VHF VARIABLE CAPACITANCE DIODE

The BB619 is a VHF variable capacitance diode in planar technology with a very high capacitance ratio intended for VHF-band B up to 460 MHz in all-band tuners.
The diode is encapsulated in a hermetically sealed SOD123 plastic envelope suitable for surface mounting.

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		2.4 to 2.9 pF
Capacitance ratio at f = 1 MHz	$\frac{C_d\ (V_R = 1\ V)}{C_d\ (V_R = 28\ V)}$	min. typ.	12.5 14
Series resistance at f = 100 MHz V_R is that value at which C_d = 30 pF	r_s	typ.	0.7 Ω

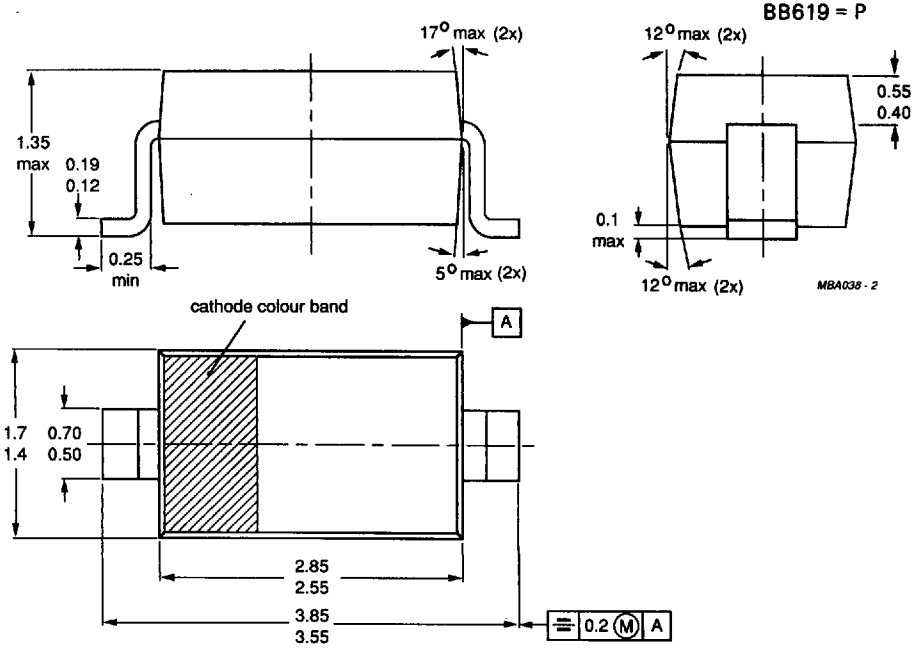
MECHANICAL DATA

Dimensions in mm

Fig.1 SOD123.

Marking code

BB619 = P



Cathode indicated by a yellow 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 °C unless otherwise specified

Reverse current				
V_R = 30 V	I_R	max.	10	nA
V_R = 30 V; T_{amb} = 85 °C	I_R	max.	200	nA
Reverse breakdown voltage				
I_R = 10 μA	$V_{(BR)R}$	min.	30	V
Diode capacitance at f = 1 MHz				
V_R = 1 V	C_d		33.5 to 41	pF
V_R = 28 V	C_d		2.4 to 2.9	pF
Capacitance ratio at f = 1 MHz	$\frac{C_d\ (V_R = 1\ V)}{C_d\ (V_R = 28\ V)}$	min.	12.5	
		typ.	14	
Tolerance of capacitance difference between two diodes of V_R = 1.0 V to 28 V	$\frac{\Delta C}{C}$	max.	2.5	%
Series resistance at f = 100 MHz and at that value of V_R at which C_d = 30 pF	r_s	typ.	0.7	Ω
Series inductance	L_s	typ.	2.8	nH