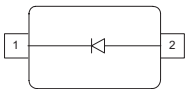


**Silicon Variable Capacitance Diodes**

- For VHF TV-tuners
- High capacitance ratio
- Low series inductance
- Low series resistance
- Excellent uniformity and matching due to "in-line" matching assembly procedure


**BB644  
BB664/-02V**


Type	Package	Configuration	$L_S$ (nH)	Marking
BB644	SOD323	single	1.8	yellow 4
BB664	SCD80	single	0.6	44
BB664-02V	SC79	single	0.6	4

**Maximum Ratings at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	30	V
Peak reverse voltage $R \geq 5\text{k}\Omega$	$V_{RM}$	35	
Forward current	$I_F$	20	mA
Operating temperature range	$T_{op}$	-55 ... 150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ... 150	

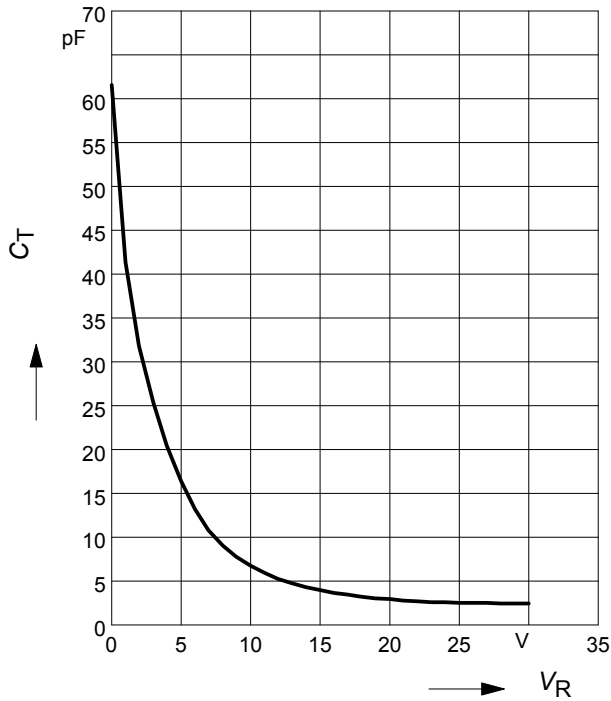
**Electrical Characteristics at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Reverse current	$I_R$				nA
$V_R = 30\text{ V}$		-	-	10	
$V_R = 30\text{ V}, T_A = 85^\circ\text{C}$		-	-	100	
<b>AC Characteristics</b>					
Diode capacitance	$C_T$				pF
$V_R = 1\text{ V}, f = 1\text{ MHz}$		39	41.8	44.5	
$V_R = 2\text{ V}, f = 1\text{ MHz}$		29.4	31.85	34.2	
$V_R = 25\text{ V}, f = 1\text{ MHz}$		2.5	2.7	2.85	
$V_R = 28\text{ V}, f = 1\text{ MHz}$		2.4	2.55	2.75	
Capacitance ratio	$C_{T1}/C_{T28}$	15	16.4	17.8	
$V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$					
Capacitance ratio	$C_{T2}/C_{T25}$	11	11.8	12.6	
$V_R = 1\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$					
Capacitance matching <sup>1)</sup>	$\Delta C_T/C_T$	-	-	2	%
$V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$					
Series resistance	$r_S$	-	0.6	0.75	$\Omega$
$V_R = 5\text{ V}, f = 470\text{ MHz}$					

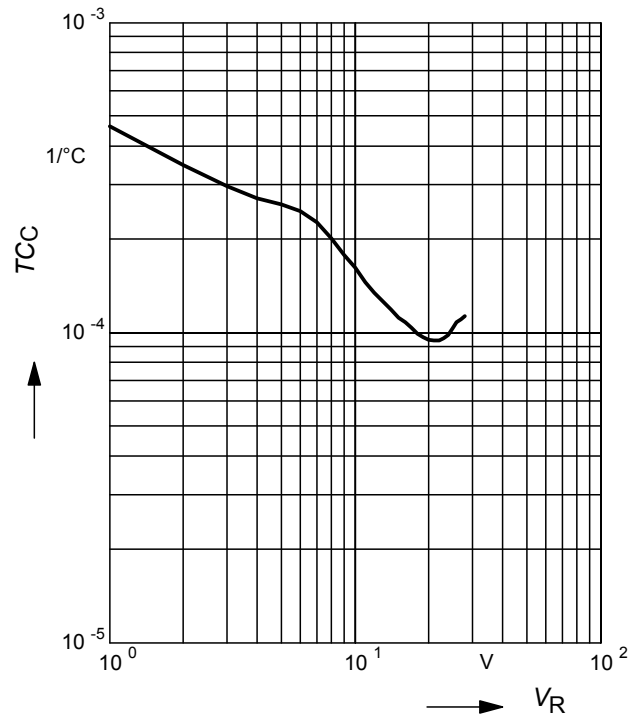
<sup>1</sup>For details please refer to Application Note 047.

**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



**Temperature coefficient of the diode capacitance  $T_{CC} = f(V_R)$**



**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$

