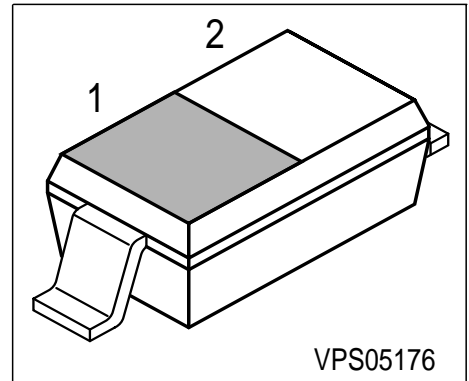


Silicon Tuning Diode

- High Q hyperabrupt tuning diode
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- High ratio at low reverse voltage



Type	Marking	Pin Configuration			Package
BBY53-03W	white/5	1 = C	2 = A	-	SOD323

Maximum Ratings

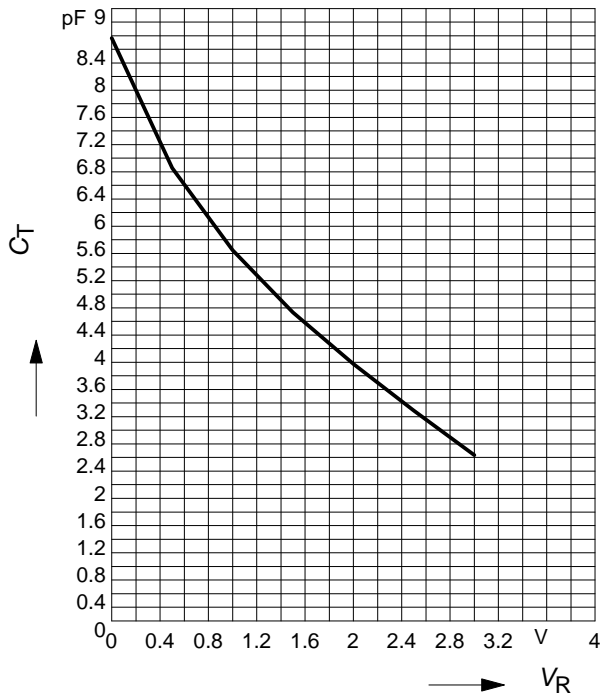
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	6	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 4\text{ V}$ $V_R = 4\text{ V}, T_A = 85^\circ\text{C}$	I_R	- -	- -	10 200	nA
AC Characteristics					
Diode capacitance- $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$	C_T	4.8 1.85	5.3 2.4	5.8 3.1	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 3\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T3}	1.8	2.2	2.6	
Series resistance $V_R = 1\text{ V}, f = 1\text{ GHz}$	r_S	-	0.47	-	Ω
Case capacitance $f = 1\text{ MHz}$	C_C	-	0.12	-	pF
Series inductance	L_S	-	1.8	-	nH

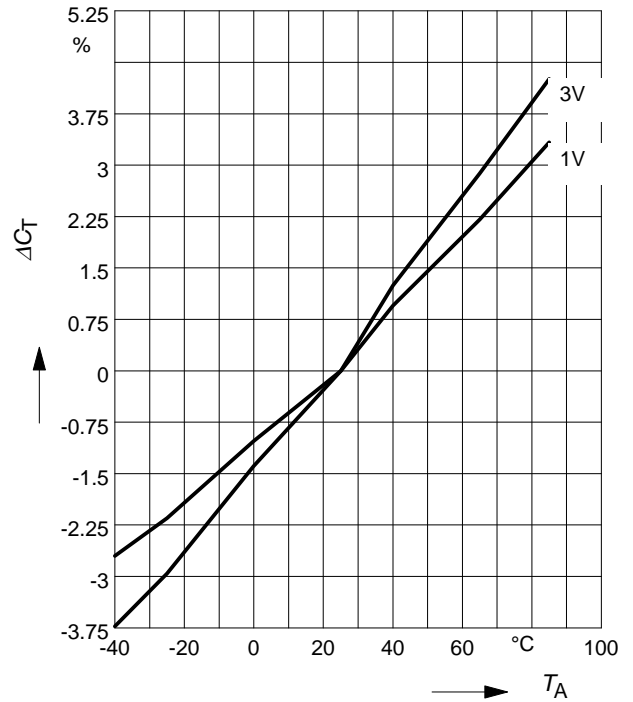
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



Relativ capacitance change $\Delta C = f(T_A)$

$f = 1\text{MHz}$



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

$f = 1\text{MHz}$

