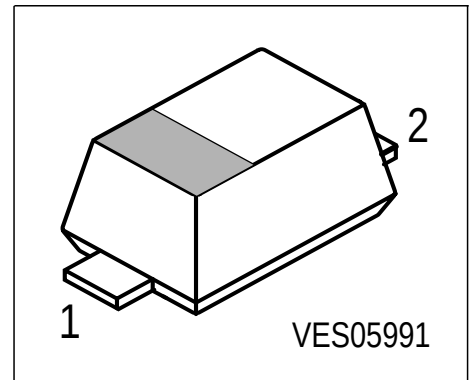


Silicon Tuning Diode

- Excellent linearity
- High Q hyperabrupt tuning diode
- Low series inductance
- Designed for low tuning voltage operation
for VCO's in mobile communications equipment
- Very low capacitance spread



Type	Marking	Pin Configuration		Package
BBY55-02W	7	1 = C	2 = A	SCD80

Maximum Ratings

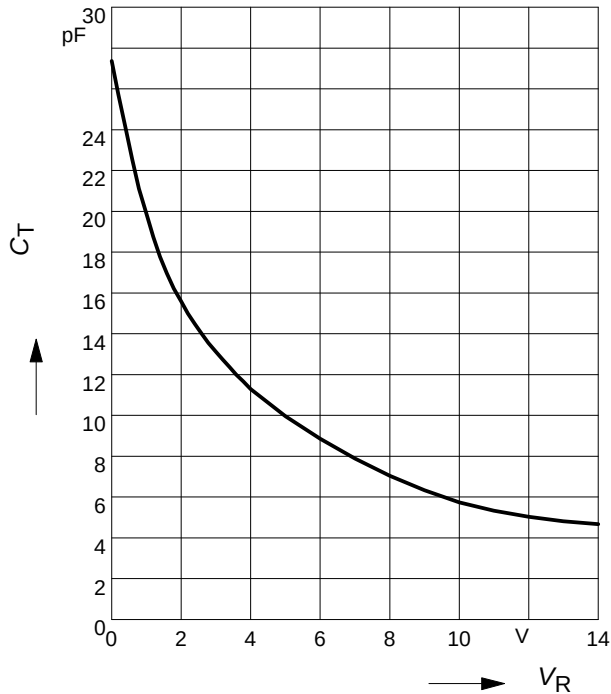
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	16	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit	
		min.	typ.	max.		
DC characteristics						
Reverse current $V_R = 15\text{ V}$	I_R	-	-	3	nA	
Reverse current $V_R = 15\text{ V}, T_A = 65\text{ }^{\circ}\text{C}$	I_R	-	-	100		
AC characteristics						
Diode capacitance $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 4\text{ V}, f = 1\text{ MHz}$ $V_R = 10\text{ V}, f = 1\text{ MHz}$	C_T	14 10 5.5	15 11 6	16 12 6.5	pF	
Capacitance ratio $V_R = 2\text{ V}, V_R = 10\text{ V}, f = 1\text{ MHz}$	C_{T2}/C_{T10}	2	2.5	3		
Series resistance $V_R = 5\text{ V}, f = 470\text{ MHz}$	r_s	-	0.15	0.4		Ω
Case capacitance $f = 1\text{ MHz}$	C_C	-	0.09	-		pF
Series inductance	L_s	-	0.6	-	nH	

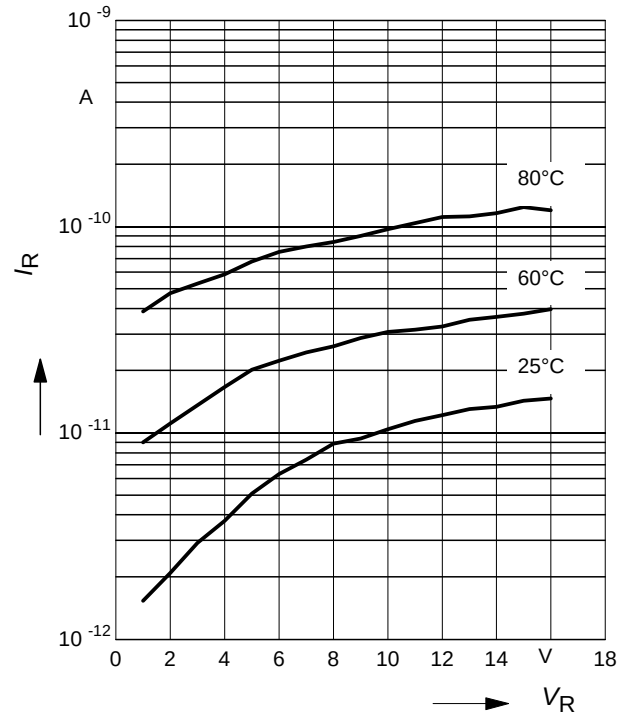
Diode capacitance $C_T = f(V_R)$

$f = 1\text{ MHz}$



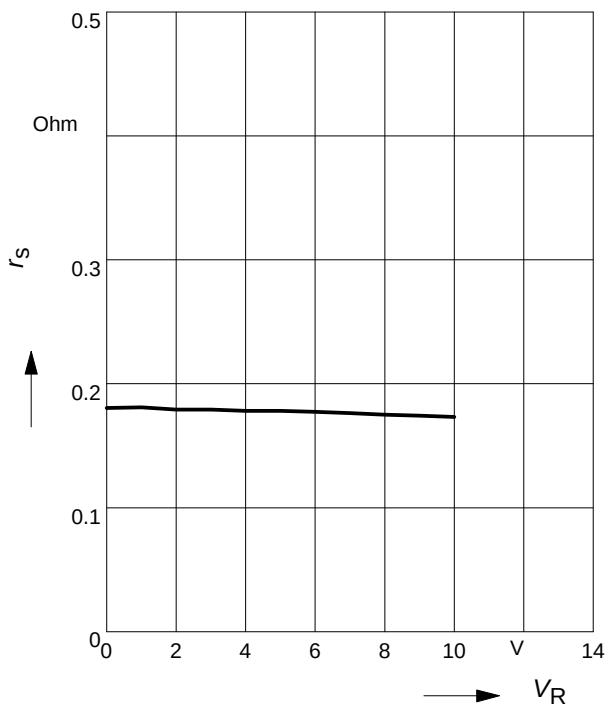
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



Series resistance $r_s = f(V_R)$

$f = 470\text{ MHz}$



Capacitance change $\Delta C = f(T_A)$

$f = 1\text{ MHz}$

