

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





BB804

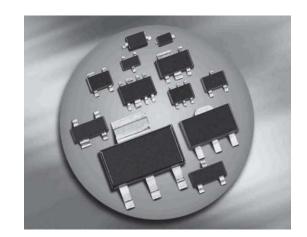


Туре	Package	Configuration	L _S (nH)	Marking
BB804	SOT23	common cathode	1.8	SF1/2/3*

^{*}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	$T_{\rm stg}$	-55 150	





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

Parameter	Symbol		Values		
		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
$V_{R} = 2 \text{ V}, f = 1 \text{ MHz}$					
Capacitance ratio	C_{T2}/C_{T8}	1.65	1.71	-	
$V_{R} = 2 \text{ V}, V_{R} = 8 \text{ V}, f = 1 \text{ MHz}$					
Series resistance	$r_{\rm S}$	-	0.18	-	Ω
$V_{R} = 2 \text{ V}, f = 100 \text{ MHz}$					
Figure of merit	Q	-	200	-	
$f = 100 \text{ MHz}, V_{R} = 2 \text{ V}$					
Temperature coefficient of diode capacitance	TC _C	-	330	_	ppm/k
$V_{R} = 2 \text{ V}, f = 1 \text{ MHz}$					

 $^{^{\}rm 1}$ Capacitance groups at 2V , coded 1; 2 ; 3

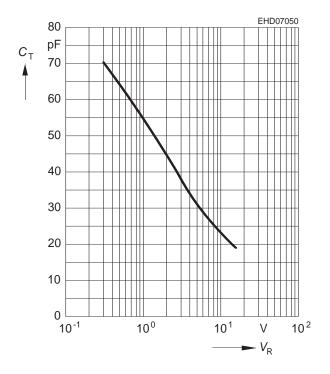
 $C_{\rm 2V}$ min 43pF 44pF 45pF $C_{\rm 2V}$ max 44.5pF 45.5pF 46.5pF

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.



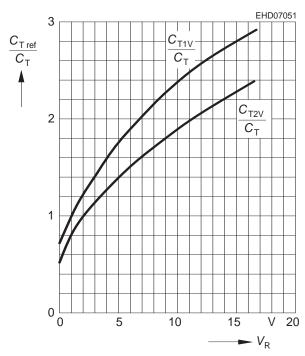
Diode capacitance $C_T = f(V_R)$

f = 1MHz

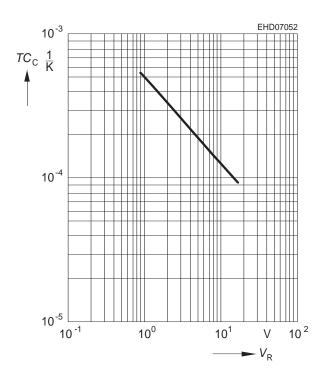


Capacitance ratio $C_{\text{Tref}}/C_{\text{T}} = f(V_{\text{R}})$

f = 1MHz



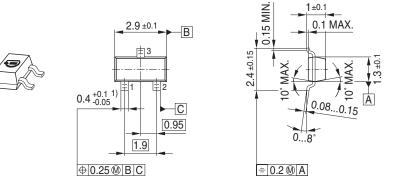
Temperatur coefficient $TC_C = f(V_R)$



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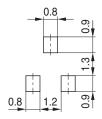


Package Outline

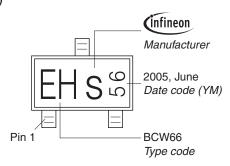


1) Lead width can be 0.6 max. in dambar area

Foot Print

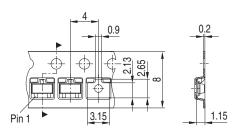


Marking Layout (Example)



Standard Packing

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



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