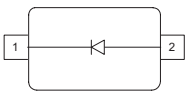


**Silicon Tuning Diode**

- Excellent linearity
- Low series resistance
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- Very low capacitance spread



**BBY56-02W**  
**BBY56-03W**



Type	Package	Configuration	$L_S$ (nH)	Marking
BBY56-02W	SCD80	single	0.6	66
BBY56-03W	SOD323	single	1.8	6 red

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

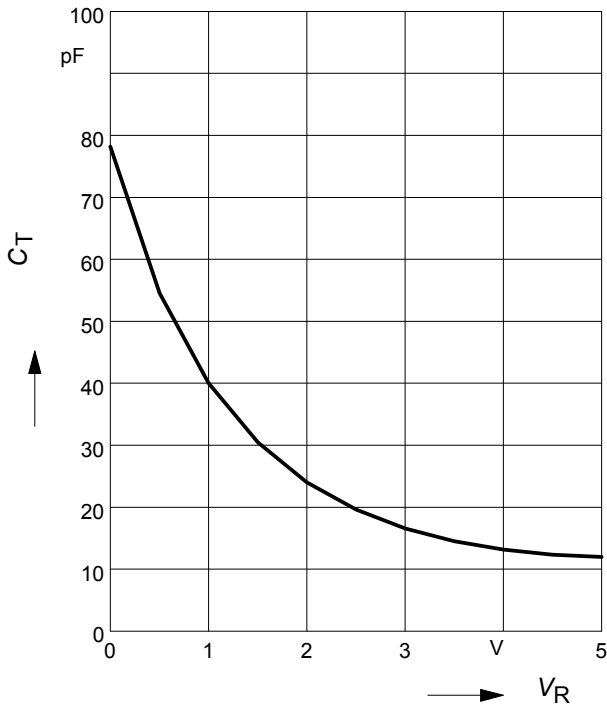
Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	10	V
Forward current	$I_F$	20	mA
Operating temperature range	$T_{op}$	-55 ... 150	°C
Storage temperature	$T_{stg}$	-55 ... 150	

**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
$V_R = 6\text{ V}$		-	-	5	
$V_R = 6\text{ V}, T_A = 85^\circ\text{C}$		-	-	100	
<b>AC Characteristics</b>					
Diode capacitance	$C_T$				pF
$V_R = 1\text{ V}, f = 1\text{ MHz}$		37	40	43	
$V_R = 2\text{ V}, f = 1\text{ MHz}$		22	-	25	
$V_R = 3\text{ V}, f = 1\text{ MHz}$		14.8	15.8	16.8	
$V_R = 4\text{ V}, f = 1\text{ MHz}$		-	12.1	-	
Capacitance ratio	$C_{T1}/C_{T3}$				
$V_R = 1\text{ V}, V_R = 3\text{ V}, f = 1\text{ MHz}$		2.15	2.53	-	
$V_R = 1\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$		-	3.3	-	
Series resistance	$r_S$				$\Omega$
$V_R = 1\text{ V}, f = 470\text{ MHz}$		-	0.25	-	

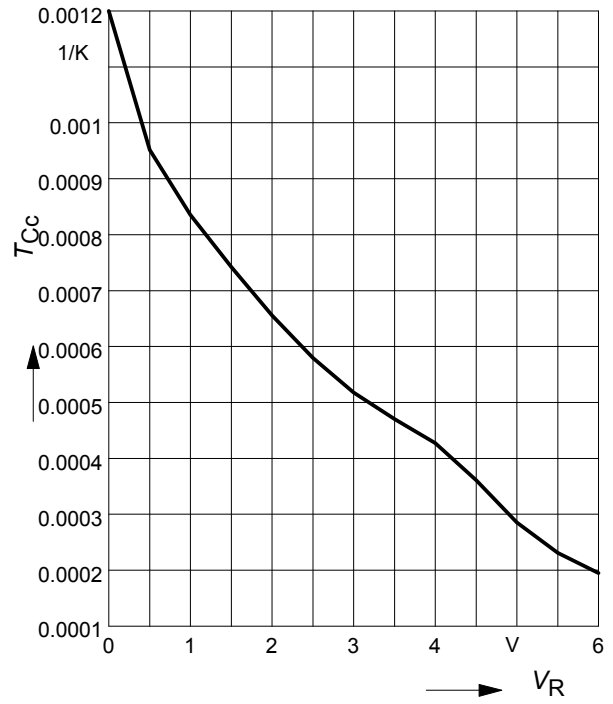
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



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

$f = 1\text{MHz}$



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

$T_A = \text{Parameter}$

