

UHF VARIABLE CAPACITANCE DIODE

The BB811 is a silicon variable capacitance diode in a hermetically sealed SOD123 envelope and intended for application in TV-SAT tuners up to 2 GHz

QUICK REFERENCE DATA

Continuous reverse voltage	V_R	max.	30 V
Reverse current at $V_R = 30$ V	I_R	max.	20 nA
Diode capacitance at $f = 1$ MHz at $V_R = 28$ V	C_d		0.85 to 1.2 pF
Capacitance ratio at $f = 1$ MHz	$\frac{C_d(V_R = 1 \text{ V})}{C_d(V_R = 28 \text{ V})}$		7.8 to 9.5
Series resistance at $f = 100$ MHz V_R is that value at which $C_d = 9$ pF	r_s	max.	1.45 Ω

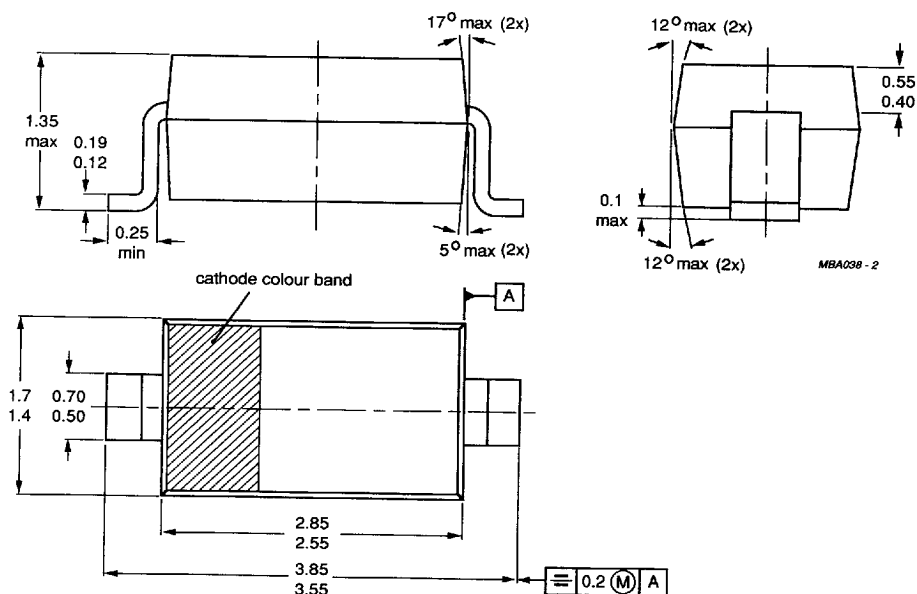
MECHANICAL DATA

Fig.1 SOD123.

Dimensions in mm

Marking code

BB811 = T



Cathode indicated by a white band.

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Continuous reverse voltage	V_R	max.	30 V
Reverse voltage (peak value)	V_{RM}	max.	30 V
Forward current (DC)	I_F	max.	20 mA
Storage temperature range	T_{stg}		-55 to + 150 °C
Operating ambient temperature range	T_{amb}		-55 to + 125 °C

CHARACTERISTICS $T_{amb} = 25\text{ °C}$ unless otherwise specified

Reverse current

 $V_R = 30\text{ V}$ $V_R = 30\text{ V}; T_{amb} = 85\text{ °C}$

I_R	max.	20 nA
I_R	max.	500 nA

Reverse breakdown voltage

 $I_R = 10\text{ }\mu\text{A}$

$V_{(BR)R}$	min.	30 V
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Diode capacitance at $f = 1\text{ MHz}$ $V_R = 1\text{ V}$ $V_R = 28\text{ V}$

C_d	7.8 to 9.8 pF
C_d	0.85 to 1.2 pF

Capacitance ratio at $f = 1\text{ MHz}$

$\frac{C_d(V_R = 1\text{ V})}{C_d(V_R = 28\text{ V})}$	7.8 to 9.5
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Tolerance of capacitance difference between
two diodes of $V_R = 0.5\text{ V}$ to 28 V

$\frac{\Delta C}{C}$	max.	3 %
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Series resistance

at $f = 100\text{ MHz}$ and at that value of V_R at
which $C_d = 9\text{ pF}$

r_s	max.	1.45 Ω
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Series inductance

L_s	typ.	2.8 nH
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