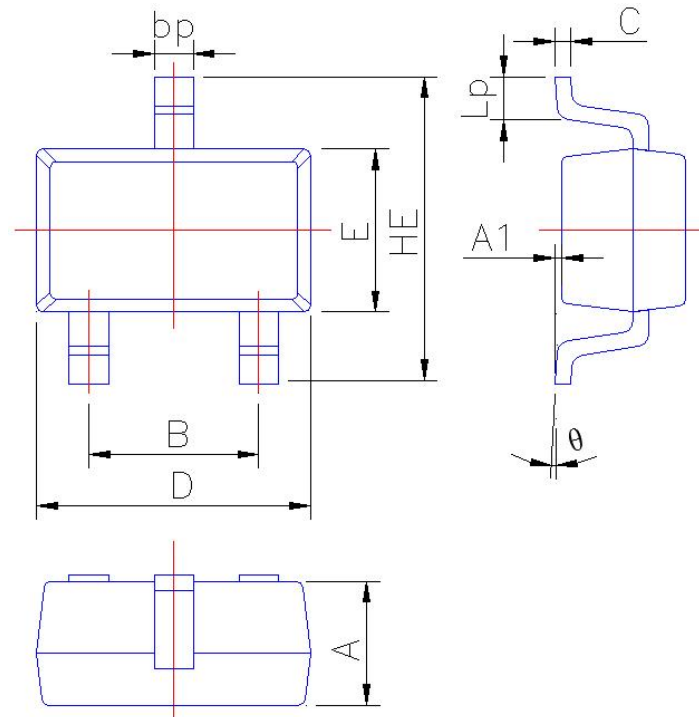


Diode zero biased and inserted in series with a $50 \text{ } \Omega$ stripline circuit.
 $T_{\text{amb}} = 25 \text{ }^\circ\text{C}.$

Fig.5 Isolation ($|s_{21}|^2$) of the diode in off-state as a function of frequency; typical values.

Package Outline

SOT-323



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.00
A1	0.010	0.100
B	1.20	1.40
bp	0.25	0.45
C	0.09	0.15
D	2.00	2.20
E	1.15	1.35
HE	2.15	2.55
Lp	0.25	0.46
θ	0°	6°

Summary of Packing Options

Package	Package Description	Packing Quantity	Industry Standard
SOT-323	Tape/Reel, 7" reel	3000	EIA-481-1

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Diodes - General Purpose, Power, Switching category:](#)

Click to view products by [YFW Electronics manufacturer:](#)

Other Similar products are found below :

[MMBD3004S-13-F](#) [1N3611](#) [NTE156A](#) [NTE6244](#) [1SS400CST2RA](#) [SDAA13](#) [SHN2D02FUTW1T1G](#) [1N4449](#) [1N456A](#) [1N914BTR](#)
[D291S45T](#) [BAS 16-02L E6327](#) [BAS 16-02V H6327](#) [BAS 21U E6327](#) [BAS 28 E6327](#) [BAW56DWQ-7-F](#) [BAW56M3T5G](#) [BAW75-TAP](#)
[MM230L-CAA](#) [IDW40E65D1](#) [JAN1N3600](#) [JAN1N4454UR-1](#) [SMMSD4148T3G](#) [BYW95B/A52A](#) [NSVDAN222T1G](#) [CDSZC01100-HF](#)
[BAV70HDW-7](#) [BAS28-7](#) [JANTX1N6640](#) [BAW56HDW-13](#) [BAS28 TR](#) [VS-HFA04SD60STR-M3](#) [1SS388-TP](#) [BAV99TQ-13-F](#)
[BAV99HDW-13](#) [1N4004](#) [MMDB30-E28X](#) [LS4148](#) [IDV15E65D2](#) [W0503RH200S0L](#) [M0268SJ200NLF](#) [M0268RJ200NLF](#) [S3MBF](#) [US1J](#)
[DAN217U-TP](#) [SHV-06JNS-Q](#) [IDW30C65D1](#) [IDW80C65D1](#) [VS-HFA30TA60CSR-M3](#) [M1MA152WAT1](#)