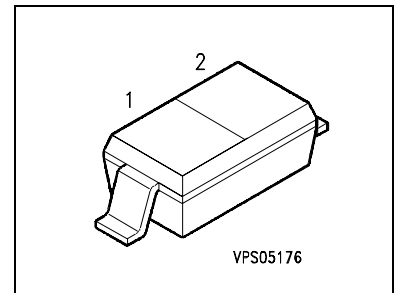


Silicon Tuning Diode

- 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 ¹⁾
			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

¹⁾ Package mounted on alumina 15mm x 16.7mm x 0.7mm

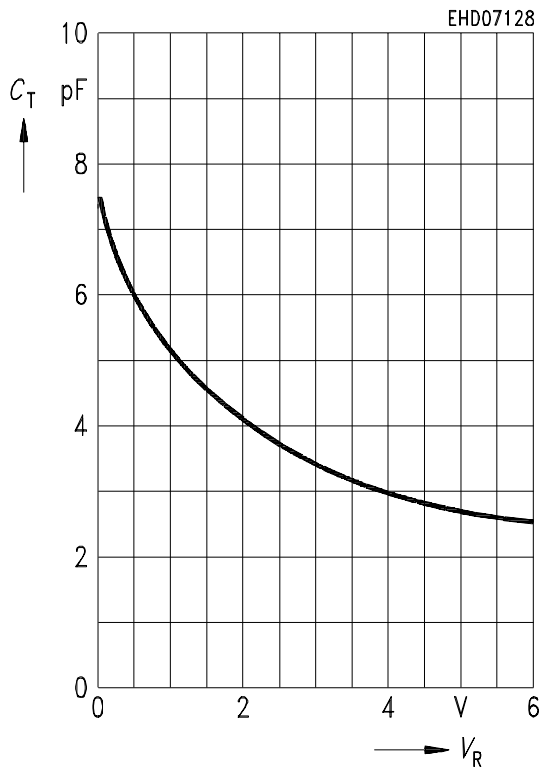
Electrical Characteristics

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

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
DC Characteristics					
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	-	Ω
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 $T_{CC} = f(V_R)$, $f = 1 \text{ MHz}$

