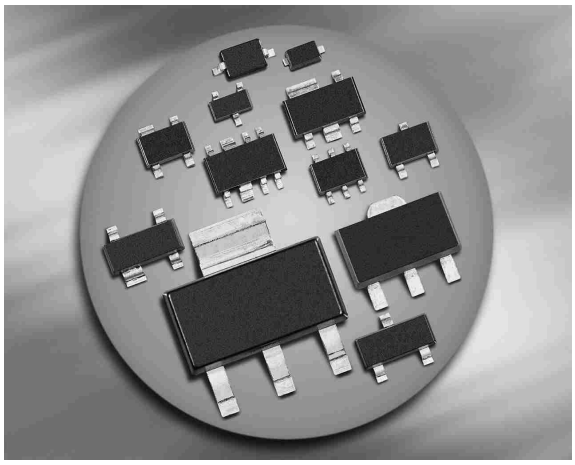
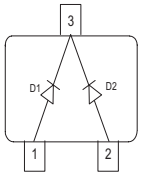
Silicon Variable Capacitance Diode

- 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)
- Monolitic chip (common cathode) for perfect dual diode tracking
- Good C- V linearity
- High figure of merit
- Pb-free (RoHS compliant) package



RoHS

BB844



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

Maximum Ratings at T_A = 25°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	°C
Storage temperature	T_{stg}	-55 ... 150	

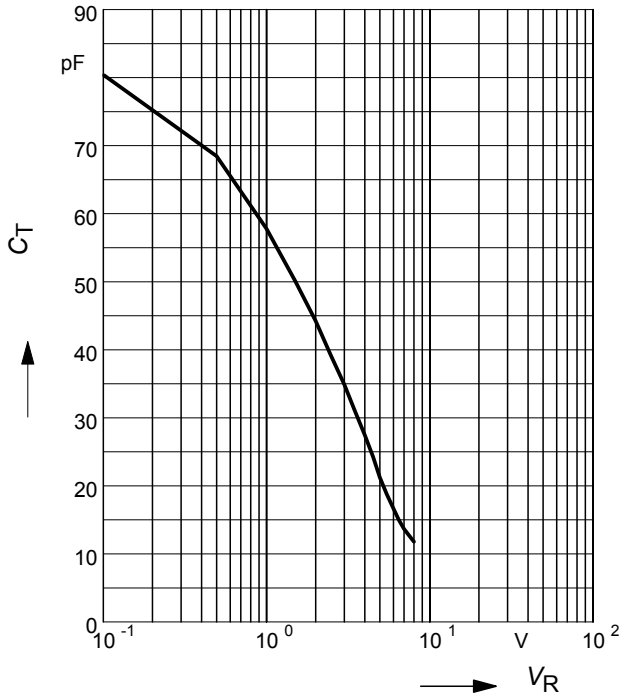
Electrical Characteristics at T_A = 25°C, unless otherwise specified

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

[1]For details please refer to Application Note 047.

