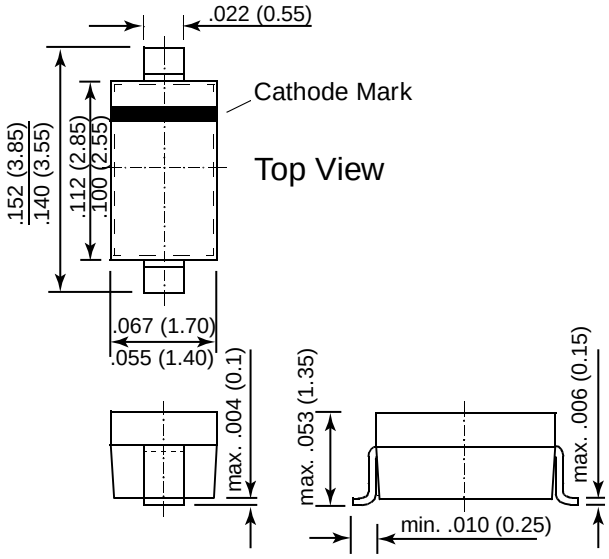
GENERAL SEMICONDUCTOR®

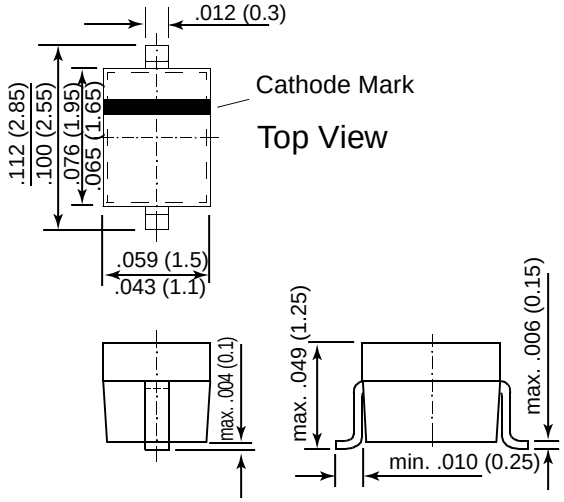
BB721 and BB721S

Tuner Diodes

SOD-123 (BB721)

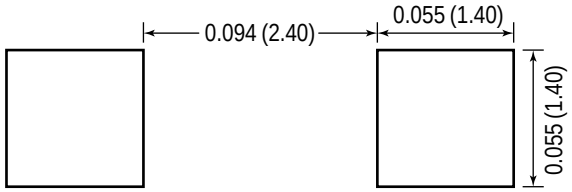


SOD-323 (BB721S)

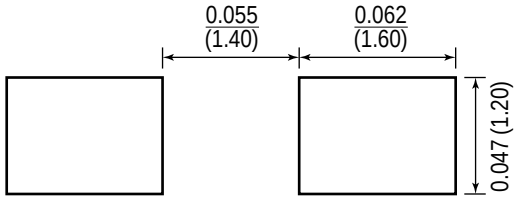


Dimensions in inches and (millimeters)

Mounting Pad Layout SOD-123 (BB721)



Mounting Pad Layout SOD-323 (BB721S)



Features

- Silicon epitaxial planar capacitance diodes with very wide effective capacitance variation for tuning the whole range of UHF television bands.
- Two BB721/BB721S tuner diodes in series are used for direct satellite receivers.
- 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

BB721
Case: SOD-123 plastic case
Weight: approximately 0.01 grams

BB721S
Case: SOD-323 plastic case
Weight: approximately 0.004 grams

Maximum Ratings and Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	32	V
Junction Temperature	T_J	125	°C
Storage Temperature Range	T_S	–55 to +125	°C

BB721 and BB721S

Tuner Diodes

Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage at I_R = 100µA	$V_{(BR)R}$	32	–	–	V
Leakage Current at V_R = 30V	I_R	–	–	10	nA
Capacitance f = 1MHz at V_R = 28V at V_R = 25V at V_R = 2V	C_{tot}	 1.9 2.1 14.01	–	 2.29 2.39 16.33	pF
Effective Capacitance Ratio f = 1MHz at V_R = 1 to 28V	$\frac{C_{tot}\ (1V)}{C_{tot}\ (28V)}$	8	–	–	–
at V_R = 2 to 25V	$\frac{C_{tot}\ (2V)}{C_{tot}\ (25V)}$	5.86	–	7.78	–
Series Resistance at f = 470 MHz, C_{tot} = 14 pF	r_s	–	–	0.8	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 VR = 0.5 to 28V is 3%

