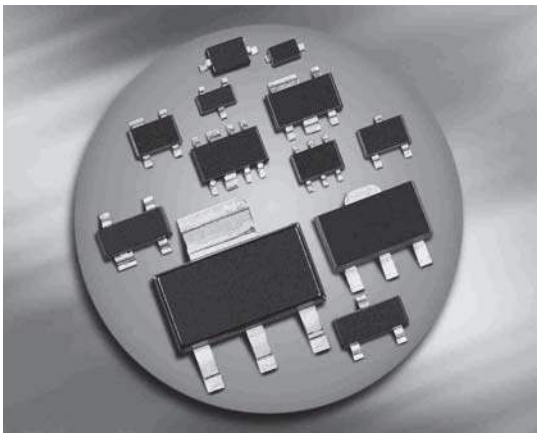
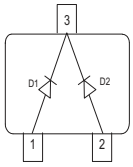
Silicon Variable Capacitance Diode

- For FM tuners
- Monolithic chip with common cathode for perfect tracking of both diodes
- Uniform "square law" characteristics
- Ideal HiFi tuning device when used in low-distortion, back-to-back configuration
- Pb-free (ROHS compliant) package



RoHS

BB804



Type	Package	Configuration	L_S(nH)	Marking
BB804	SOT23	common cathode	1.8	SF1/2/3*

*For differences see next page Capacitance groups

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 ... 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	I_R				nA
V_R = 16 V		-	-	20	
V_R = 16 V, T_A = 65 °C		-	-	200	
AC Characteristics					
Diode capacitance[1)]	C_T	42	-	47.5	pF
V_R = 2 V, f = 1 MHz					
Capacitance ratio	C_{T2}/C_{T8}	1.65	1.71	-	
V_R = 2 V, V_R = 8 V, f = 1 MHz					
Series resistance	r_S	-	0.18	-	Ω
V_R = 2 V, f = 100 MHz					
Figure of merit	Q	-	200	-	
f = 100 MHz, V_R = 2 V					
Temperature coefficient of diode capacitance	TC_C	-	330	-	ppm/K
V_R = 2 V, f = 1 MHz					

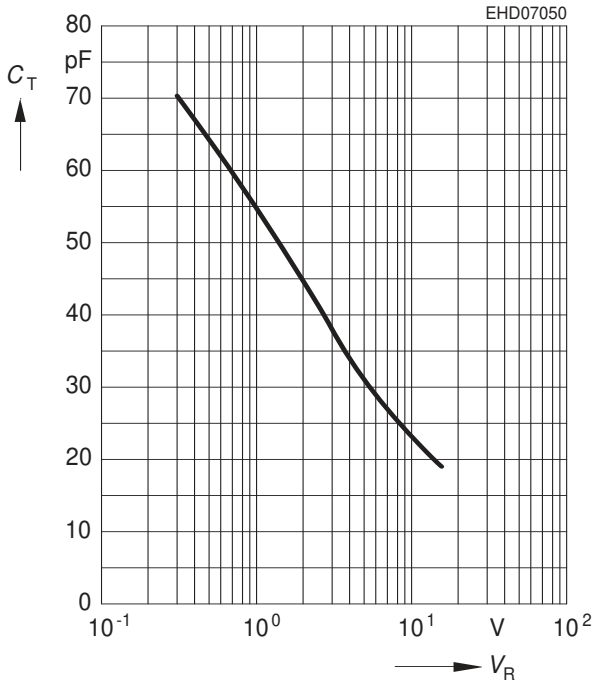
[1] Capacitance groups at 2V , coded 1; 2 ; 3

C_T/groups		1	2	3
C_{2V}	min	43pF	44pF	45pF
C_{2V}	max	44.5pF	45.5pF	46.5pF

The capacitance subgroup is marked by the subgroup number printed on the component and the package label. A packing unit (e.g. 8mm tape) contain diodes of one subgroup only. Delivery of different capacitance subgroups requires a special agreement.

