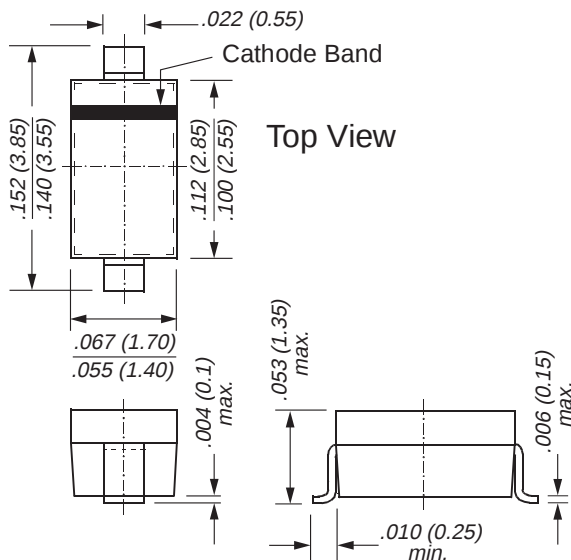
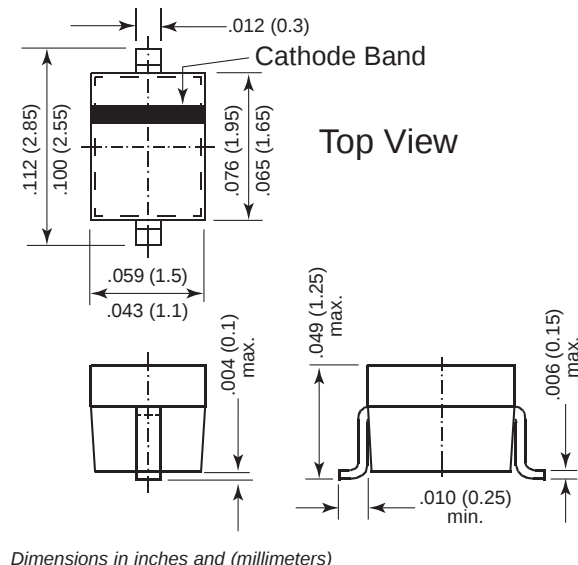
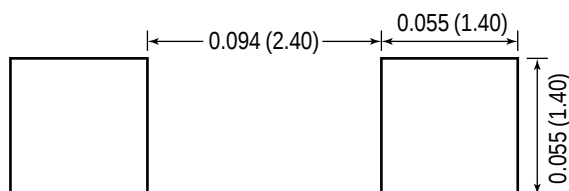
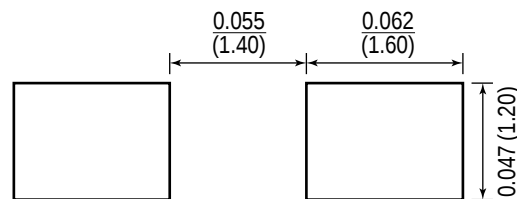


**Tuner Diodes****SOD-123 (BB731)****SOD-323 (BB731S)****Mounting Pad Layout SOD-123 (BB731)****Mounting Pad Layout SOD-323 (BB731S)****Features**

- Silicon epitaxial planar capacitance diodes with very wide effective capacitance variation for tuning the VHF range 41 ... 170 MHz in hyperband television tuners.
- These diodes are available as singles or as matched sets of two or more units according to the tracking condition described in the table of characteristics.

Mechanical Data

Case: BB731 = SOD-123 Plastic Case
BB731S = SOD-323 Plastic Case

Weight: BB731 = approx. 0.01g
BB731S = approx. 0.004g

Packaging Codes/Options:

SOD-123: D3/10K per 13" reel (8mm tape), 30K/box
D4/3K per 7" reel (8mm tape), 30K/box
SOD-323: D5/10K per 13" reel (8mm tape), 30K/box
D6/3K per 7" reel (8mm tape), 30K/box

Maximum Ratings and Thermal Characteristics ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	32	V
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature Range	T_S	-55 to +125	$^\circ\text{C}$

Electrical Characteristics ($T_C = 25^\circ\text{C}$ unless otherwise noted)

