

## Variable capacitance diode

BB119

### FEATURES

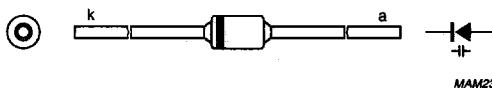
- Hermetically sealed leaded glass SOD27 (DO-35) package
- C10: 17 pF; ratio: 1.3.

### APPLICATIONS

- Automatic frequency control.

### DESCRIPTION

The BB119 is a variable capacitance diode, fabricated in planar technology, and encapsulated in the hermetically sealed leaded glass SOD27 (DO-35) package.



MAM238

Fig.1 Simplified outline (SOD27; DO-35) and symbol.

### LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage	–	15	V
$I_F$	continuous forward current	–	200	mA
$T_{stg}$	storage temperature	-55	+150	°C
$T_j$	operating junction temperature	–	150	°C

### ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_R$	reverse current	$V_R = 15 \text{ V}$ ; see Fig.3	–	–	50	nA
		$V_R = 15 \text{ V}; T_j = 150^\circ\text{C}$ ; see Fig.3	–	–	2	µA
$r_s$	diode series resistance	$f = 200 \text{ MHz}$ ; note 1	–	0.2	1.5	Ω
$C_d$	diode capacitance	$V_R = 4 \text{ V}; f = 1 \text{ MHz}$ ; see Figs 2 and 4	20	–	25	pF
		$V_R = 10 \text{ V}; f = 1 \text{ MHz}$ ; see Figs 2 and 4	–	17	–	pF
$\frac{C_d(4V)}{C_d(10V)}$	capacitance ratio	$f = 1 \text{ MHz}$	1.3	–	–	

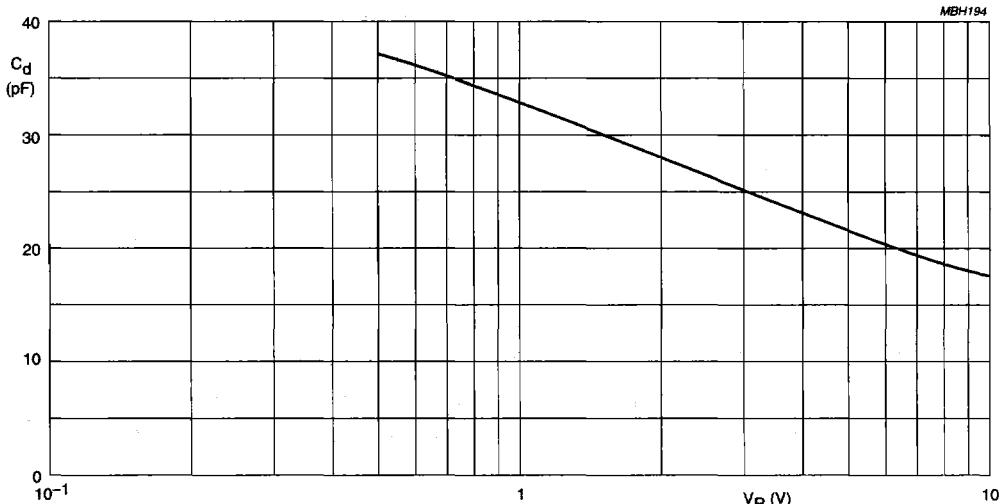
### Note

1.  $V_R = 4 \text{ V}$ .

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### GRAPHICAL DATA



$f = 1 \text{ MHz}$ .

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

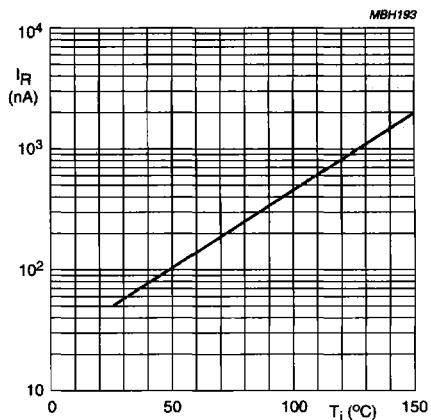


Fig.3 Reverse current as a function of junction temperature; maximum values.

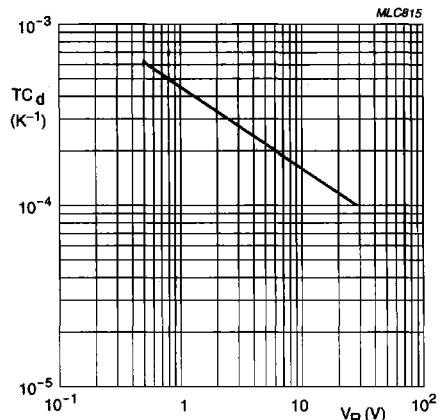


Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.