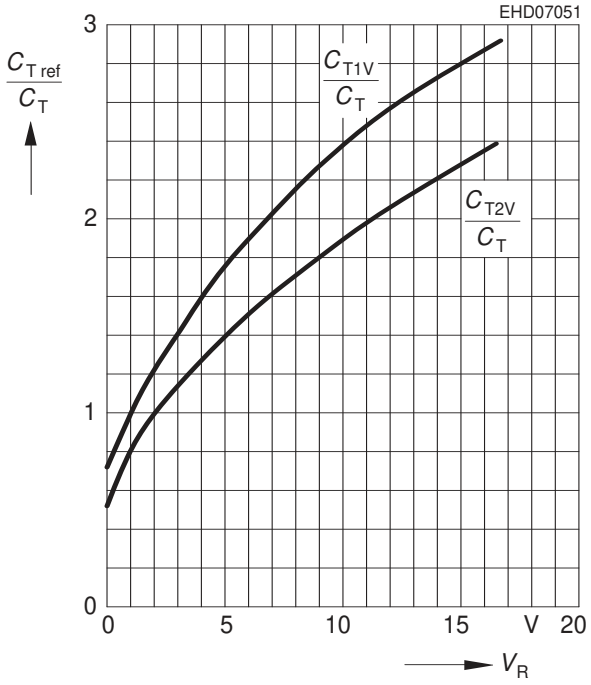
Diode capacitance $C_T = f(V_R)$

f = 1MHz

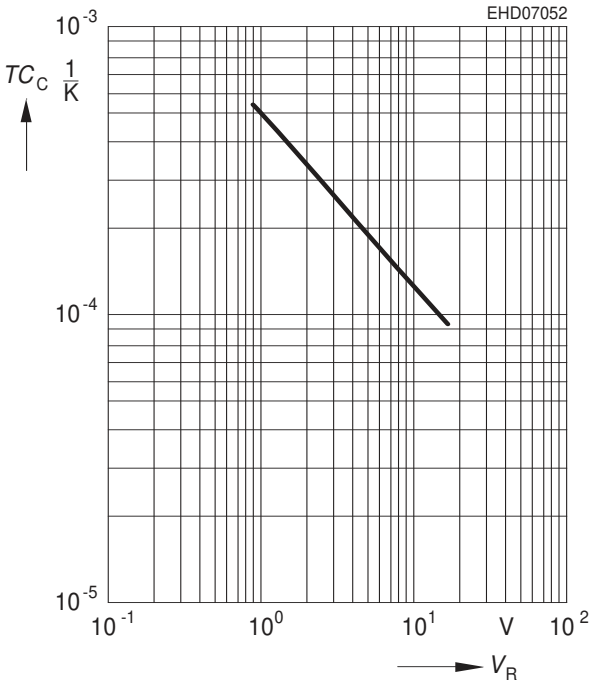


Capacitance ratio $C_{Tref}/C_T = f(V_R)$

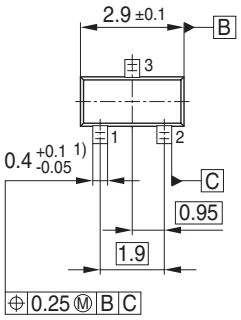
f = 1MHz

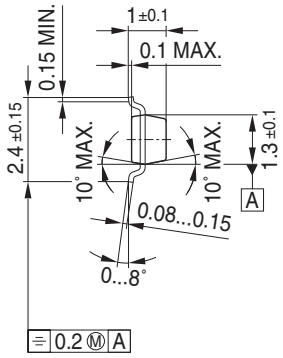


Temperatur coefficient $TC_C = f(V_R)$



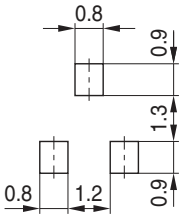
Package Outline



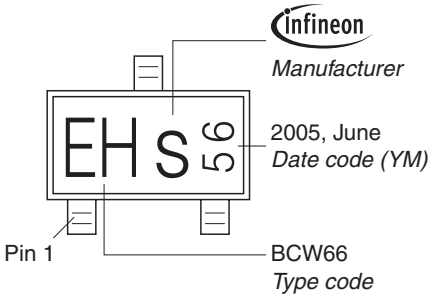


1) Lead width can be 0.6 max. in dambar area

Foot Print

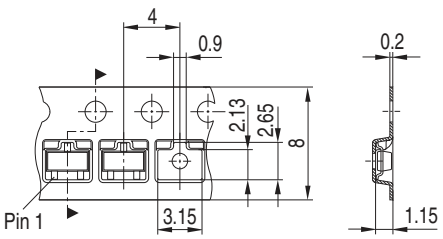


Marking Layout (Example)



Standard Packing

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



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