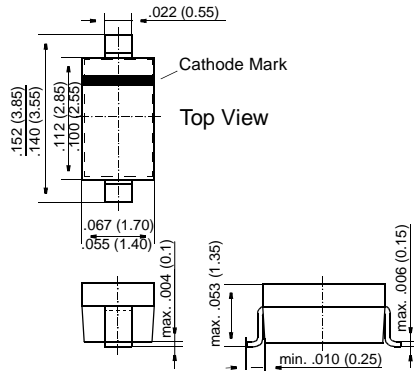


# BB721


## Tuner Diodes

### SOD-123



Dimensions in inches and (millimeters)

### 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.
- ◆ This diode is also available in SOD-323 case with the type designation BB721S.

### MECHANICAL DATA

**Case:** SOD-123 Plastic Case

**Weight:** approx. 0.01 g

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Reverse Voltage	$V_R$	32	V
Ambient Temperature	$T_{amb}$	125	°C
Storage Temperature Range	$T_S$	-55 to +125	°C

# BB721

## ELECTRICAL CHARACTERISTICS

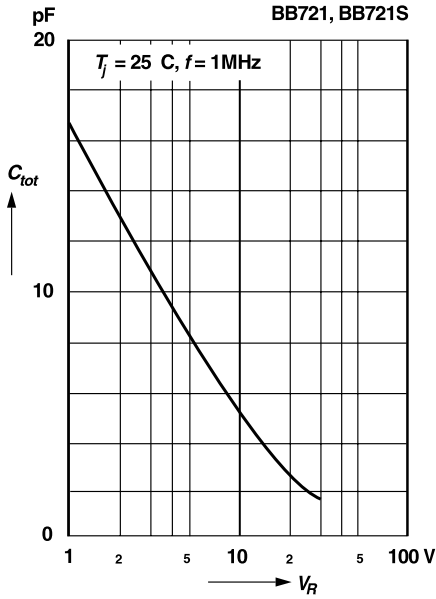
Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100 \mu\text{A}$	$V_{(BR)R}$	32	–	–	V
Leakage Current at $V_R = 30 \text{ V}$	$I_R$	–	–	10	nA
Capacitance $f = 1 \text{ MHz}$ at $V_R = 28 \text{ V}$ at $V_R = 1 \text{ V}$	$C_{\text{tot}}$ $C_{\text{tot}}$	1.9 17.5	– –	2.3 20	pF pF
Effective Capacitance Ratio, $f = 1 \text{ MHz}$ at $V_R = 1 \text{ to } 28 \text{ V}$	$\frac{C_{\text{tot}}(1 \text{ V})}{C_{\text{tot}}(28 \text{ V})}$	8.2	–	9.8	–
Series Resistance at $f = 470 \text{ MHz}$ , $C_{\text{tot}} = 14 \text{ pF}$	$r_s$	–	0.55	–	$\Omega$
Series Inductance	$L_s$	–	2.5	–	nH

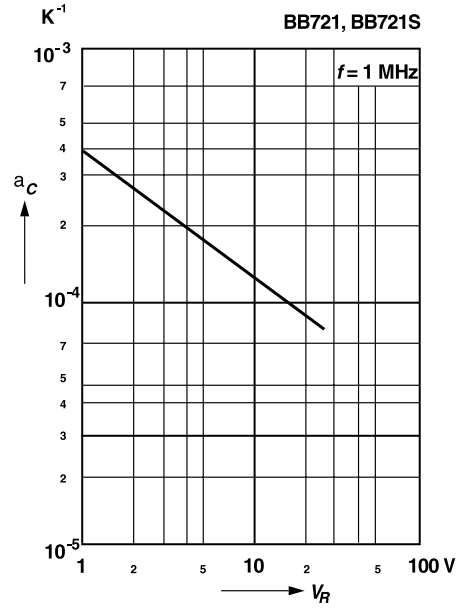
For any two of six consecutive diodes in the carrier tape, the maximum capacitance deviation in the reverse bias voltage of  $V_R = 0.5 \text{ to } 28 \text{ V}$  is max. 2.5%.

# RATINGS AND CHARACTERISTIC CURVES BB721

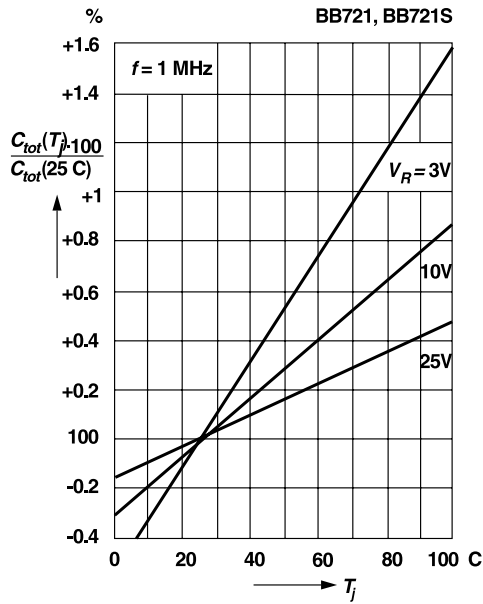
**Capacitance versus reverse voltage**



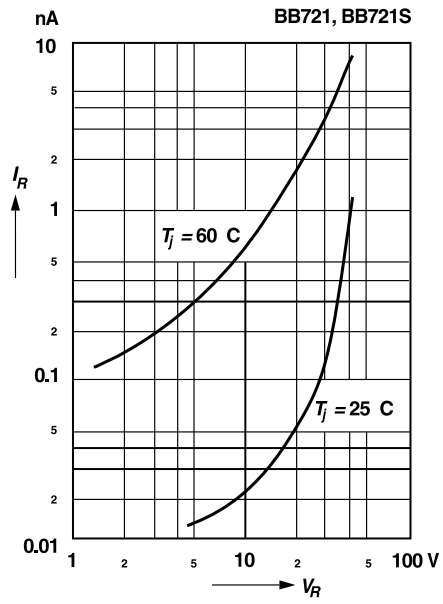
**Temperature coefficient of capacitance versus reverse voltage**



**Relative capacitance versus junction temperature**



**Leakage current versus reverse voltage**



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## RATINGS AND CHARACTERISTIC CURVES BB721

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Q-Factor  
versus frequency

