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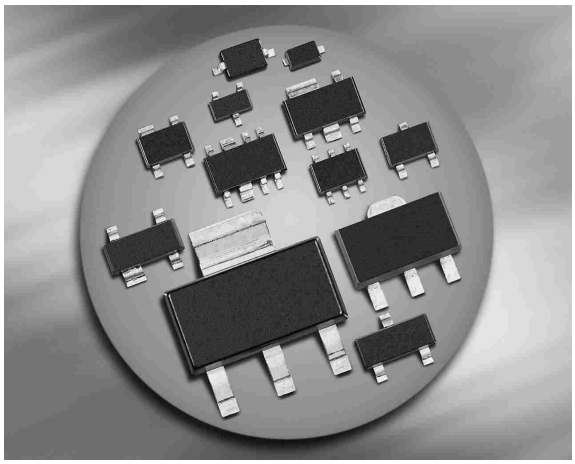
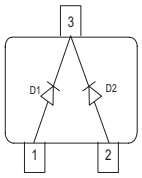
Silicon Variable Capacitance Diode

- For FM radio tuner with extended frequency band
- High tuning ratio at low supply voltage (car radio)
- Monolitic chip (common cathode) for perfect dual diode tracking
- Good linearity for C- V curve
- High figure of merit
- Pb-free (RoHS compliant) package



RoHS

BB914



Type	Package	Configuration	L_S(nH)	Marking
BB914	SOT23	common cathode	1.8	SM

Maximum Ratings at T_A = 25°C, unless otherwise specified

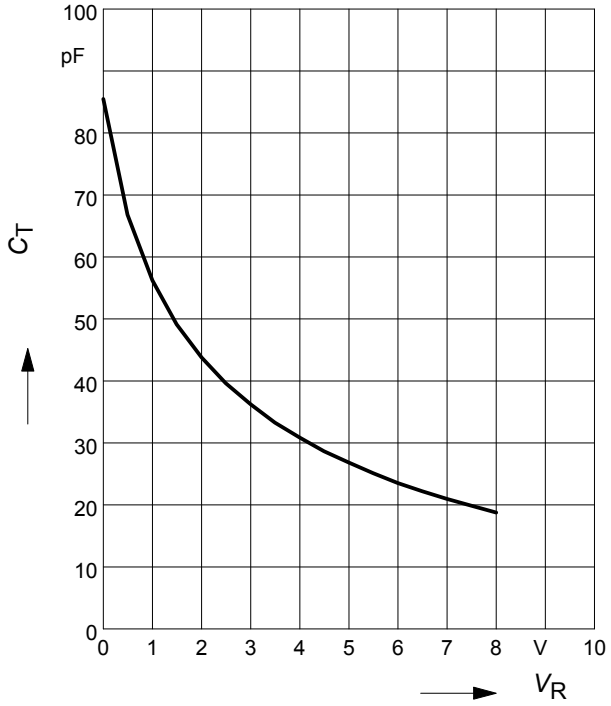
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	18	V
Peak reverse voltage ($R \geq 5k\Omega$)	V_{RM}	20	
Forward current	I_F	50	mA
Operating temperature range	T_{op}	-55 ... 125	°C
Storage temperature	T_{stg}	-55 ... 150	

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

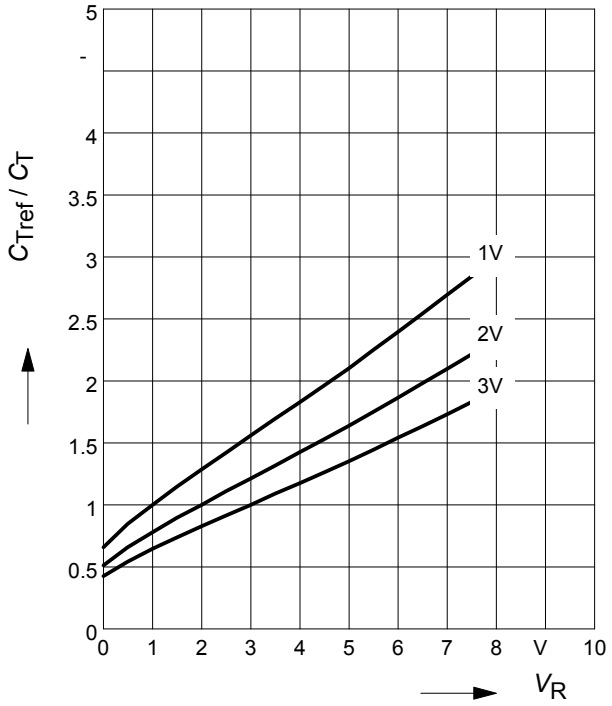
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current V_R = 16 V V_R = 16 V, T_A = 85 °C	I_R	 - -	 - -	 20 200	nA
AC Characteristics					
Diode capacitance V_R = 2 V, f = 1 MHz V_R = 8 V, f = 1 MHz	C_T	 42.5 17.6	 43.75 18.7	 45 19.75	pF
Capacitance ratio V_R = 2 V, V_R = 8 V, f = 1 MHz	C_{T2}/C_{T8}	2.28	2.34	2.42	
Capacitance matching[1)] V_R = 2 V, V_R = 8 V, f = 1 MHz	$\Delta C_T/C_T$	-	-	1.5	%
Series resistance V_R = 2 V, f = 100 MHz	r_S	-	0.28	-	Ω

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

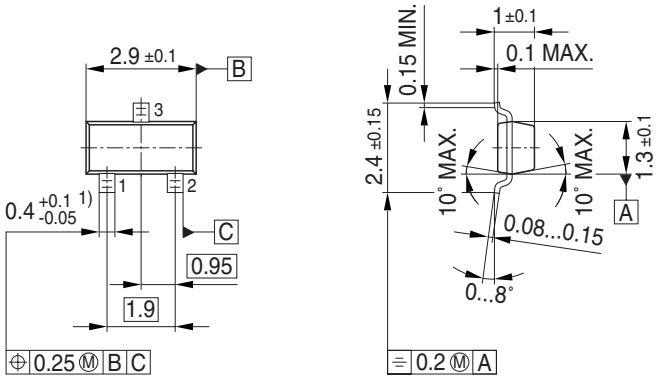
Diode capacitance $C_T = f(V_R)$
f = 1MHz



Capacitance ratio $C_{Tref}/C_T = f(V_R)$
f = 1MHz

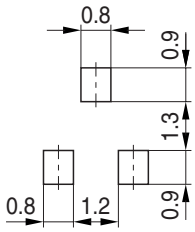


Package Outline

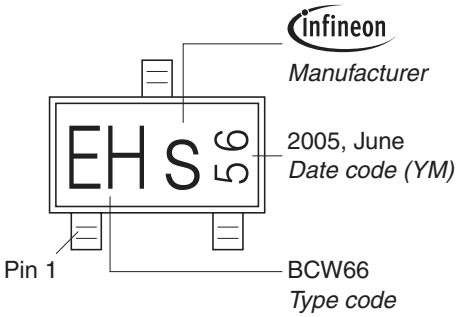


1) Lead width can be 0.6 max. in dambar area

Foot Print

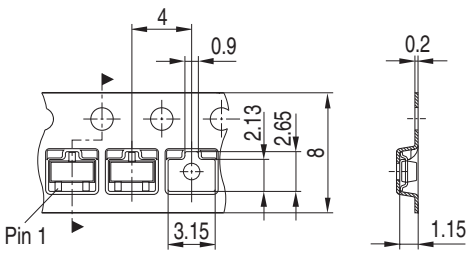


Marking Layout (Example)



Standard Packing

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



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