



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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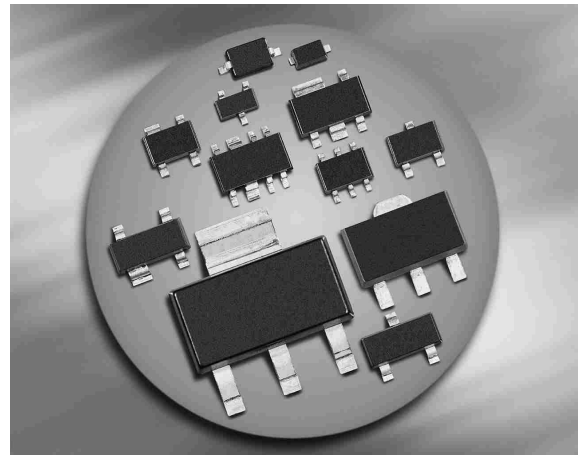
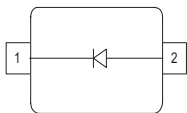
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Silicon Variable Capacitance Diodes

- Frequency range up to 2 GHz
- Special design for use in TV-sat tuners
- Pb-free (RoHS compliant) package


BB831


| Type | Package | Configuration | L_S (nH) | Marking |
|-------|---------|---------------|------------|---------|
| BB831 | SOD323 | single | 1.8 | white T |

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 ... 125 | °C |
| Storage temperature | T_{stg} | -55 ... 150 | |

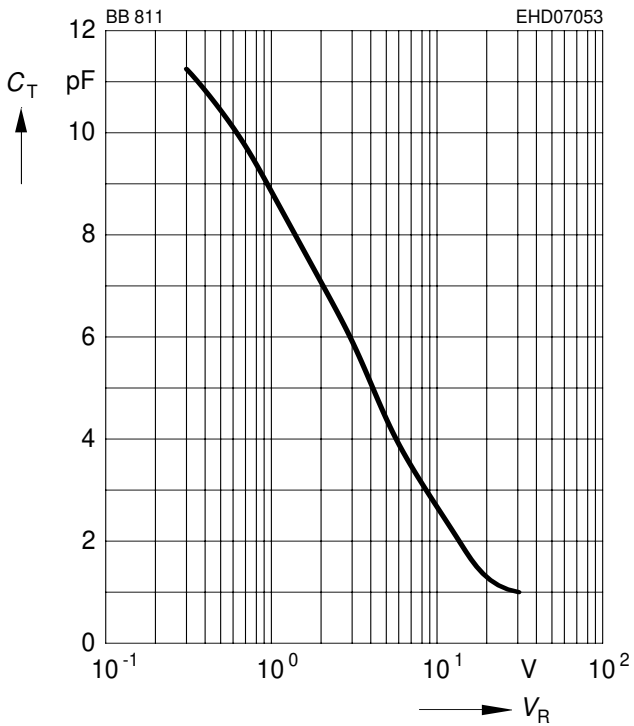
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Values | | | Unit |
|--|------------------|-------------|-------------|------------|----------|
| | | min. | typ. | max. | |
| DC Characteristics | | | | | |
| Reverse current $V_R = 30\text{ V}$ $V_R = 30\text{ V}, T_A = 85^\circ\text{C}$ | I_R | - - | - - | 20 500 | nA |
| AC Characteristics | | | | | |
| Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 28\text{ V}, f = 1\text{ MHz}$ | C_T | 7.8 0.85 | 8.8 1.02 | 9.8 1.2 | pF |
| Capacitance ratio $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$ | C_{T1}/C_{T28} | 7.8 | 8.6 | 9.5 | |
| Capacitance matching ¹⁾ $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$ | $\Delta C_T/C_T$ | - | - | 3 | % |
| Series resistance $V_R = 1\text{ V}, f = 100\text{ MHz}$ | r_S | - | 1 | - | Ω |