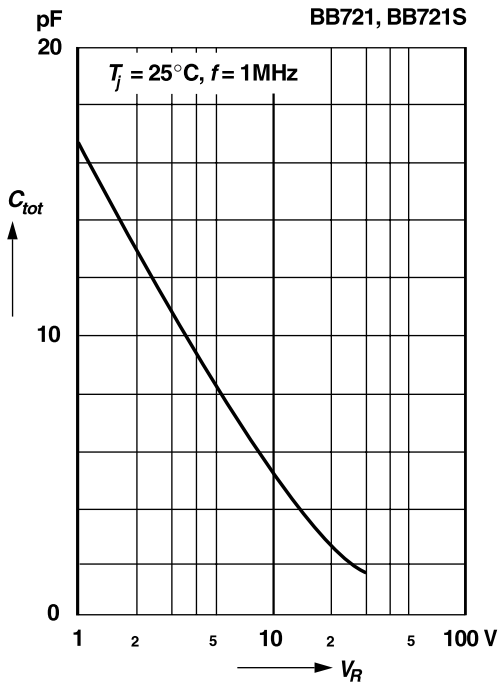
Packaging/Ordering Information

Part Number	Packaging Code	Package Type	Standard Reel Quantity
BB721	D3	13” Reel	10,000 pcs.
	D4	7” Reel	3,000 pcs.
BB721S	D5	13” Reel	10,000 pcs.
	D6	7” Reel	3.000 pcs.

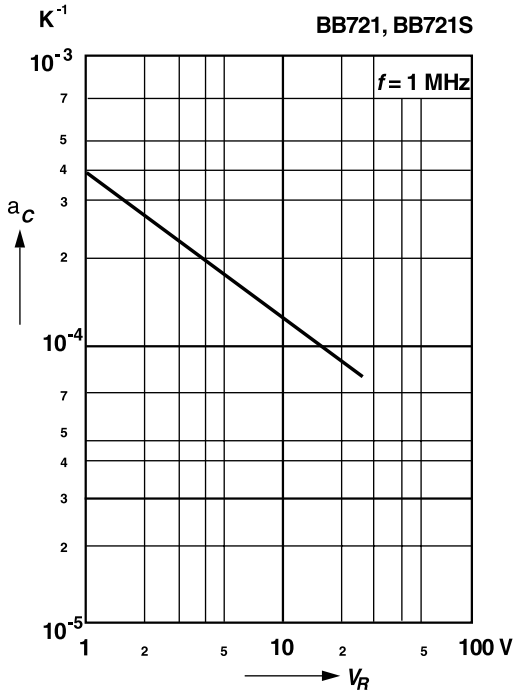
Example: BB721/D3

Ratings and Characteristics

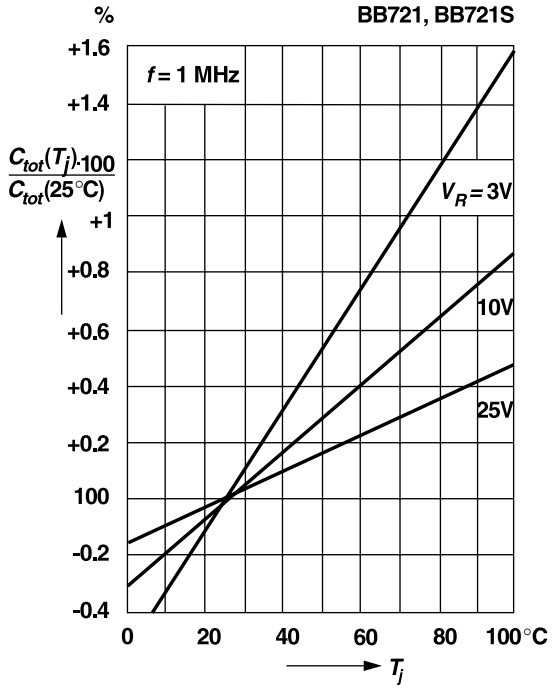
Capacitance versus reverse voltage



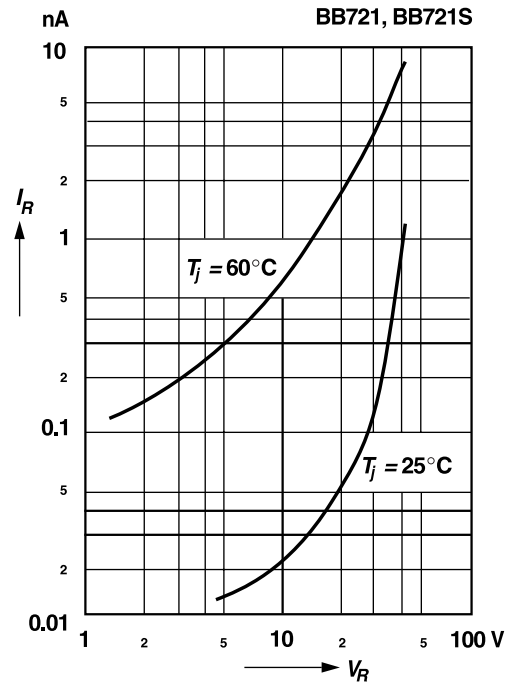
Temperature coefficient of capacitance versus reverse voltage



Relative capacitance versus junction temperature



Leakage current versus reverse voltage



Ratings and Characteristics

Q-Factor versus frequency