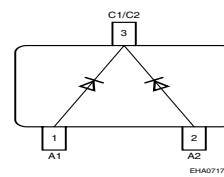
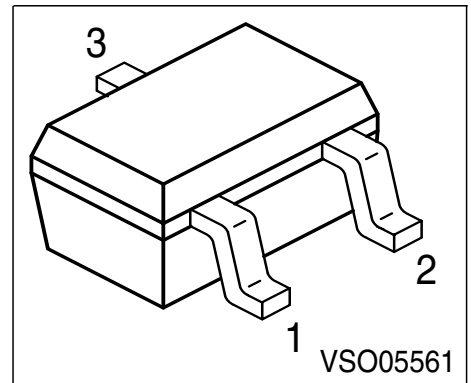


**Silicon Tuning Diode**

- 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
BBY 55-05W	C5s	1=A1	2=A2	3=C1/C2	SOT-323

**Maximum Ratings**

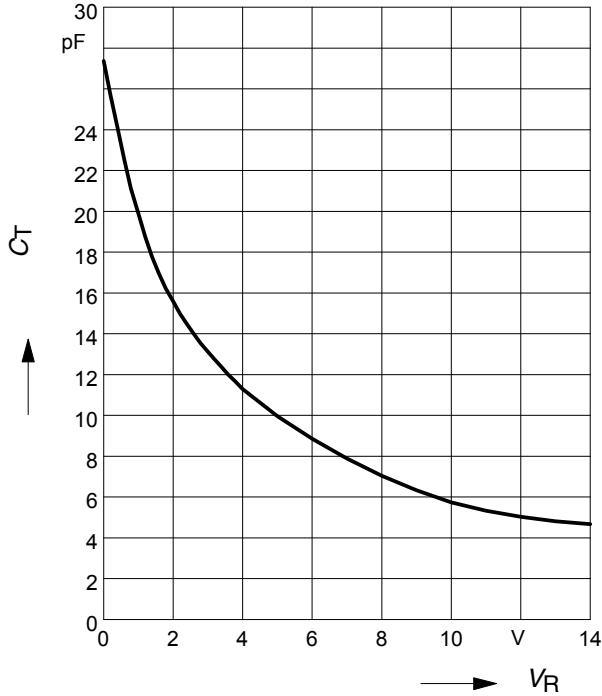
Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	16	V
Forward current	$I_F$	20	mA
Operating temperature range	$T_{op}$	-55 ... 150	°C
Storage temperature	$T_{stg}$	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC characteristics</b>					
Reverse current $V_R = 15\text{ V}$	$I_R$	-	-	3	nA
Reverse current $V_R = 15\text{ V}, T_A = 65^\circ\text{C}$	$I_R$	-	-	100	
<b>AC Characteristics</b>					
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 $V_R = 5\text{ V}, f = 470\text{ MHz}$	$r_s$	-	0.2	0.35	$\Omega$
Case capacitance $f = 1\text{ MHz}$	$C_C$	-	0.1	-	pF
Series inductance	$L_s$	-	1.4	-	nH

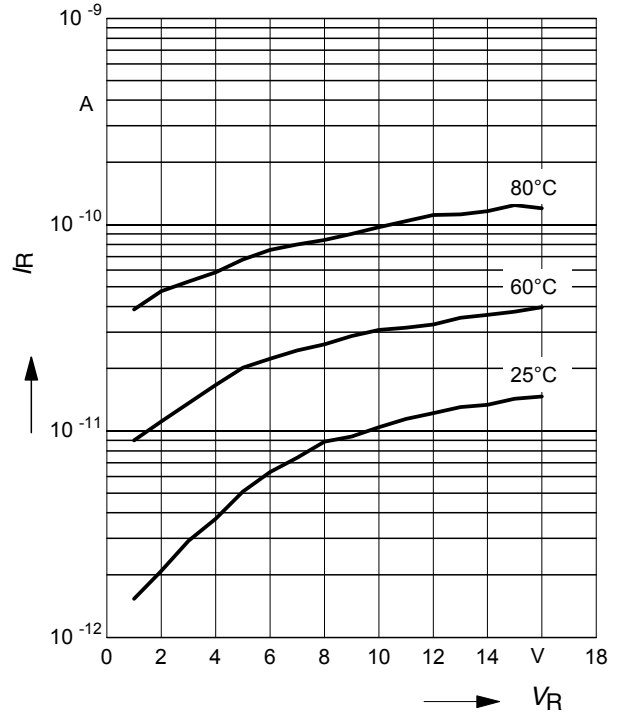
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



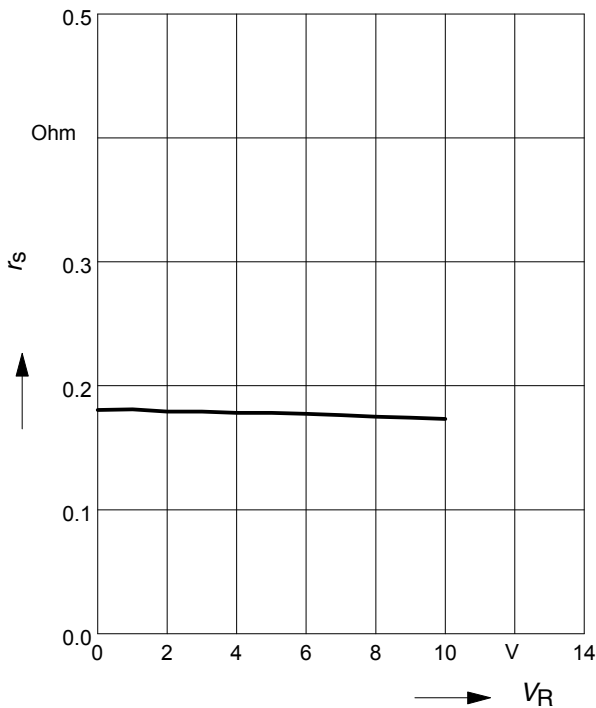
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



**Series resistance  $r_s = f(V_R)$**

$f = 470\text{MHz}$



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

$f = 1\text{MHz}$

