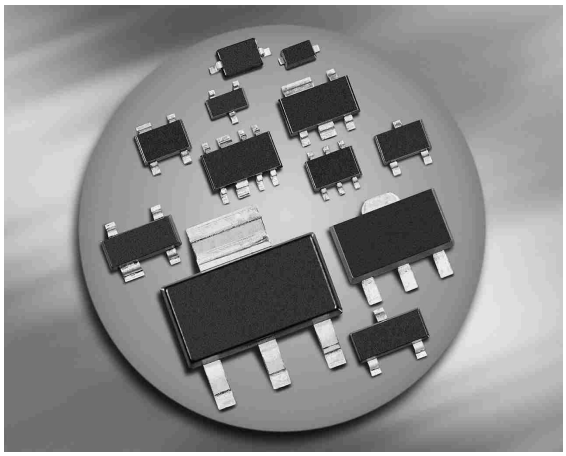
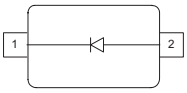
Silicon Tuning Diode

- High Q hyperabrupt tuning diode
- Designed for low tuning voltage operation
  for VCO's in moblie 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

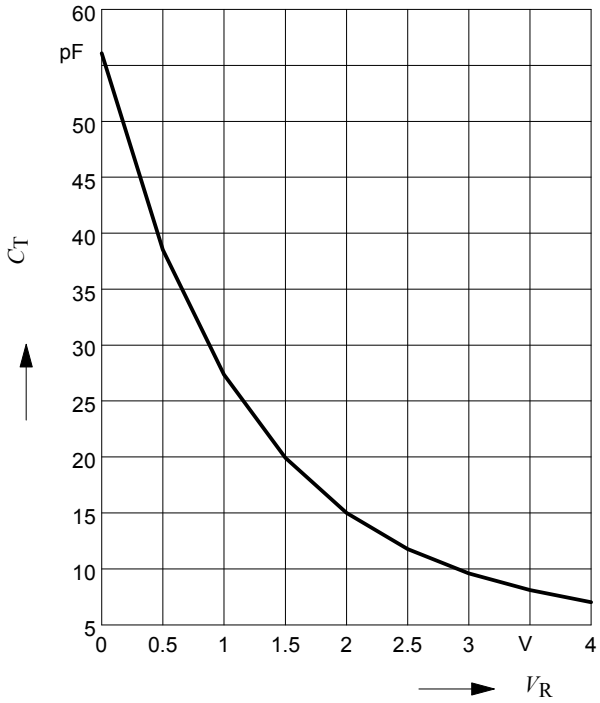
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	15	V
Forward current	I_F	50	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
V_R = 10 V		-	-	20	
V_R = 10 V, T_A = 85 °C		-	-	100	
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 1 V, f = 1 MHz		26,6	27.8	29	
V_R = 2 V, f = 1 MHz		13.6	15.3	17	
V_R = 3 V, f = 1 MHz		8,4	9.5	10.9	
V_R = 4 V, f = 1 MHz		6,1	6,95	7,8	
Capacitance ratio	C_{T1}/C_{T4}	3,4	4	4,6	
V_R = 1 V, V_R = 4 V					
Series resistance	r_S	-	0.45	0.7	Ω
V_R = 1 V, f = 470 MHz					

Diode capacitance $C_T = f(V_R)$

f = 1MHz



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