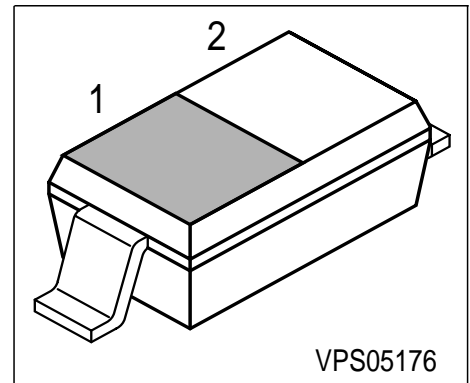


Silicon Variable Capacitance Diode

- For VHF tuned circuit applications
- High figure of merit



Type	Marking	Pin Configuration		Package
BB439	white 2	1 = C	2 = A	SOD323

Maximum Ratings

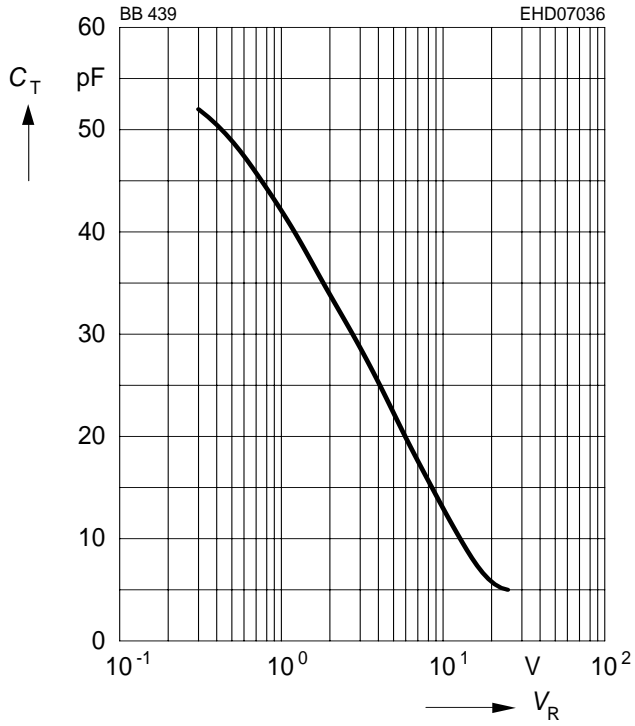
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	28	V
Peak reverse voltage ($R \geq 5k\Omega$)	V_{RM}	30	
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 125	°C
Storage temperature	T_{stg}	-55 ... 150	

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Reverse current $V_R = 28\text{ V}$	I_R	-	-	20	nA
Reverse current $V_R = 28\text{ V}, T_A = 85^\circ\text{C}$	I_R	-	-	200	
AC Characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 25\text{ V}, f = 1\text{ MHz}$	C_T	- 31.5 26.5 4.3	43 34.5 -	- 37.5 31.5 6	pF
Capacitance ratio $V_R = 2\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$	C_{T2}/C_{T25}	6	6.9	8	
Capacitance ratio $V_R = 3\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$	C_{T3}/C_{T25}	5	5.8	6.5	-
Capacitance matching $V_R = 3\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	3	%
Series resistance $V_R = 10\text{ V}, f = 100\text{ MHz}$	r_s	-	0.35	0.5	Ω
Figure of merit $V_R = 3\text{ V}, f = 50\text{ MHz}$ $V_R = 25\text{ V}, f = 200\text{ MHz}$	Q	- -	280 600	- -	-

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



Temperature coefficient of the diode

capacitance $T_{CC} = f(V_R)$

