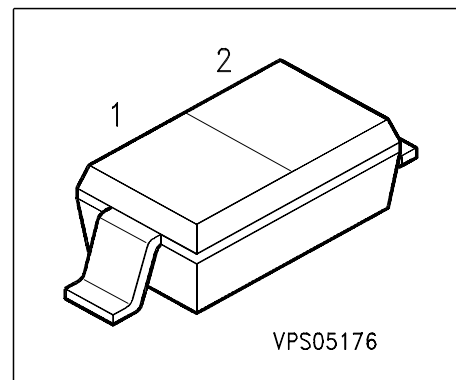


### Silicon Variable Capacitance Diode

#### Preliminary data

- For VHF TV-tuners
- High capacitance ratio
- Low series inductance
- Low series resistance
- Extremely small plastic SMD package
- Excellent uniformity and matching due to "in-line" matching assembly procedure



Type	Marking	Ordering Code	Pin Configuration	Package
BB 644	yellow 4	Q62702-B0905 group matched	1 = C	SOD-323
BB 644	yellow 4	Q62702-B0907 unmatched	2 = A	

#### Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	30	V
Peak reverse voltage ( $R \geq 5k\Omega$ )	$V_{RM}$	35	
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 $V_R = 30\text{ V}$	$I_R$	-	-	10	nA
Reverse current $V_R = 30\text{ V}, T_A = 85^\circ\text{C}$	$I_R$	-	-	100	
<b>AC characteristics</b>					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 25\text{ V}, f = 1\text{ MHz}$ $V_R = 28\text{ V}, f = 1\text{ MHz}$	$C_T$	39 29.4 2.5 2.4	41.8 31.85 27 2.55	44.5 34.2 2.85 2.75	pF
Capacitance ratio $V_R = 2\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$	$C_{T2}/C_{T25}$	11	11.8	12.5	-
Capacitance ratio $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	$C_{T1}/C_{T28}$	15.2	16.4	17.5	
Capacitance ratio <sup>1)</sup> $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	2	%
Series resistance $V_R = 1\text{ V}, f = 1\text{ GHz}$	$r_s$	-	0.6	0.75	$\Omega$
Series inductance	$L_s$	-	1.8	-	nH

1) In-line matching. For details please refer to Application Note 047

Diode capacitance  $C_T = f(V_R)$

$f = 1\text{MHz}$