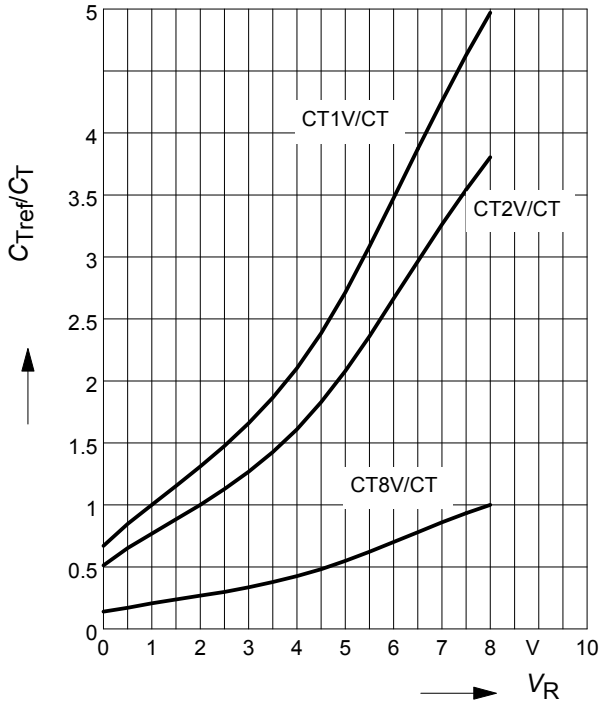
Diode capacitance $C_T = f(V_R)$

f = 1MHz

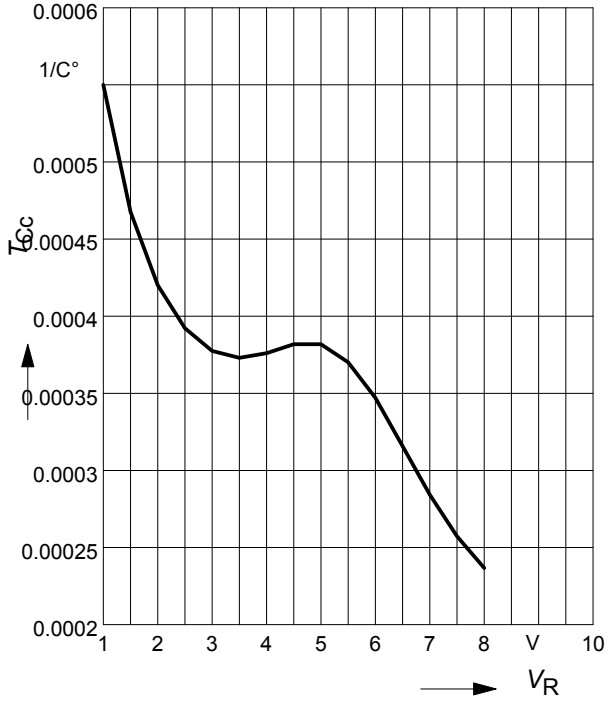


Capacitance ratio $C_{Tref}/C_T = f(V_R)$

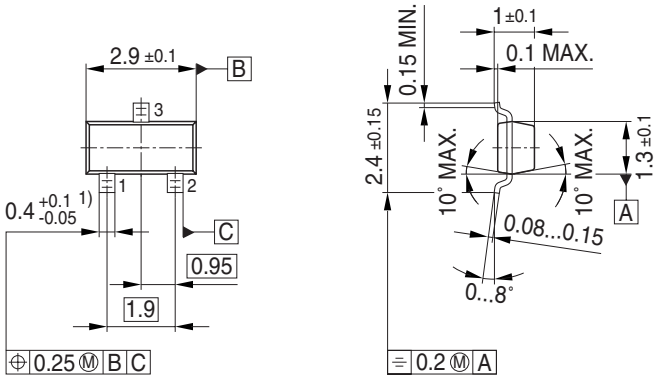
f = 1MHz



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

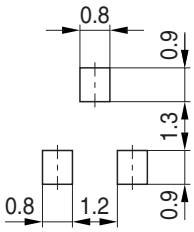


Package Outline

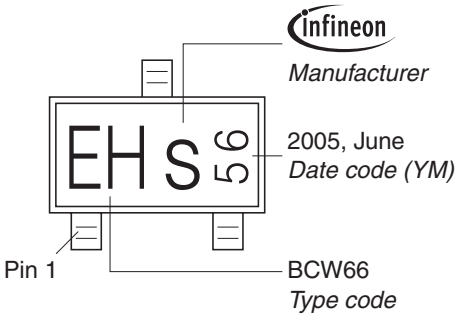


1) Lead width can be 0.6 max. in dambar area

Foot Print

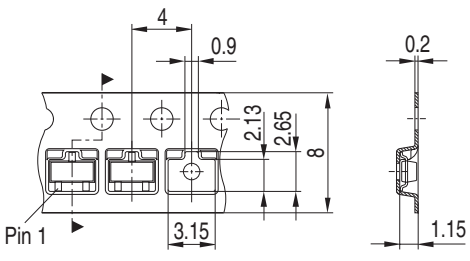


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



Edition 2009-11-16

Published by
Infineon Technologies AG
81726 Munich, Germany

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