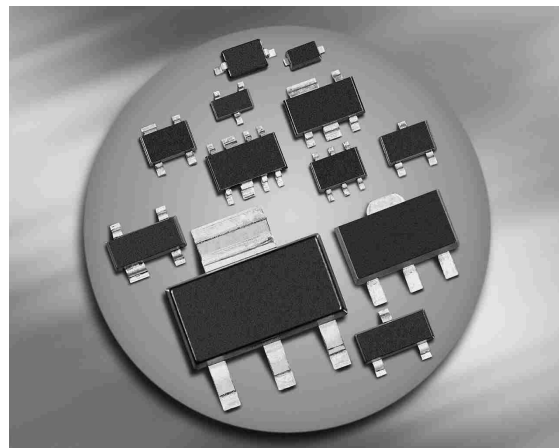
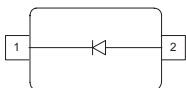


Silicon Tuning Diode

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



BBY65-02V



Type	Package	Configuration	L_S (nH)	Marking
BBY65-02V	SC79	single	0.6	F

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	15	V
Forward current	I_F	50	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 $V_R = 10\text{ V}$ $V_R = 10\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$	I_R	- - -	- - -	10 100	nA
AC Characteristics					
Diode capacitance $V_R = 0.3\text{ V}, f = 1\text{ MHz}$ $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 4.7\text{ V}, f = 1\text{ MHz}$	C_T	28.2 - - - 2.6	29.5 20.25 9.8 4.45 2.7	30.8 - - - 2.8	pF
Capacitance ratio $V_R = 0.3\text{ V}, V_R = 4.7\text{ V}$	$C_{T0.3}/$ $C_{T4.7}$	10	10.9	-	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 3\text{ V}$	C_{T1}/C_{T3}	-	4.55	-	pF
Series resistance $V_R = 1\text{ V}, f = 470\text{ MHz}$	r_S	-	0.6	0.9	Ω

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

