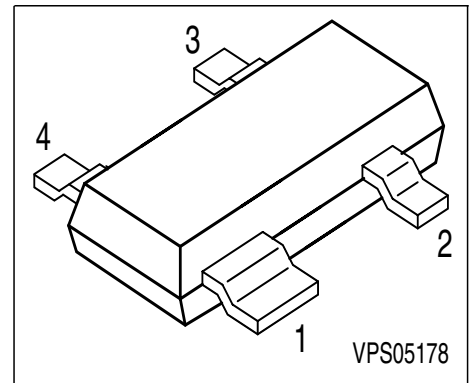


Silicon Tuning Diode

- 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 51-07	HHs	1 = C1	2 = C2	3 = A2	4 = A1	SOT-143

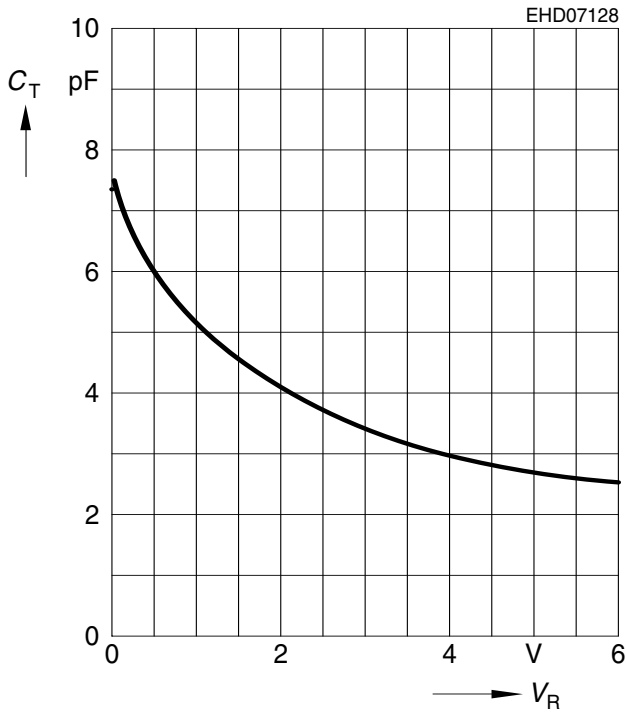
Maximum Ratings

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 $V_R = 6\text{ V}, T_A = 150^\circ\text{C}$	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	4.8 3.6 2.9 2.6	5.3 4.2 3.5 3.1	6 5 4.2 3.5	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T4}	1.55	1.75	2.15	-
Capacitance difference $V_R = 1\text{ V}, V_R = 3\text{ V}, f = 1\text{ MHz}$	$C_{1V}-C_{3V}$	1.4	1.78	2.2	pF
Capacitance difference $V_R = 3\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$	$C_{3V}-C_{4V}$	0.3	0.5	0.7	
Series resistance $V_R = 1\text{ V}, f = 1\text{ GHz}$	r_s	-	0.37	-	Ω
Case capacitance $f = 1\text{ MHz}$	C_C	-	0.12	-	pF
Series inductance	L_s	-	2	-	nH

Diode capacitance $C_T = f(V_R)$
 $f = 1\text{MHz}$



Temperature coefficient $T_{CC} = f(V_R)$,
per diode, $f = 1\text{MHz}$

