Low-voltage variable capacitance diode

BB 141

FEATURES

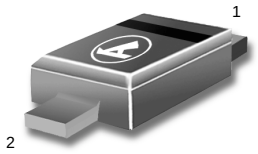
- Excellent linearity
- Ultra small plastic SMD package
- C4: 2.38 pF; ratio: 1.76
- Low series resistance.

APPLICATIONS

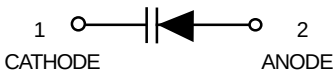
- Voltage controlled oscillators (VCO).

DESCRIPTION

The BB141 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:H

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	6	V
V_{RM}	peak reverse voltage	in series with a 10 kΩ resistor	–	8	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.	TYP.	MAX.	UNIT
I_R	reverse current	V_R = 6 V; see Fig.2	–	–	10	nA
		V_R =6 V; T_j =85°C; see Fig.2	–	–	200	nA
r_s	diode series resistance	f = 470 MHz; V_R =1 V	–	0.4	–	Ω
C_d	diode capacitance	V_R = 1 V; f = 1 MHz; see Figs 1 and 3	3.9	4.2	4.5	pF
		V_R = 4 V; f = 1 MHz; see Figs 1 and 3	2.22	2.38	2.55	pF
$\frac{C_{d(1V)}}{C_{d(4V)}}$	capacitance ratio	f = 1 MHz	1.65	1.76	–	

BB 141

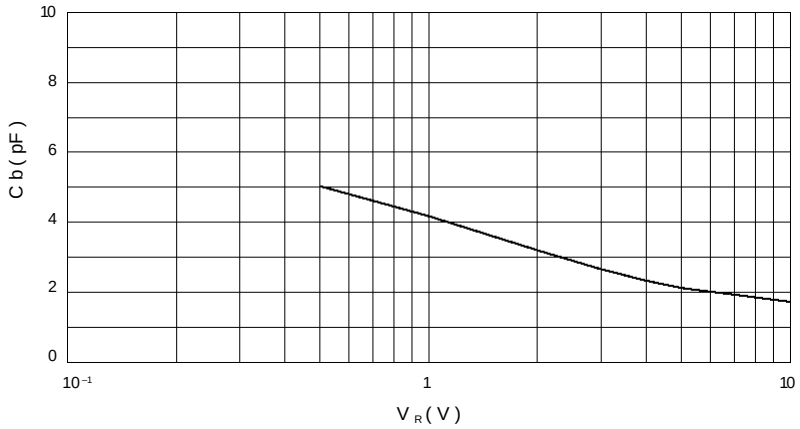


Fig.1 Diode capacitance as a function of reverse voltage; typical values.

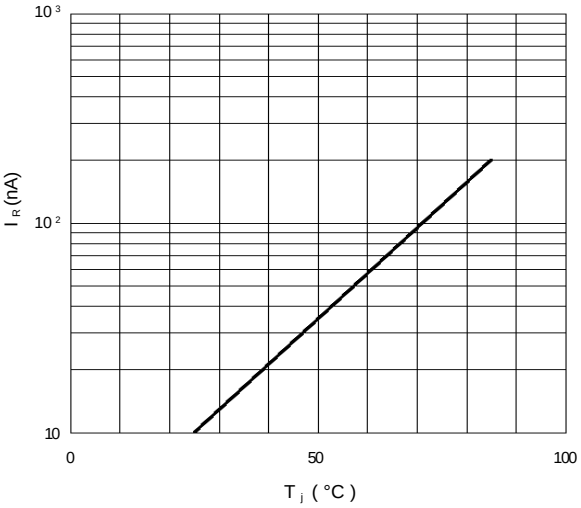


Fig.2 Reverse current as a function of junction temperature; maximum values.

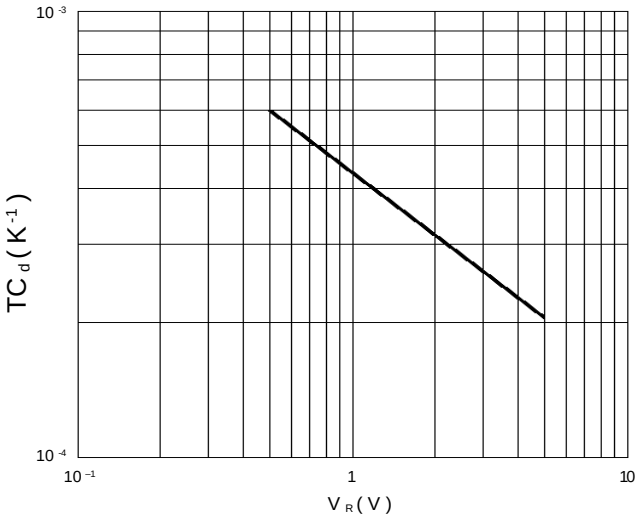


Fig.3 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.

littlediode
COMPONENTS FOR ALL

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.