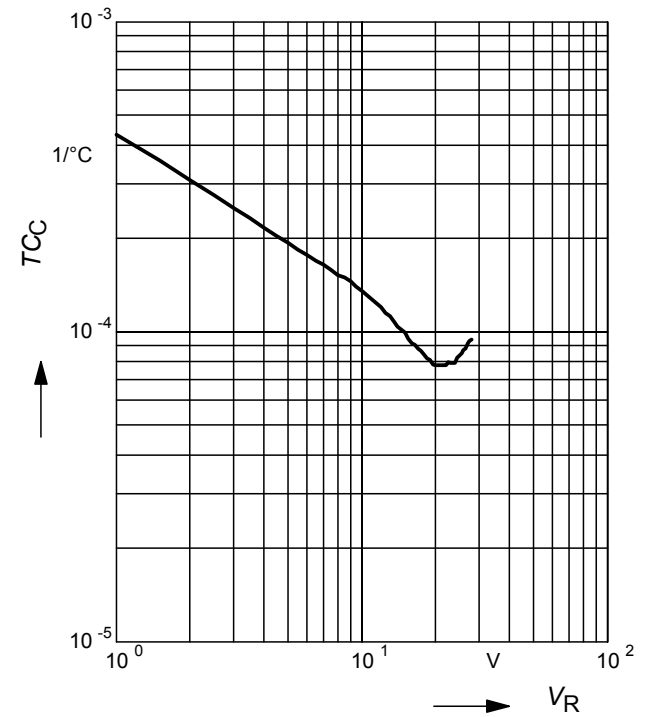
¹For details please refer to Application Note 047.

Diode capacitance $C_T = f(V_R)$

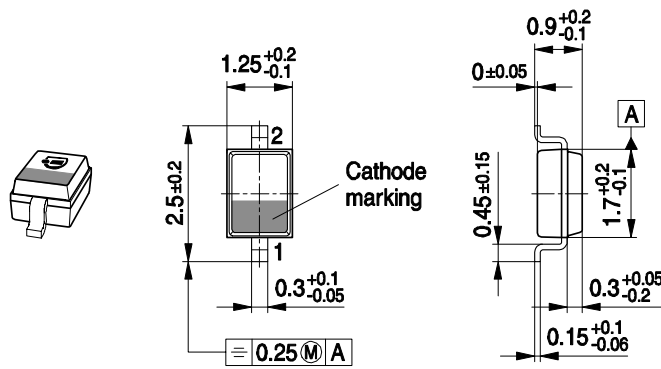
$f = 1\text{MHz}$



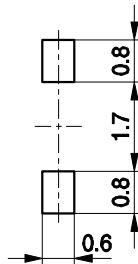
Temperature coefficient of the diode capacitance $T_{CC} = f(V_R)$



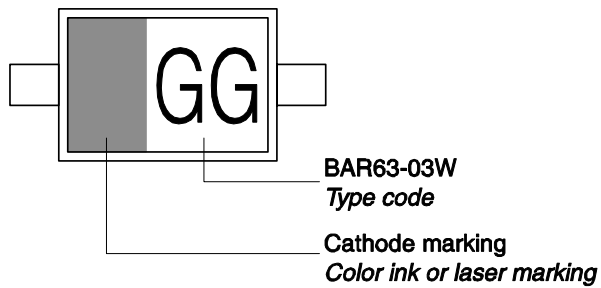
Package Outline



Foot Print

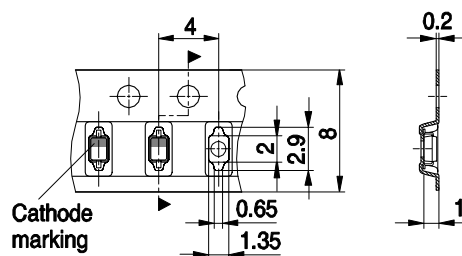


Marking Layout (Example)



Standard Packing

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



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