VHF variable capacitance diode BB901

FEATURES

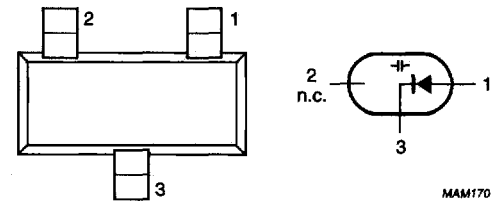
- Excellent linearity
- Small plastic SMD package
- C28: 1 pF; ratio: 13.5

APPLICATIONS

- Electronic tuning in satellite tuners
- Tunable coupling
- VCO.

DESCRIPTION

The BB901 is a variable capacitance diode, fabricated in planar technology, and encapsulated in the SOT23 small plastic SMD package.



Marking code: S14.

Fig.1 Simplified outline (SOT23), pin configuration and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_R	continuous reverse voltage	–	28	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

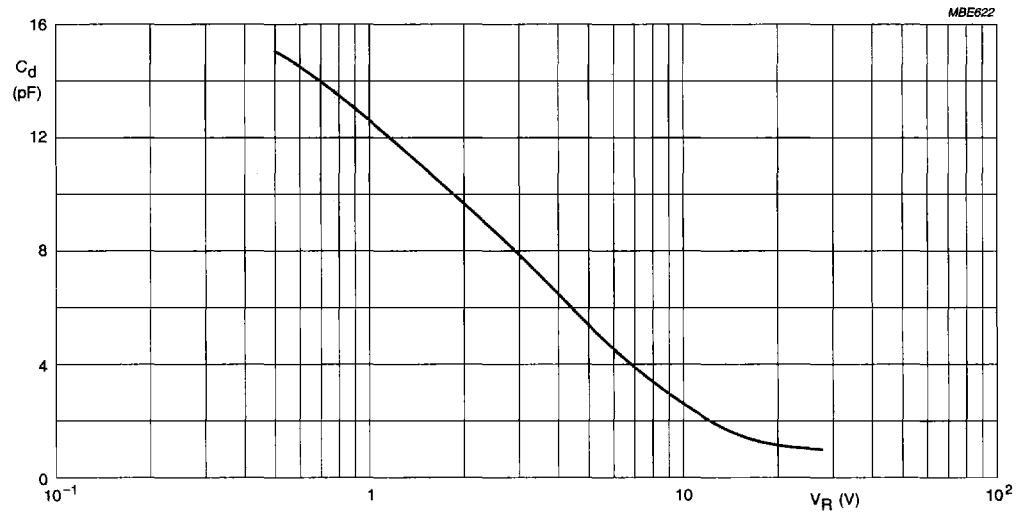
T_j = 25 °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_R	reverse current	V_R = 28 V; see Fig.3	–	–	10	nA
		V_R = 28 V; T_j = 85 °C; see Fig.3	–	–	200	nA
r_s	diode series resistance	f = 100 MHz; note 1	–	–	3	Ω
C_d	diode capacitance	V_R = 28 V; f = 1 MHz; see Figs 2 and 4	–	–	1.055	pF
$\frac{C_{d\,(0.5V)}}{C_{d\,(28V)}}$	capacitance ratio	f = 1 MHz	12	–	–	

Note

1. V_R is the value at which C_d = 10 pF.

GRAPHICAL DATA



f = 1 MHz; T_j = 25 °C

Fig.2 Diode capacitance as a function of reverse voltage; typical values.

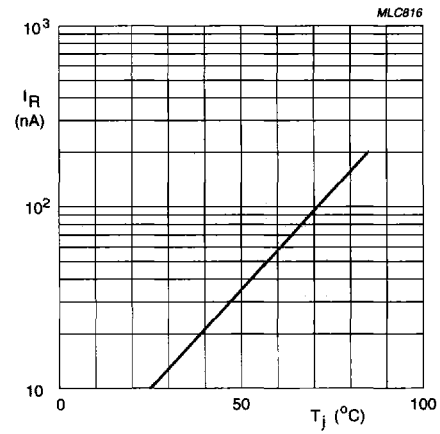
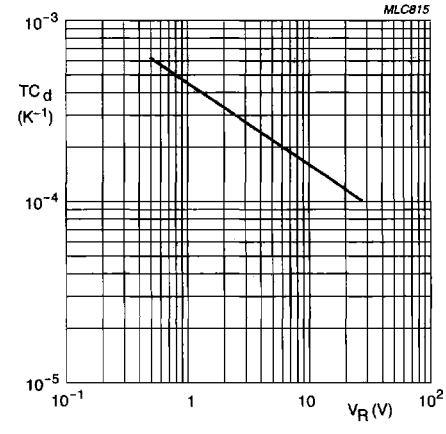


Fig.3 Reverse current as a function of junction temperature; maximum values.



T_j = 0 to 85 °C.

Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.