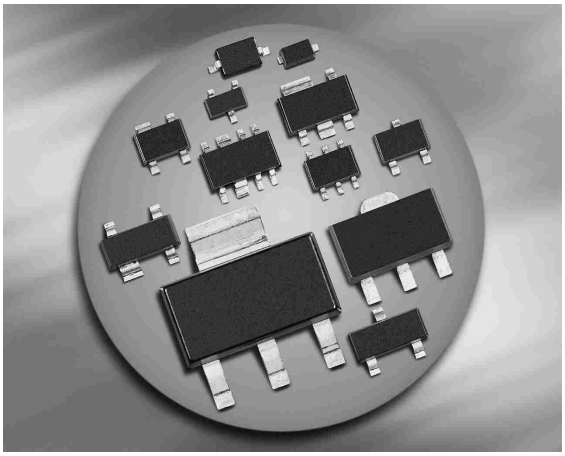
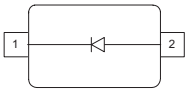
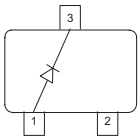
Silicon Tuning Diode

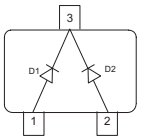
- High Q hyperabrupt tuning diode
- Designed for low tuning voltage operation
  for VCO's in mobile communications equipment
- High ratio at low reverse voltage



BBY53-02L **BBY53-03L** **BBY53**
BBY53-02V **BBY53-05W**
BBY53-02W
BBY53-03W







Type	Package	Configuration	L_S(nH)	Marking
BBY53	SOT23	common cathode	2	S7s
BBY53-02L*	TSLP-2-1	single, leadless	0.4	LL
BBY53-02V	SC79	single	0.6	L
BBY53-02W	SCD80	single	0.6	LL
BBY53-03L*	TSLP-3-1	single, leadless	0.4	LL
BBY53-03W	SOD323	single	1.8	white/5
BBY53-05W	SOT323	common cathode	1.4	S7s

* Preliminary

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

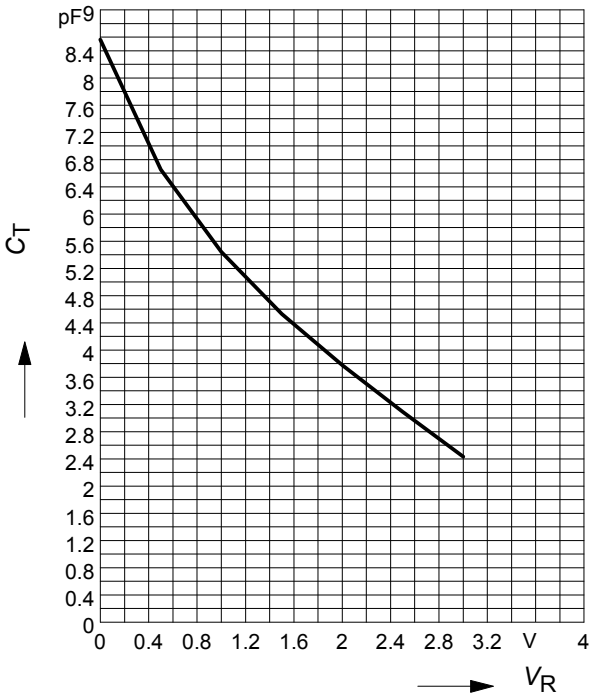
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	6	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 125	°C
Storage temperature	T_{stg}	-55 ... 150	

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 = 4 V		-	-	10	
V_R = 4 V, T_A = 85 °C		-	-	200	
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 1 V, f = 1 MHz		4.8	5.3	5.8	
V_R = 3 V, f = 1 MHz		1.85	2.4	3.1	
Capacitance ratio	C_{T1}/C_{T3}	1.8	2.2	2.6	
V_R = 1 V, V_R = 3 V, f = 1 MHz					
Series resistance	r_S	-	0.47	-	Ω
V_R = 1 V, f = 1 GHz					

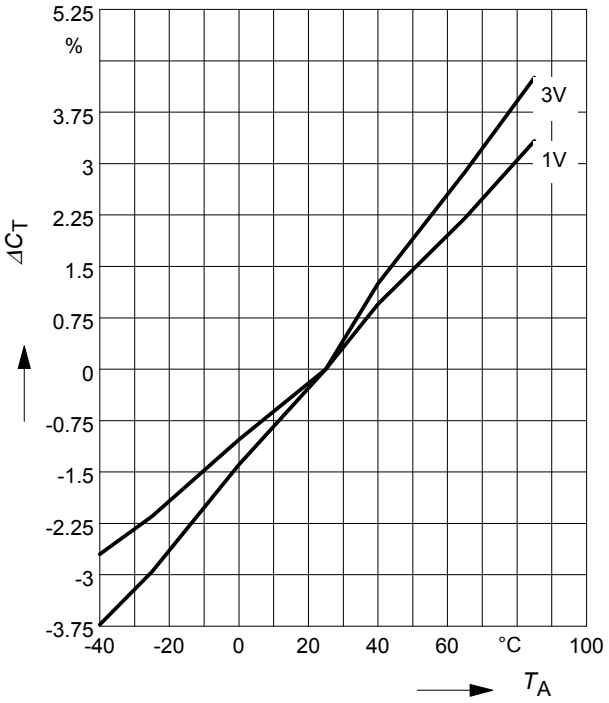
Diode capacitance $C_T = f(V_R)$

f = 1MHz



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

f = 1 MHz



Temperature coefficient of the diode capacitance $TC_C = f(V_R)$

f = 1 MHz