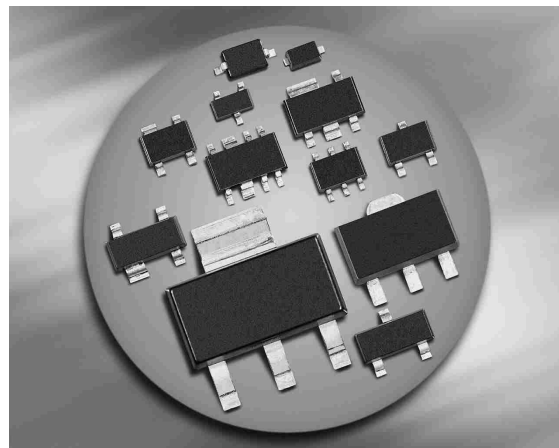
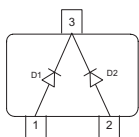


Silicon Variable Capacitance Diode

- For FM radio tuner with extended frequency band 77MHz to 108MHz
- Designed for application requiring back-to-back diode configuration for optimum signal distortion and detuning
- High tuning ratio at low supply voltage (car radio)
- Monolithic chip (common cathode) for perfect dual diode tracking
- Good C- V linearity
- High figure of merit



BB844



Type	Package	Configuration	L_S (nH)	Marking
BB844	SOT23	common cathode	1.8	SNs

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	18	V
Peak reverse voltage	V_{RM}	20	
Forward current	I_F	50	mA
Operating temperature range	T_{op}	-55 ... 150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ... 150	

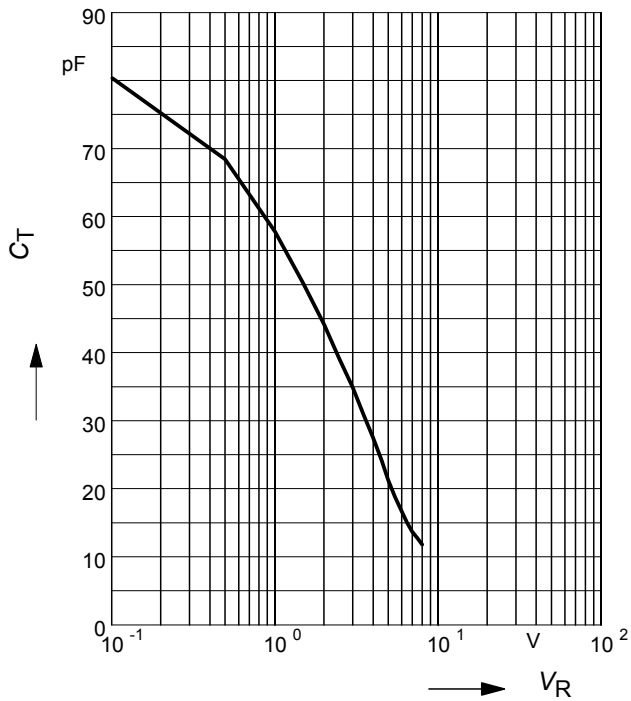
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R	-	-		nA
$V_R = 16\text{ V}$		-	-	20	
$V_R = 16\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$				200	
AC Characteristics					
Diode capacitance	C_T				pF
$V_R = 2\text{ V}, f = 1\text{ MHz}$		42.5	43.75	45	
$V_R = 4\text{ V}, f = 1\text{ MHz}$		25	27	29	
$V_R = 8\text{ V}, f = 1\text{ MHz}$		10	11.5	13	
Capacitance ratio	C_{T2}/C_{T8}	3.2	3.8	-	
$V_R = 2\text{ V}, V_R = 8\text{ V}, f = 1\text{ MHz}$					
Capacitance matching ¹⁾	$\Delta C_T/C_T$	-	-	1.5	%
$V_R = 2\text{ V to } 8\text{ V}, f = 1\text{ MHz}$					
Series resistance	r_S	-	0.28	-	Ω
$V_R = 2\text{ V}, f = 100\text{ MHz}$					

¹⁾For details please refer to Application Note 047.

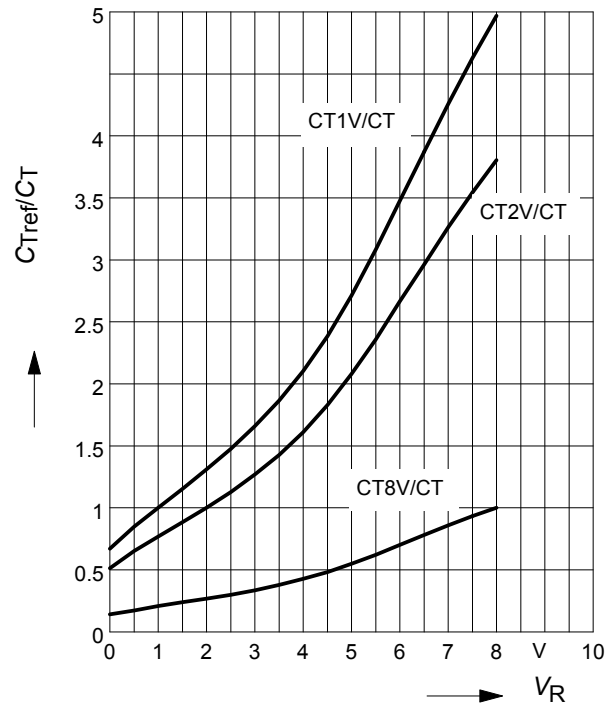
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



Capacitance ratio $C_{Tref}/C_T = f(V_R)$

$f = 1\text{MHz}$



Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$

