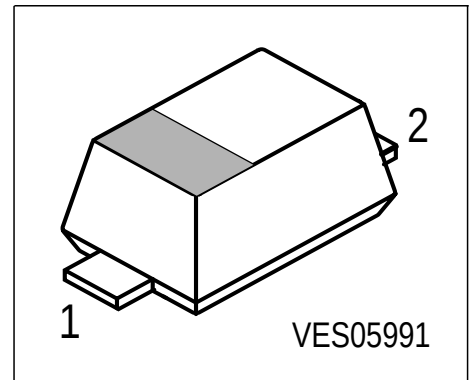


Silicon Tuning Diode

- 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
BBY53-02W	L	1 = C	2 = A	SCD80

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 $V_R = 4\text{ V}$	I_R	-	-	10	nA
Reverse current $V_R = 4\text{ V}$, $T_A = 85\text{ }^{\circ}\text{C}$	I_R	-	-	200	
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	-	0.09	-	pF
Series inductance	L_s	-	0.6	-	nH

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

