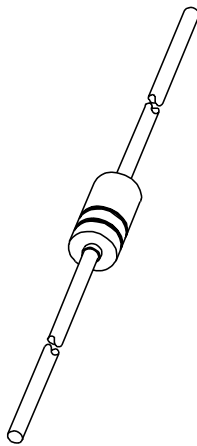


DATA SHEET



BB909A; BB909B VHF variable capacitance diodes

Product specification
Supersedes data of April 1992
File under Discrete Semiconductors, SC01

1996 May 03

VHF variable capacitance diodes

BB909A; BB909B

FEATURES

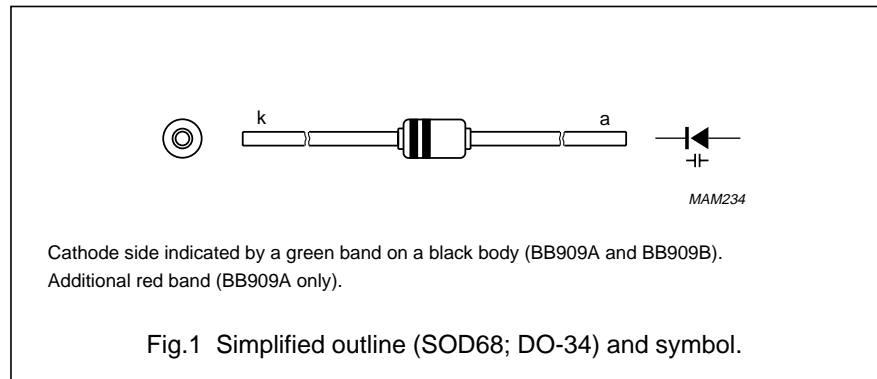
- Excellent linearity
- Matched to 2.5%
- Hermetically sealed leaded glass SOD68 (DO-34) package
- C28: 2.9 pF; ratio: 13.5
- Low series resistance.

APPLICATIONS

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

DESCRIPTION

The BB909A, BB909B are variable capacitance diodes, fabricated in planar technology, and encapsulated in hermetically sealed leaded glass SOD68 (DO-34) packages.



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	+100	°C

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_R	reverse current	$V_R = 28\text{ V}$; see Fig.3	–	–	10	nA
		$V_R = 28\text{ V}$; $T_j = 85\text{ °C}$; see Fig.3	–	–	200	nA
r_s	diode series resistance	$f = 100\text{ MHz}$; note 1	–	–	0.9	Ω
C_d	diode capacitance BB909A	$V_R = 1\text{ V}$; $f = 1\text{ MHz}$	31	–	–	pF
		$V_R = 3\text{ V}$; $f = 1\text{ MHz}$	–	23	–	pF
	BB909B	$V_R = 28\text{ V}$; $f = 1\text{ MHz}$	2.6	–	3	pF
		$V_R = 1\text{ V}$; $f = 1\text{ MHz}$	33.5	–	–	pF
		$V_R = 3\text{ V}$; $f = 1\text{ MHz}$	–	25	–	pF
		$V_R = 28\text{ V}$; $f = 1\text{ MHz}$	2.8	–	3.2	pF
$\frac{C_{d(1V)}}{C_{d(28V)}}$	capacitance ratio	$f = 1\text{ MHz}$	12	–	15	
$\frac{\Delta C_d}{C_d}$	capacitance matching	$V_R = 1\text{ to }28\text{ V}$	–	–	2.5	%

Note

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

VHF variable capacitance diodes

BB909A; BB909B

GRAPHICAL DATA

