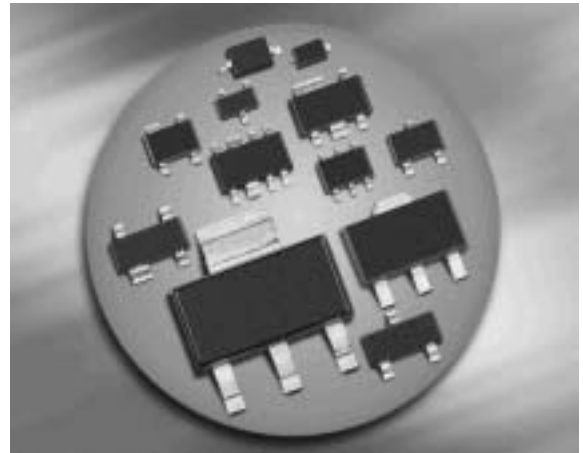
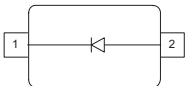


Silicon Tuning Diodes

- Extended frequency range up to 2.5 GHz; special design for use in TV-sat tuners
- High capacitance ratio
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101



BB833



| Type | Package | Configuration | L_S (nH) | Marking |
|-------|---------|---------------|------------|---------|
| BB833 | SOD323 | single | 1.8 | white X |

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

| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------|
| Diode reverse voltage | V_R | 30 | V |
| Peak reverse voltage- $R \geq 5\text{k}\Omega$ | V_{RM} | 35 | |
| Forward current | I_F | 20 | mA |
| Operating temperature range | T_{op} | -55 ... 150 | °C |
| Storage temperature | T_{stg} | -55 ... 150 | |

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

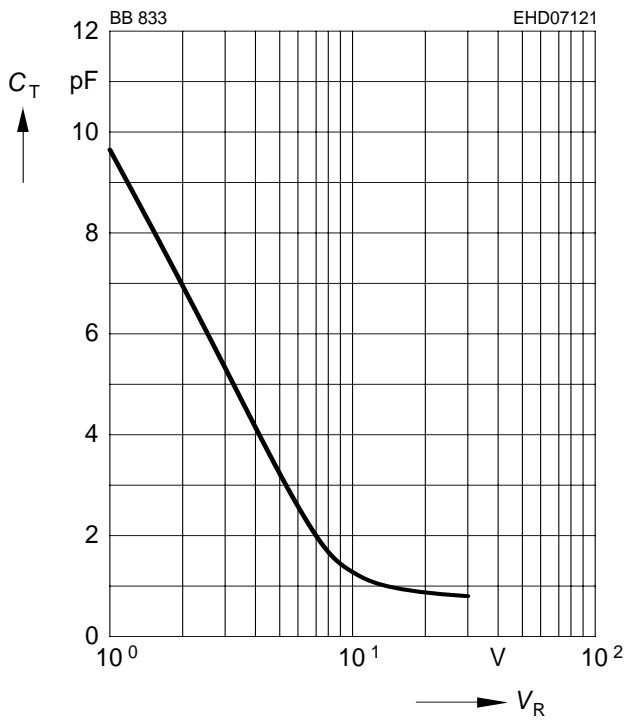
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Values | | | Unit |
|---|------------------|--------|------|------|----------|
| | | min. | typ. | max. | |
| DC Characteristics | | | | | |
| Reverse current | I_R | - | - | - | nA |
| $V_R = 30\text{ V}$ | | - | - | 20 | |
| $V_R = 30\text{ V}, T_A = 85^\circ\text{C}$ | | | | 500 | |
| AC Characteristics | | | | | |
| Diode capacitance | C_T | | | | pF |
| $V_R = 1\text{ V}, f = 1\text{ MHz}$ | | 8.5 | 9.3 | 10 | |
| $V_R = 28\text{ V}, f = 1\text{ MHz}$ | | 0.6 | 0.75 | 0.9 | |
| Capacitance ratio | C_{T1}/C_{T28} | 11 | 12.4 | - | |
| $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$ | | | | | |
| Capacitance matching ¹⁾ | $\Delta C_T/C_T$ | - | - | 3 | % |
| $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$ | | | | | |
| Series resistance | r_S | - | 1.8 | - | Ω |
| $V_R = 1\text{ V}, f = 470\text{ MHz}$ | | | | | |

¹For details please refer to Application Note 047.

