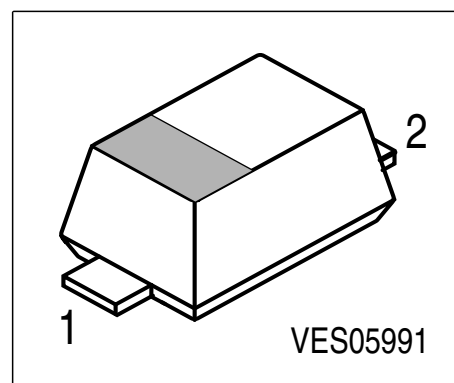


Silicon Variable Capacitance Diode

Preliminary data

- Design for tuning wideband CATV-Tuners
- High capacitance ratio C_{1V}/C_{28V}
- Low series inductance
- Low series resistance
- Extremely small and flat package
- Excellent uniformity and matching due to "in-line" matching assembly procedure



Type	Marking	Pin Configuration			Package
BB679-02V in-lined matched	4	1 = C	2 = A	-	SC79
BB679-02V unmatched	4	1 = C	2 = A	-	SC79

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 $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 30\text{ V}$ $V_R = 30\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$	I_R	- -	- -	10 100	nA
AC Characteristics					
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	43.5 33 2.55 2.4	47.5 36 2.75 2.6	51.5 38.8 2.95 2.8	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T28}	16.5	18.25	20	-
Capacitance ratio $V_R = 2\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$	C_{T2}/C_{T25}	12	13.1	14.5	
Capacitance matching- $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	2	%
Series resistance $V_R = 5\text{ V}, f = 470\text{ MHz}$	r_S	-	0.6	0.8	Ω
Series inductance	L_S	-	0.6	-	nH

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

