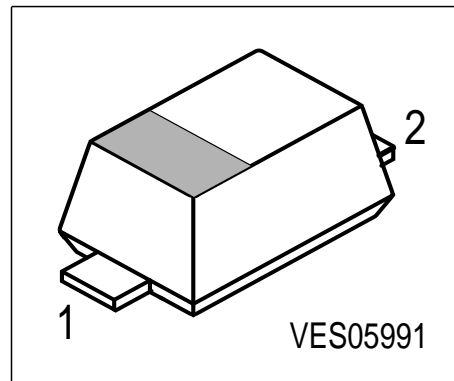


### Silicon Tuning Diode

#### Preliminary data

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



Type	Marking	Ordering Code	Pin Configuration		Package
BBY 53-02W	L	Q62702-B0862	1 = C	2 = A	SCD-80

#### Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	6	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 $V_R = 4\text{ V}$	$I_R$	-	-	10	nA
Reverse current $V_R = 4\text{ V}, T_A = 65^\circ\text{C}$	$I_R$	-	-	200	
<b>AC characteristics</b>					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$	$C_T$	4.8 1.85	5.3 2.4	5.8 3.1	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 3\text{ V}, f = 1\text{ MHz}$	$C_{T1}/C_{T3}$	1.8	2.2	2.6	-
Series resistance $V_R = 1\text{ V}, f = 1\text{ GHz}$	$r_s$	-	0.37	-	$\Omega$
Case capacitance $f = 1\text{ MHz}$	$C_C$	-	0.12	-	pF
Series inductance chip to ground	$L_s$	-	1.8	-	nH

Diode capacitance  $C_T = f(V_R)$

$f = 1\text{MHz}$

