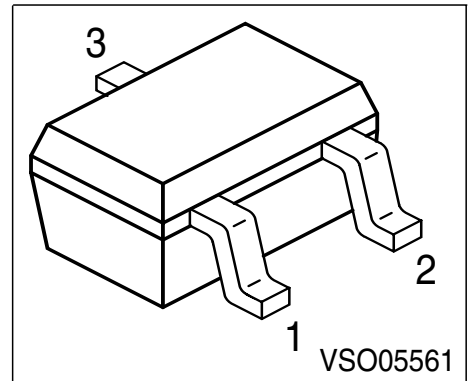
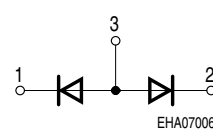
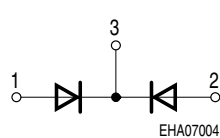
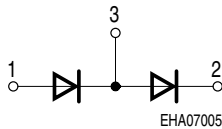


Silicon Tuning Diodes

- Excellent linearity
- High Q hyperabrupt tuning diode
- Low series inductance
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- For low frequency control elements such as TCXOs and VCXOs
- Very low capacitance spread


BBY 58-04W
BBY 58-05W
BBY 58-06W


Type	Marking	Pin Configuration			Package
BBY 58-04W	B4	1 = A1	2 = C2	3 = C1/A2	SOT-323
BBY 58-05W	B5	1 = A1	2 = A2	3 = C1/2	SOT-323
BBY 58-06W	B6	1 = C1	2 = C2	3 = A1/2	SOT-323

Maximum Ratings

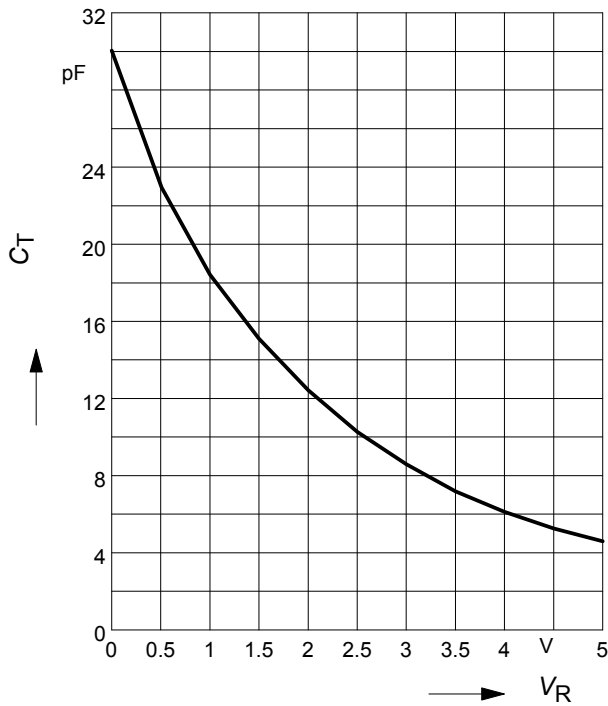
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	10	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 8\text{ V}$ $V_R = 8\text{ V}, T_A = 85^\circ\text{C}$	I_R	- -	- -	1 100	nA
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	17.5 - - 5.5	18.3 12.35 8.6 6	19.3 - - 6.6	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 3\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T3}	-	2.15	-	-
Capacitance ratio $V_R = 1\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T4}	2.8	3.05	3.3	
Series resistance $V_R = 1\text{ V}, f = 470\text{ MHz}$	r_S	-	0.25	-	Ω
Case capacitance $f = 1\text{ MHz}$	C_C	-	0.1	-	pF
Series inductance	L_S	-	1.4	-	nH

Diode capacitance $C_T = f(V_R)$

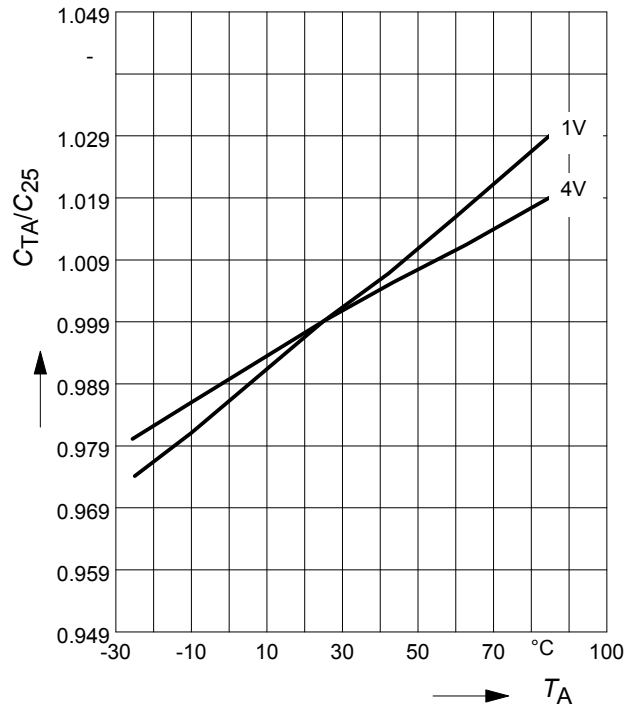
$f = 1\text{MHz}$



Normalized diode capacitance

$C_{(T_A)}/C_{(25^\circ\text{C})} = f(T_A)$

$f = 1\text{MHz}, V_R = \text{Parameter}$



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

