

Silicon Tuning Diodes

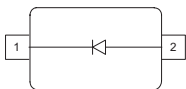
- Excellent linearity
- High Q hyperabrupt tuning diode
- Low series resistance
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- Very low capacitance spread



BBY55-02V

BBY55-02W

BBY55-03W



Type	Package	Configuration	L_S (nH)	Marking
BBY55-02V	SC79	single	0.6	7
BBY55-02W	SCD80	single	0.6	77
BBY55-03W	SOD323	single	1.8	7 white

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

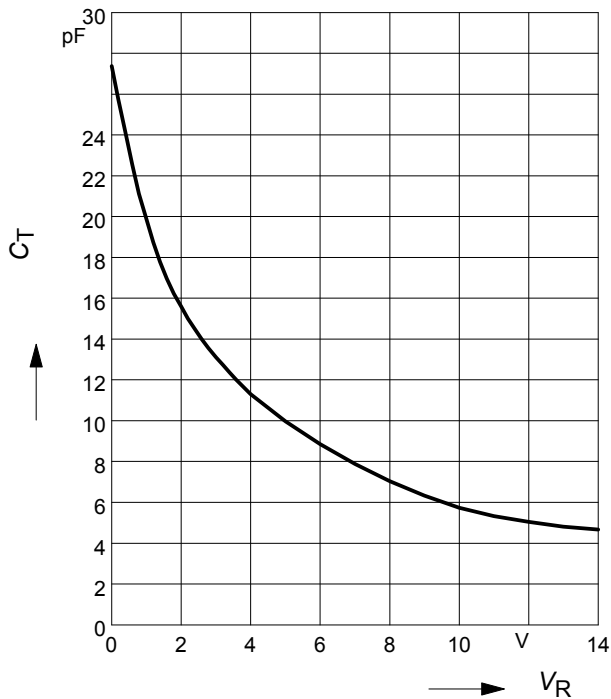
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	16	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 15\text{ V}$ $V_R = 15\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$	I_R	- - -	- - -	3 100	nA
AC Characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 4\text{ V}, f = 1\text{ MHz}$ $V_R = 10\text{ V}, f = 1\text{ MHz}$	C_T	17.5 14 11.6 10 5.5	18.6 15 12.6 11 6	19.6 16 13.6 12 6.5	pF
Capacitance ratio $V_R = 2\text{ V}, V_R = 10\text{ V}, f = 1\text{ MHz}$	C_{T2}/C_{T10}	2	2.5	3	
Series resistance $V_R = 5\text{ V}, f = 470\text{ MHz}$	r_S	-	0.15	0.4	Ω

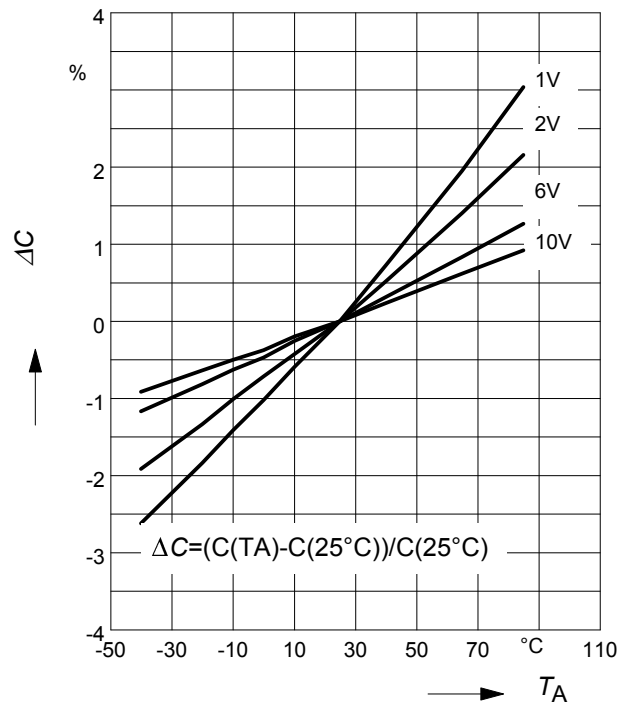
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



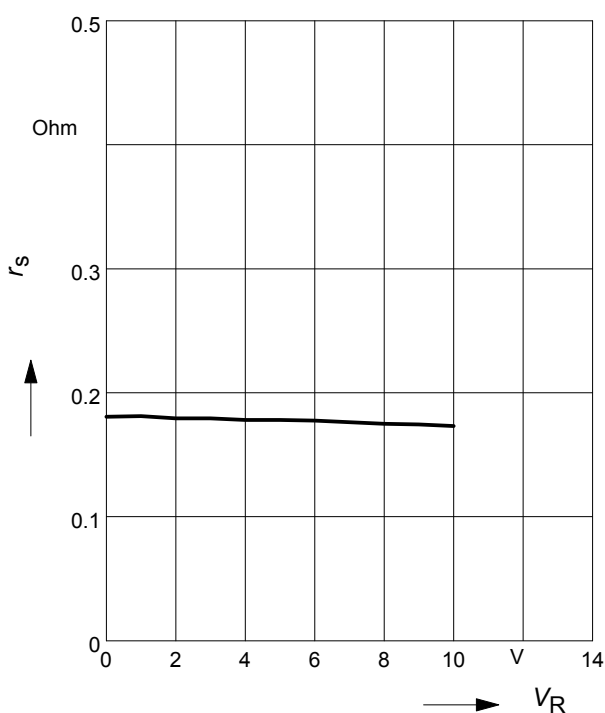
Capacitance change $\Delta C = f(T_A)$

$f = 1\text{ MHz}$



Series resistance $r_S = f(V_R)$

$f = 470\text{ MHz}$



Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