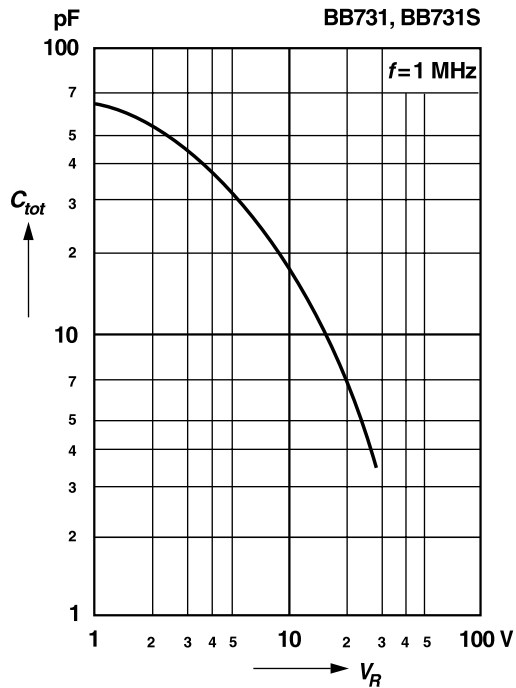
Parameter	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage at $I_R = 100\mu\text{A}$	$V_{(BR)R}$	32	—	—	V
Leakage Current at $V_R = 30\text{V}$	I_R	—	—	30	nA
Capacitance $f = 1\text{MHz}$ at $V_R = 28\text{V}$ at $V_R = 25\text{V}$ at $V_R = 1\text{V}$	C_{tot}	3.15 — —	— 3.5 50	3.55 — —	pF
Effective Capacitance Ratio $f = 1\text{MHz}$ at $V_R = 1$ to 28V	$\frac{C_{tot}(1\text{V})}{C_{tot}(28\text{V})}$	19.5	—	25	—
at $V_R = 3$ to 25V	$\frac{C_{tot}(3\text{V})}{C_{tot}(25\text{V})}$	—	14	—	—
Series Resistance at $f = 300\text{MHz}$, $C_{tot} = 25\text{pF}$	r_s	—	0.9	1.0	Ω
Series Inductance	L_s	—	2.5	—	nH

For any two of six consecutive diodes in the carrier tape, the maximum capacitance deviation in the reverse bias voltage of $V_R = 0.5$ to 28V is 3%

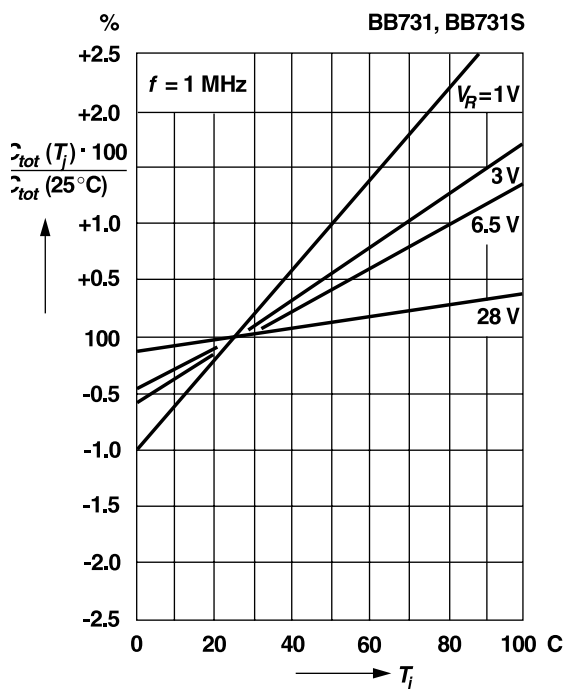


Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

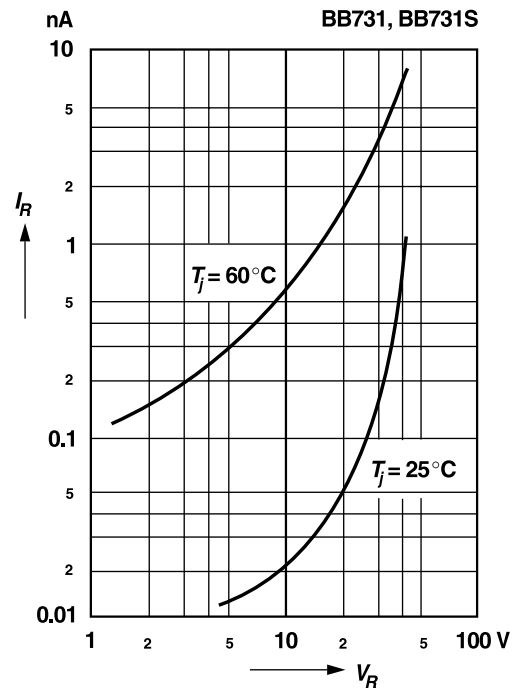
Capacitance
versus reverse voltage



Relative capacitance
versus junction temperature



Leakage current
versus reverse voltage



Q-Factor
versus frequency

