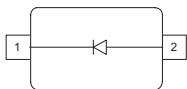


Silicon Variable Capacitance Diodes

- 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	

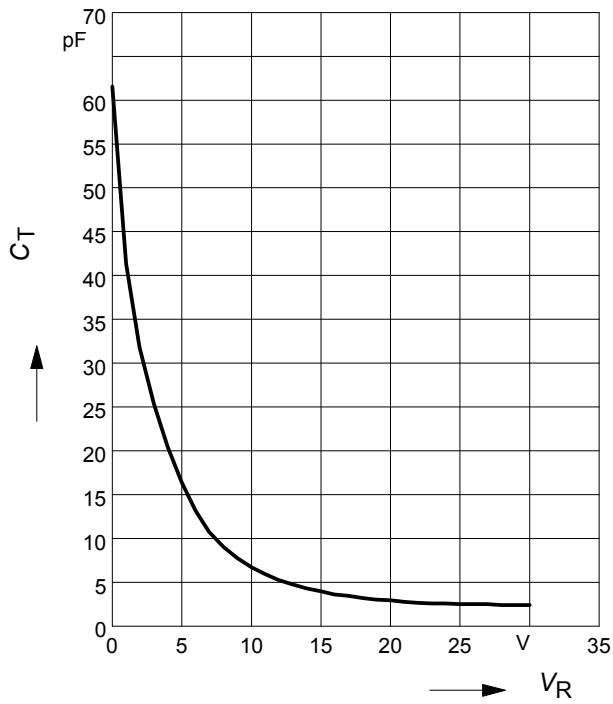
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
$V_R = 30\text{ V}$		-	-	10	
$V_R = 30\text{ V}, T_A = 85\text{ °C}$		-	-	100	
AC Characteristics					
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	
$V_R = 2\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$					
Capacitance matching ¹⁾	$\Delta C_T/C_T$	-	-	2	%
$V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$					
Series resistance	r_S	-	0.6	0.75	Ω
$V_R = 5\text{ V}, f = 470\text{ MHz}$					

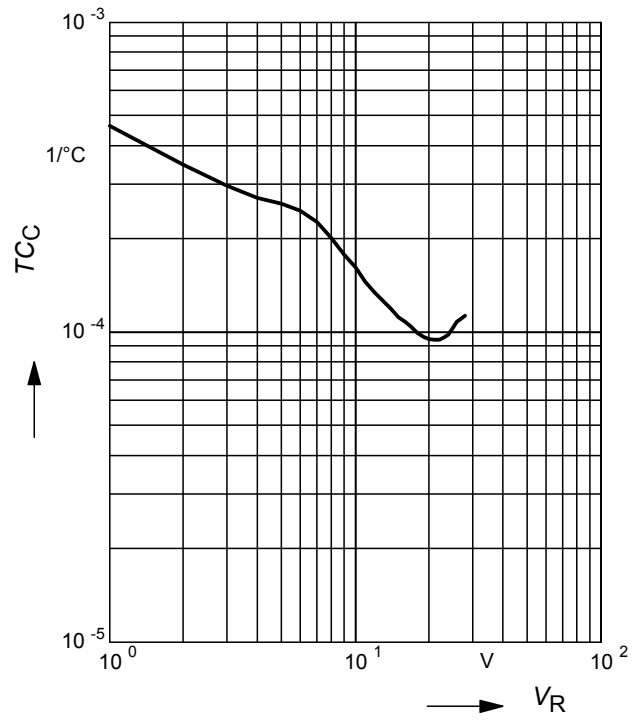
¹For details please refer to Application Note 047.

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



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



Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

