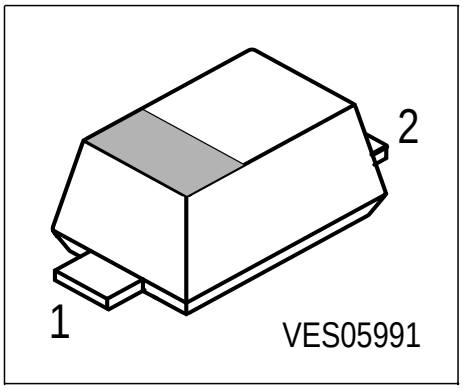
Silicon Variable Capacitance Diode

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 664	4	Q62702- B0909 (unmatched)	1=C	2=A	SCD-80
BB 664	4	Q62702- B0908 (in-lined matched)			

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.. ...+125	°C
Storage temperature	T_{stg}	-55... ...+150	

Electrical Characteristics at T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Reverse current V_R = 30 V	I_R	-	-	10	nA
Reverse current V_R = 30 V, T_A = 85 °C	I_R	-	-	100	
AC characteristics					
Diode capacitance	C_T				pF
V_R = 1 V, f = 1 MHz		39	41.8	44.5	
V_R = 2 V, f = 1 MHz		29.4	31.85	34.2	
V_R = 25 V, f = 1 MHz		2.5	2.7	2.85	
V_R = 28 V, f = 1 MHz		2.4	2.55	2.75	
Capacitance ratio V_R = 2 V, V_R = 25 V, f = 1 MHz	C_{T2}/C_{T25}	11	11.8	12.5	-
Capacitance ratio V_R = 1 V, V_R = 28 V, f = 1 MHz	C_{T1}/C_{T28}	15.2	16.4	17.5	
Capacitance ratio [1)] V_R = 1 V, V_R = 28 V, f = 1 MHz	$\Delta C_T/C_T$	-	-	2	%
Series resistance V_R = 5 V, f = 470 MHz	r_s	-	0.6	0.75	Ω
Series inductance	L_S	-	0.6	-	nH

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

Diode capacitance $C_T = f(V_R)$

f = 1MHz