

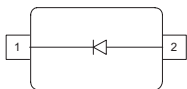
Silicon Tuning Diode

- 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

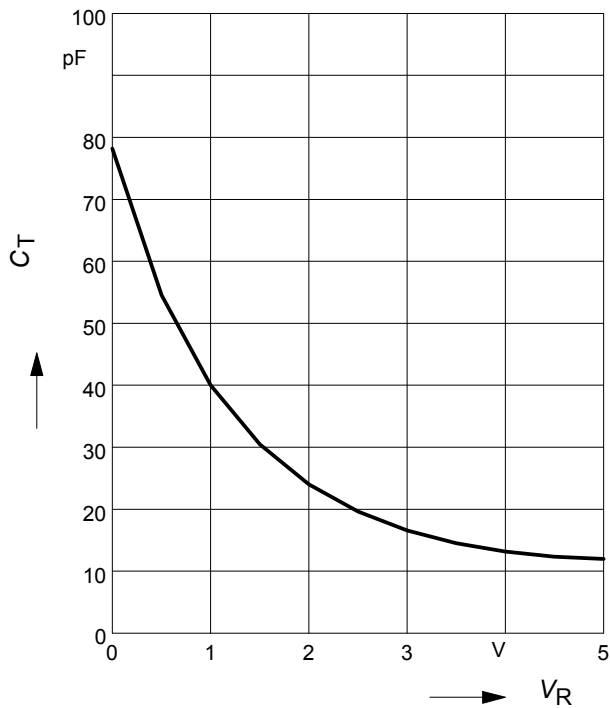
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	10	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 6\text{ V}$ $V_R = 6\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$	I_R	- - -	- - -	5 100	nA
AC Characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 4\text{ V}, f = 1\text{ MHz}$	C_T	37 22 14.8 -	40 - 15.8 12.1	43 25 16.8 -	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 1\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T3}	2.15 -	2.53 3.3	- -	
Series resistance $V_R = 1\text{ V}, f = 470\text{ MHz}$	r_S	-	0.25	-	Ω

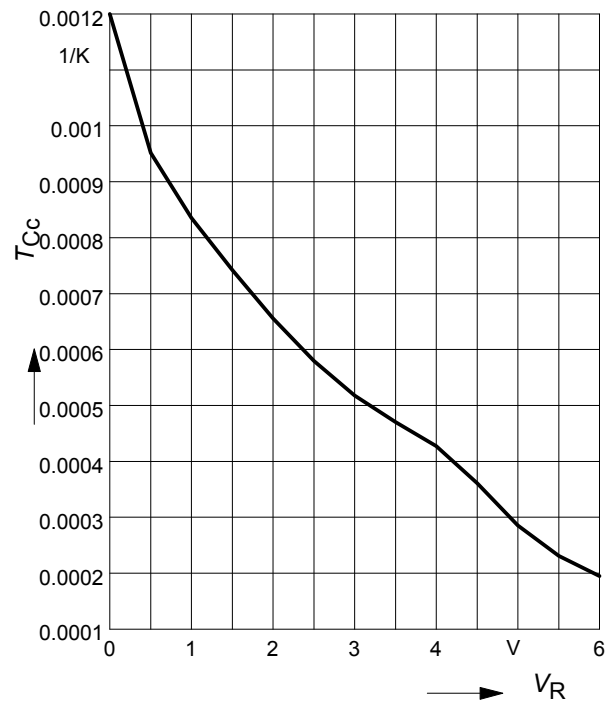
Diode capacitance $C_T = f(V_R)$

$f = 1\text{ MHz}$



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

$f = 1\text{ MHz}$



Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

