VHF variable capacitance diode

BB 181

FEATURES

· Excellent linearity
· Ultra small plastic SMD package
· C28: 1 pF; ratio: 14.

APPLICATIONS

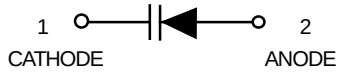
· Electronic tuning in satellite tuners
· Tuneable coupling
· Voltage controlled oscillators (VCO).

DESCRIPTION

The BB181 is a variable capacitance diode, fabricated in planar technology and encapsulated in the SOD523 (SC-79) ultra small plastic SMD package.



SOD523 SC-79



MARKING CODE:N



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	+150	°C

ELECTRICAL CHARACTERISTICS T_j=25°C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_R	reverse current	V_R = 30 V; see Fig.2	–	10	nA
		V_R =30 V; Tj =85°C; see Fig.2	–	200	nA
r_s	diode series resistance	f = 470 MHz; note 1	–	3	Ω
C_d	diode capacitance	V_R = 0.5 V; f = 1 MHz; see Figs 1 and 3	8	17	pF
		V_R = 28 V; f = 1 MHz; see Figs 1 and 3	0.7	1.055	pF
$\frac{C_{d(0.5V)}}{C_{d(28V)}}$	capacitance ratio	f = 1 MHz	12	16	

Note

1. V_R is the value at which Cd = 9 pF.

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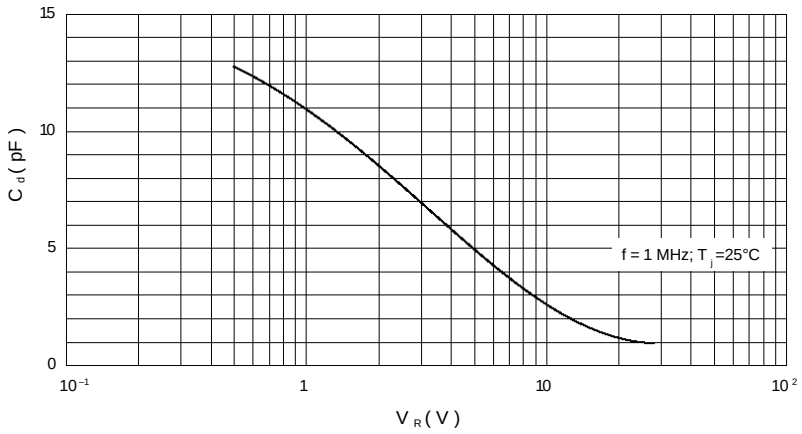


Fig.1 Diode capacitance as a function of reverse voltage; typical values.

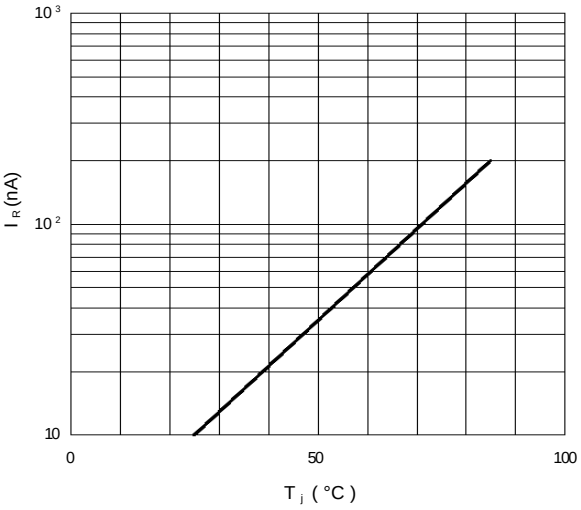


Fig.2 Reverse current as a function of junction temperature; maximum values.

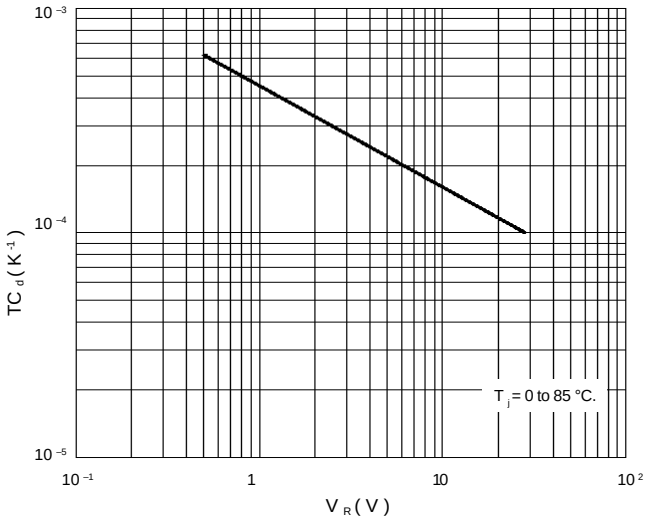


Fig.3 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.