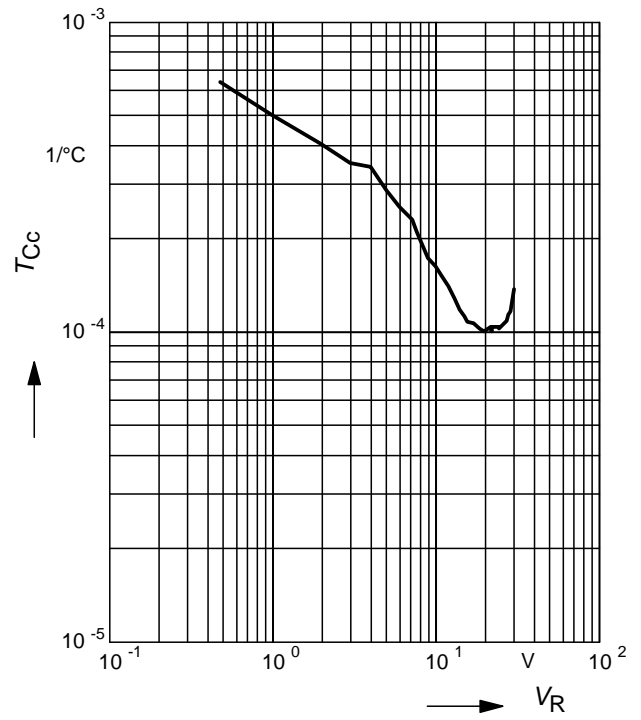
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

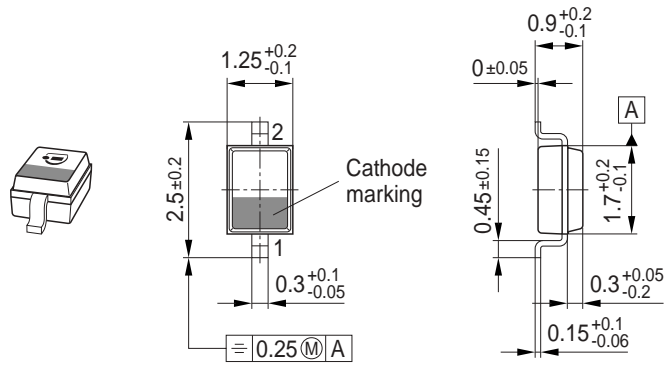


Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$

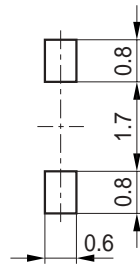
$T_{Cc} = f(V_R)$



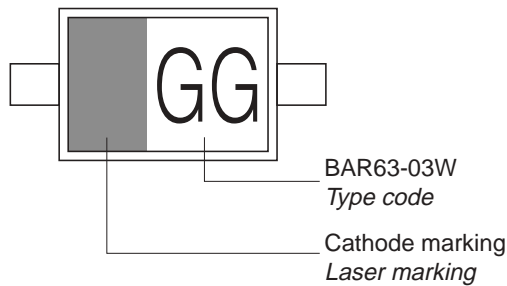
Package Outline



Foot Print

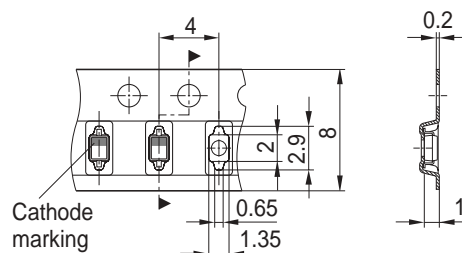


Marking Layout (Example)



Standard Packing

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



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