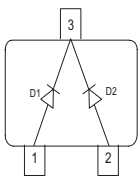


Silicon Variable Capacitance Diode

- 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) package


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 | |

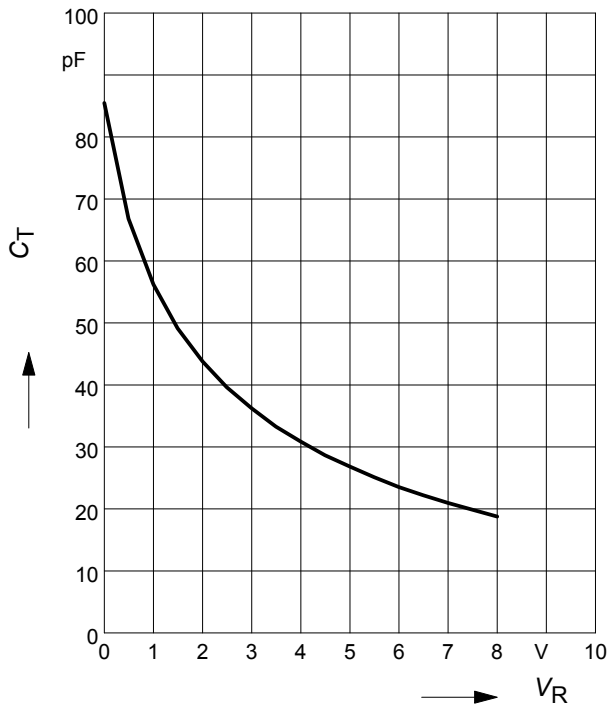
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

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

¹For details please refer to Application Note 047.

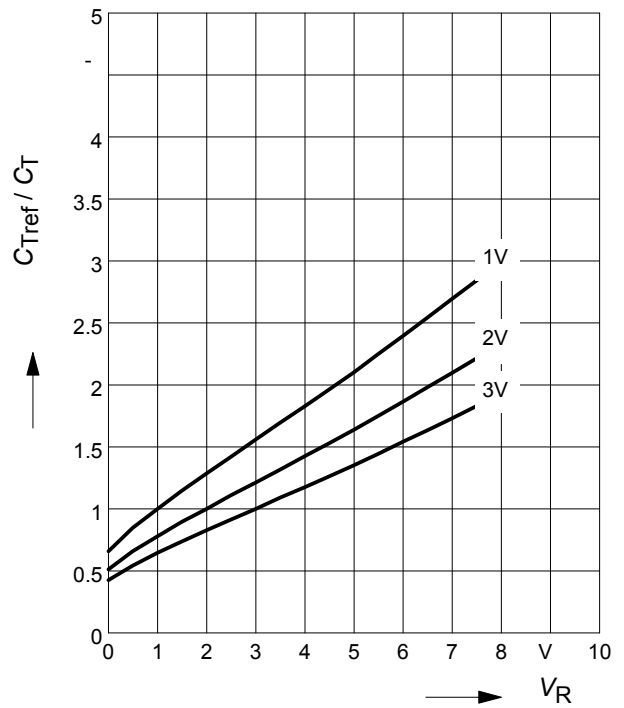
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



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

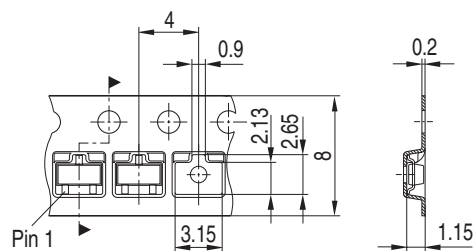


Marking Layout (Example)



Standard Packing

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



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