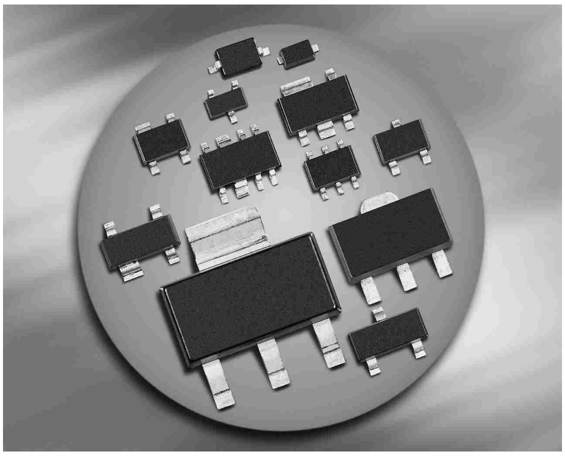
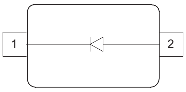
Silicon Tuning Diode



- Excellent linearity
- Low series resistance
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- Very low capacitance spread

BBY56-02W
BBY56-03W



Type	Package	Configuration	L_S(nH)	Marking
BBY56-02W	SCD80	single	0.6	66
BBY56-03W	SOD323	single	1.8	6 red

Maximum Ratings at T_A = 25°C, unless otherwise specified

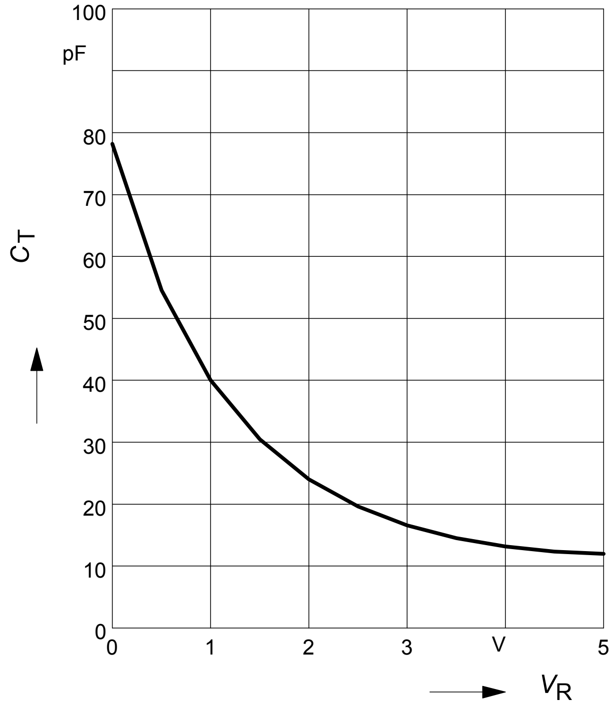
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	10	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
V_R = 6 V		-	-	5	
V_R = 6 V, T_A = 85 °C		-	-	100	
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 1 V, f = 1 MHz		37	40	43	
V_R = 2 V, f = 1 MHz		22	-	25	
V_R = 3 V, f = 1 MHz		14.8	15.8	16.8	
V_R = 4 V, f = 1 MHz		-	12.1	-	
Capacitance ratio	C_{T1}/C_{T3}				
V_R = 1 V, V_R = 3 V, f = 1 MHz		2.15	2.53	-	
V_R = 1 V, V_R = 4 V, f = 1 MHz		-	3.3	-	
Series resistance V_R = 1 V, f = 470 MHz	r_S	-	0.25	-	Ω

Diode capacitance $C_T = f\,(V_R)$

f = 1MHz



Temperature coefficient of the diode capacitance $T_{Cc} = f\,(V_R)$

f = 1 MHz

Reverse current $I_R = f(V_R)$

T_A = Parameter