

UHF VARIABLE CAPACITANCE DIODE

The BB515 is a silicon variable capacitance diode in a hermetically sealed glass envelope and intended for application in UHF tuners.

QUICK REFERENCE DATA

Continuous reverse voltage	V_R	max.	30 V
Reverse current at $V_R = 30$ V	I_R	max.	10 nA
Diode capacitance at $f = 1$ MHz at $V_R = 28$ V	C_d		1.85 to 2.25 pF
Capacitance ratio at $f = 1$ MHz	$\frac{C_d (V_R = 1 \text{ V})}{C_d (V_R = 28 \text{ V})}$		8 to 9.6
Series resistance at $f = 470$ MHz V_R is that value at which $C_d = 9$ pF	r_s	typ.	0.5 Ω

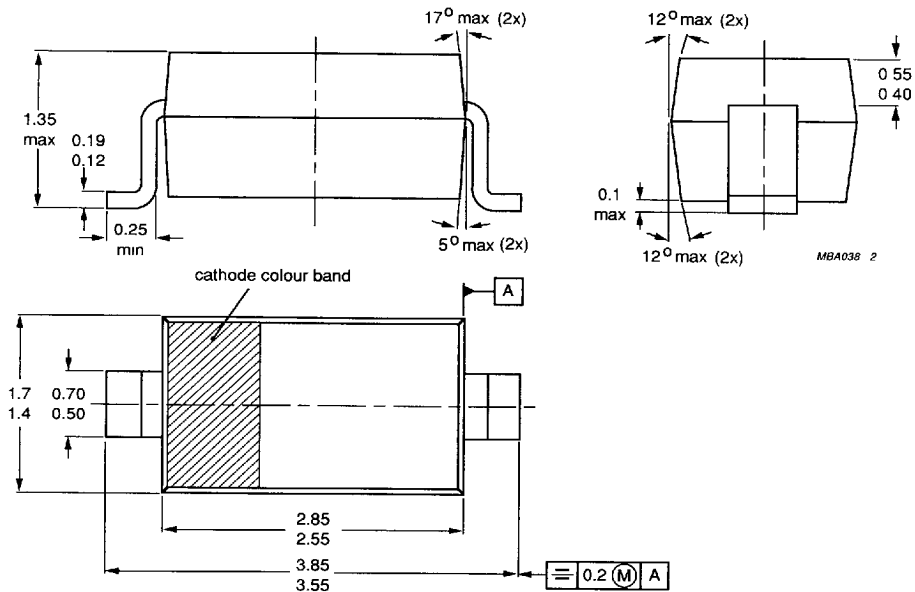
MECHANICAL DATA

Fig.1 SOD123.

Dimensions in mm

Marking code

BB515 = P



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

$V_R = 30\text{ V}$

I_R	max.	10 nA
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$V_R = 30\text{ V}; T_{amb} = 85\text{ °C}$

I_R	max.	200 nA
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Reverse breakdown voltage

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

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

$V_R = 1\text{ V}$

C_d	16 to 19.5 pF
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$V_R = 28\text{ V}$

C_d	1.85 to 2.25 pF
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Capacitance ratio at $f = 1\text{ MHz}$

$\frac{C_d(V_R = 1\text{ V})}{C_d(V_R = 28\text{ V})}$	8 to 9.6
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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 $f = 470\text{ MHz}$ and at that value of V_R at which $C_d = 9\text{ pF}$

r_s	typ.	0.5 Ω
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Series inductance

L_s	typ.	2.8 nH
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