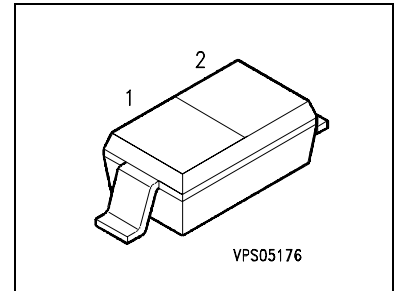


## Silicon Tuning Diode

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



Type	Marking	Ordering Code (tape and reel)	Pin Configuration			Package <sup>1)</sup>
			1		2	
BBY 51-03W	H	Q62702-B663	C1		A2	SOD-323

### Maximum Ratings

Parameter	Symbol	BBY 51-03W	Unit
Reverse voltage	$V_R$	7	V
Forward current	$I_F$	20	mA
Operating temperature range	$T_{op}$	-55 +150°C	°C
Storage temperature range	$T_{stg}$	-55...+150°C	°C

<sup>1)</sup> Package mounted on alumina 15mm x 16.7mm x 0.7mm

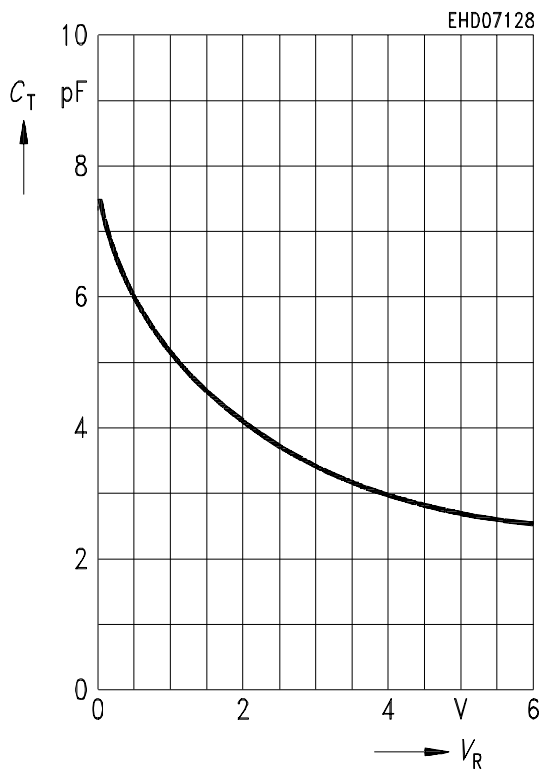
## Electrical Characteristics

at  $T_A = 25\text{ °C}$ , unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Reverse current $V_R = 6\text{ V}$ $V_R = 6\text{ V}, T_A = 65\text{ °C}$	$I_R$	-	-	10 200	nA
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 4\text{ V}, f = 1\text{ MHz}$	$C_T$	4.5 3.4 2.7 2.5	5.3 4.2 3.5 3.1	6.1 5.2 4.6 3.7	pF
Capacitance ratio $V_R = 1\text{ V}, 4\text{ V}, f = 1\text{ MHz}$	$C_{T1V}/C_{T4V}$	1.55	1.75	2.2	-
Capacitance difference $V_R = 1\text{ V}, 3\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, 4\text{ V}, f = 1\text{ MHz}$	$C_{1V}-C_{3V}$ $C_{3V}-C_{4V}$	1.4 0.30	1.78 0.50	2.2 0.7	pF
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	$L_s$	-	2	-	nH

1) Without 100 % test, correlation limits

**Dioden capacitance  $C_T = f(V_R)$**   
 $f = 1 \text{ MHz}$



**Temperature coefficient of the diode capacitance  $T_{CC} = f(V_R)$ ,  $f = 1 \text{ MHz}$**

