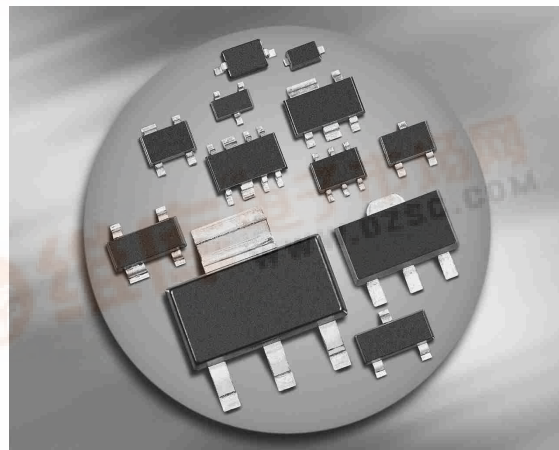




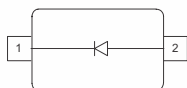
BBY59...

Silicon Tuning Diode

- High Q hyperabrupt tuning diode
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- For control elements as TCXOS and VCXOS
- High capacitance ratio and good C-V linearity



BBY59-02V



Type	Package	Configuration	L_S (nH)	Marking
BBY59-02V	SC79	single	0.6	RR

Maximum Ratings

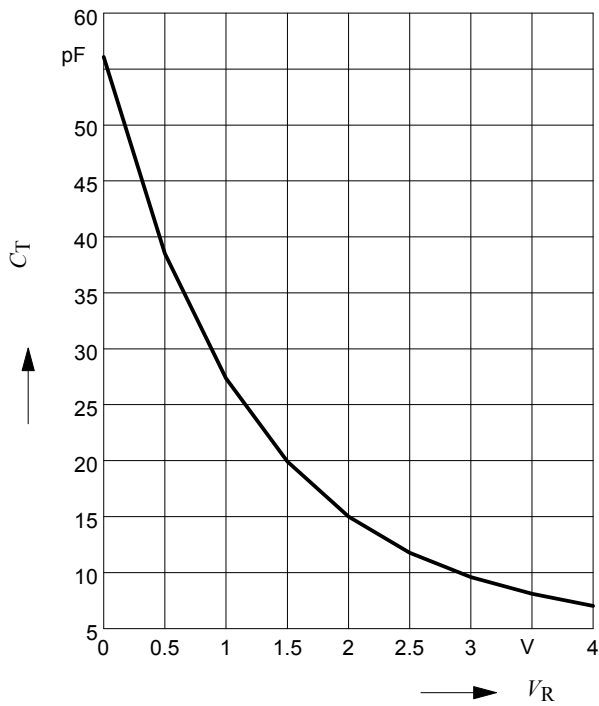
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	15	V
Forward current	I_F	50	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 10\text{ V}$ $V_R = 10\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$	I_R	- -	- -	20 100	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	26,6 13.6 8,4 6,1	27.8 15.3 9.5 6,95	29 17 10.9 7,8	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 4\text{ V}$	C_{T1}/C_{T4}	3,4	4	4,6	
Series resistance $V_R = 1\text{ V}, f = 470\text{ MHz}$	r_S	-	0.45	0.7	Ω

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



Temperature coefficient of the diode capacitance $TC_C = f(V_R)$

