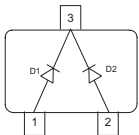


Silicon Variable Capacitance Diode

- For FM radio tuner with extended frequency band
- High tuning ratio at low supply voltage (car radio)
- Monolithic chip (common cathode) for perfect dual diode tracking
- Good linearity for C- V curve
- High figure of merit
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101



BB914



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

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 ($R \geq 5\text{k}\Omega$)	V_{RM}	20	
Forward current	I_F	50	mA
Operating temperature range	T_{Op}	-55 ... 125	°C
Storage temperature	T_{Stg}	-55 ... 150	

¹⁾Pb-containing package may be available upon special request

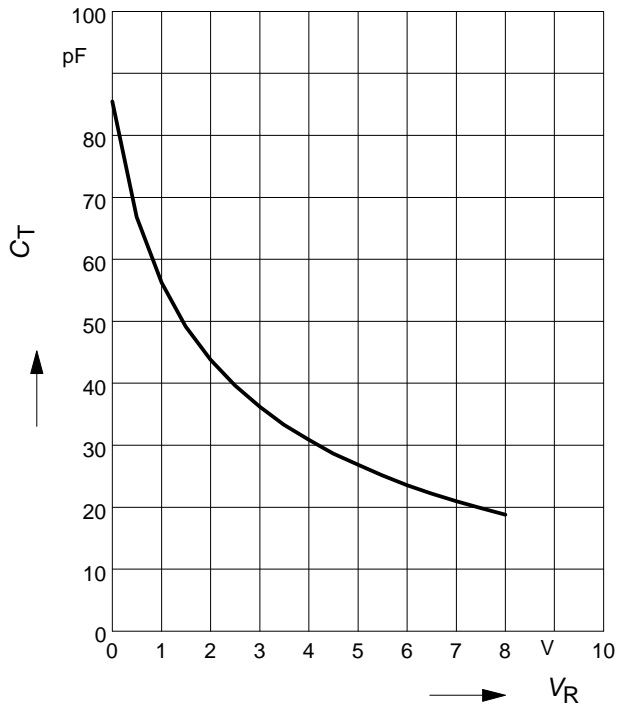
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

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

¹For details please refer to Application Note 047.

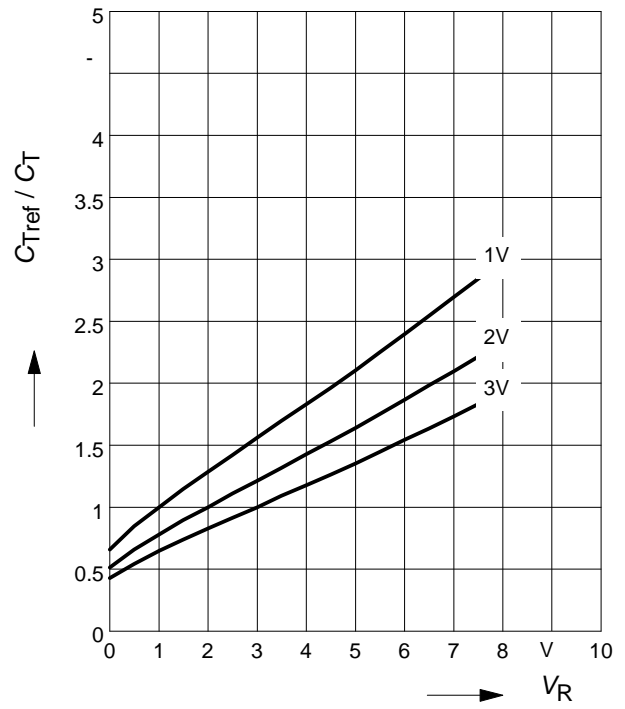
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

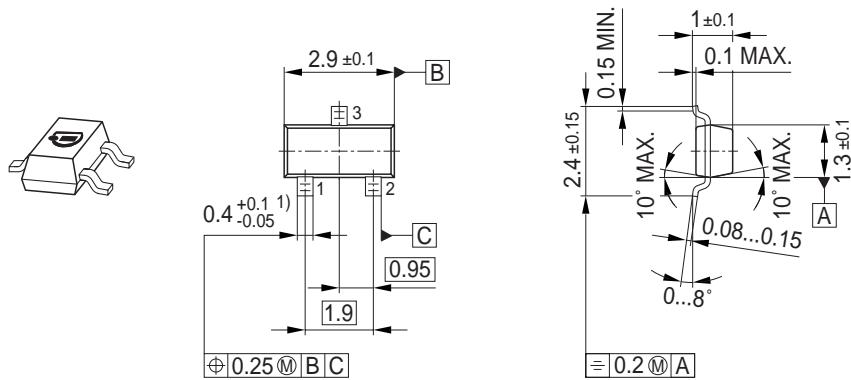


Capacitance ratio $C_{Tref}/C_T = f(V_R)$

$f = 1\text{MHz}$

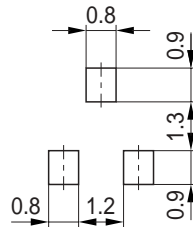


Package Outline

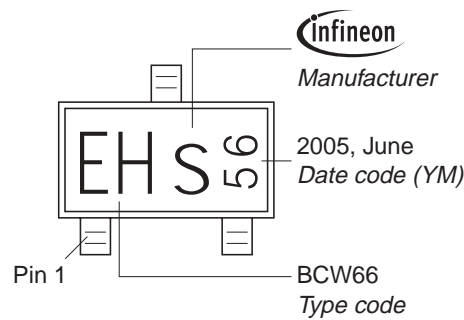


1) Lead width can be 0.6 max. in dambar area

Foot Print

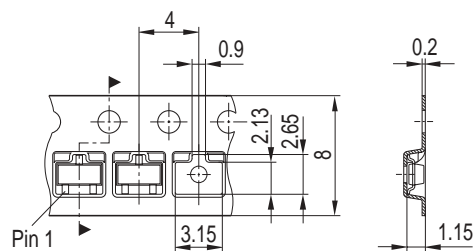


Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel



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