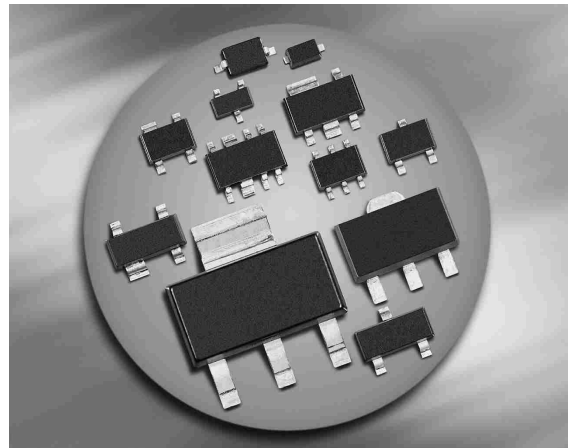
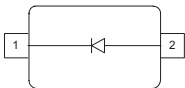


Silicon Tuning Diode

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

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

