

VHF Variable Capacitance Diode

FEATURES

- Excellent linearity
- Excellent matching to 0.7% DMA
- Very small plastic SMD package
- C28: 2.5 pF; ratio: 16.
- Low series resistance.

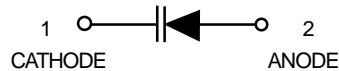
APPLICATIONS

- Electronic tuning in VHF television tuners, band B up to 460 MHz
- VCO.

DESCRIPTION

The BB133 is a variable capacitance diode fabricated in planar technology, and encapsulated in the SOD323 very small plastic SMD package.

The excellent matching performance is achieved by gliding matching and a direct matching assembly procedure. The unmatched type, BB150 has the same specification.

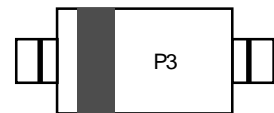


BB133



SOD-323

MARKING DIAGRAM



LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_R	continuous reverse voltage	–	30	V
I_F	continuous forward current	–	20	mA
T_{stg}	storage temperature	–55	+150	°C
T_j	operating junction temperature	–55	+125	°C

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_R	reverse current	$V_R = 30\text{ V}$; see Fig.2	–	10	nA
		$V_R = 30\text{ V}$; $T_j = 85\text{ °C}$; see Fig.2	–	200	nA
r_s	diode series resistance	$f = 100\text{ MHz}$; note 1	–	0.9	Ω
C_d	diode capacitance	$V_R = 0.5\text{ V}$; $f = 1\text{ MHz}$; see Figs 1 and 3	38	46	pF
		$V_R = 28\text{ V}$; $f = 1\text{ MHz}$; see Figs 1 and 3	2.2	2.6	pF
$\frac{C_d(0.5V)}{C_d(28V)}$	capacitance ratio	$f = 1\text{ MHz}$	14	21	
$\frac{\Delta C_d}{C_d}$	capacitance matching	$V_R = 0.5\text{ to }28\text{ V}$; in a sequence of 4 diodes (gliding)	–	0.7	%
		$V_R = 0.5\text{ to }28\text{ V}$; in a sequence of 15 diodes (gliding)	–	2	%

Note

1. V_R is the value at which $C_d = 30\text{ pF}$.

BB133

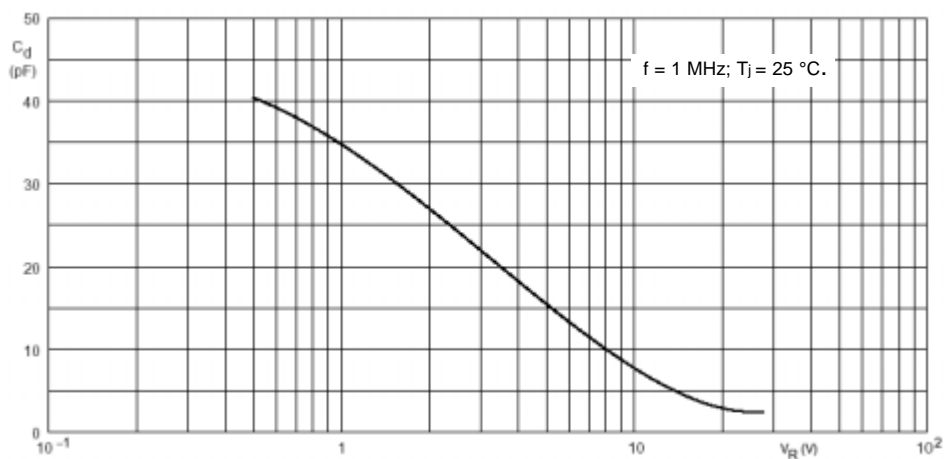


Fig.1 Diode capacitance as a function of reverse voltage; typical values.

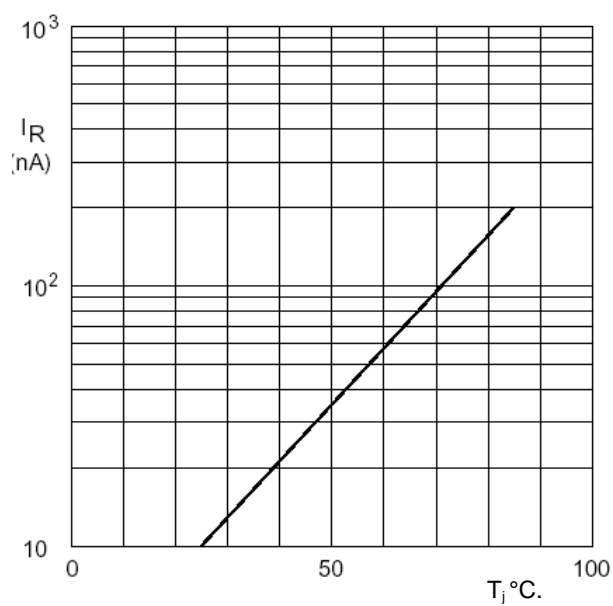


Fig.2 Reverse current as a function of junction temperature; maximum values.

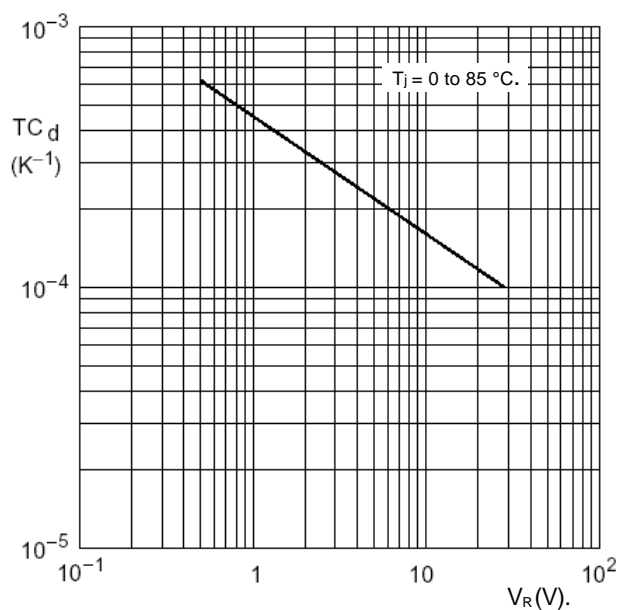


Fig.3 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.