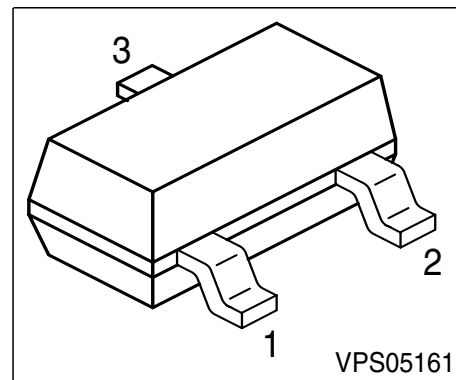


Silicon Tuning Diode

- High Q hyperabrupt dual tuning diode
- Designed for low tuning voltage operation
- For VCO's in mobile communications equipment



Type	Marking	Pin Configuration			Package
BBY 52	S5s	1 = A1	2 = A2	3 = C1/2	SOT-23

Maximum Ratings

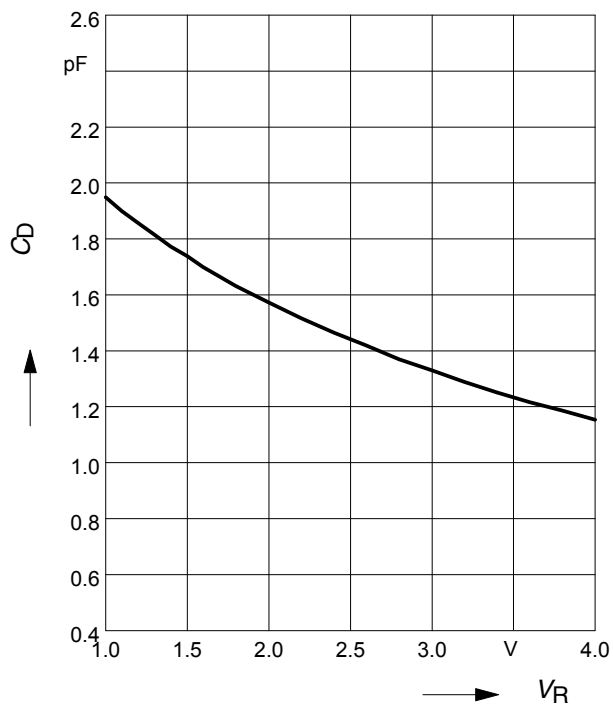
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	7	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Reverse current $V_R = 6\text{ V}$	I_R	-	-	10	nA
Reverse current $V_R = 6\text{ V}, T_A = 150\text{ }^{\circ}\text{C}$	I_R	-	-	100	
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	1.4 - - 0.85	1.85 1.5 1.35 1.15	2.2 - - 1.45	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T4}	1.1	1.6	2.1	-
Series resistance $V_R = 1\text{ V}, f = 1\text{ GHz}$	r_s	-	0.9	1.8	Ω
Case capacitance $f = 1\text{ MHz}$	C_C	-	0.12	-	pF
Series inductance	L_s	-	2	-	nH

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



Reverse current $I_R = f(V_R)$

$T_A = 25\text{ }^\circ\text{C}$

