Advance Information

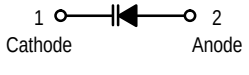
Voltage Variable Capacitance Diode for UHF Band Radio

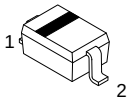
MMVL229AT1

15 VOLT VOLTAGE VARIABLE CAPACITANCE DIODE

This device is designed for UHF tuning and general frequency control and tuning. This device is supplied in the SOD–323 plastic surface mount package for high volume, pick and place assembly requirements, and is a member of the Motorola microExecutive series.

- High Figure of Merit — Q
- Guaranteed Capacitance Range
- Controlled and Uniform Tuning Ratio
- 0805 Footprint Compatible SOD–323 package
- Available in tape and reel





CASE 477–02, STYLE 1
SOD–323

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	15	Vdc
Junction Temperature	T_J	125	°C
Storage Temperature Range	T_{stg}	–55 to +125	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Voltage (I_R = 1.0 μAdc)	V_R	15	—	—	Vdc
Reverse Current (V_R = 15 Vdc)	I_R	—	—	3.0	nAdc
Capacitance (V_R = 2 V, f = 1.0 MHz)	C_{2V}	14	15	16	pF
Capacitance (V_R = 4 V, f = 1.0 MHz)	C_{4V}	—	11	—	pF
Capacitance (V_R = 10 V, f = 1.0 MHz)	C_{10V}	5.5	6.0	6.5	pF
Capacitance Ratio	$C_{2V/10V}$	2.0	2.5	3.0	
Series Resistance (V_R = 5.0 V, f = 470 MHz)	r_s	—	0.27	0.4	Ω

Replaces MMVL229A

TYPICAL DEVICE CHARACTERISTICS

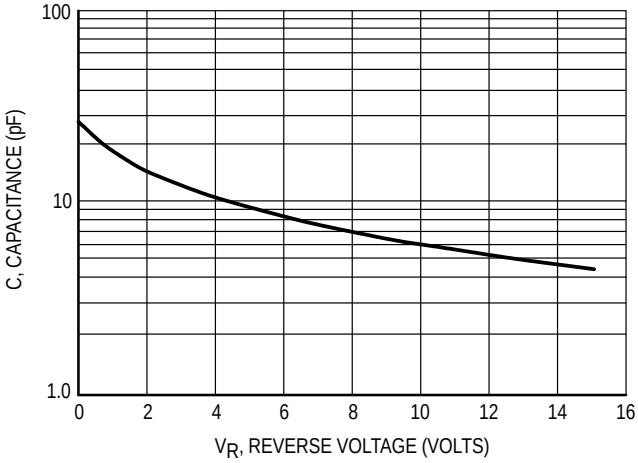


Figure 1. Capacitance versus Reverse Voltage

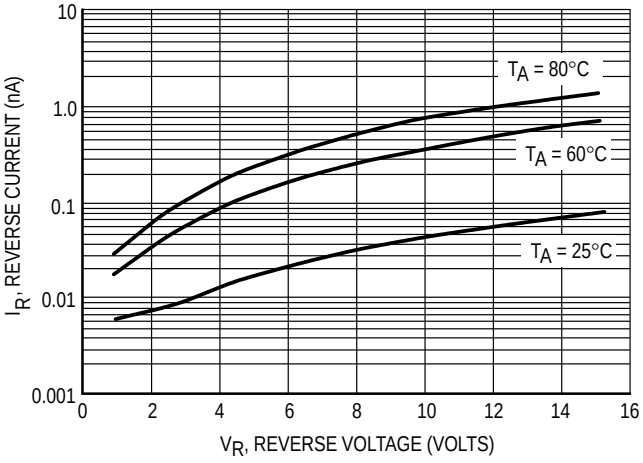


Figure 2. Reverse Current versus Reverse Voltage

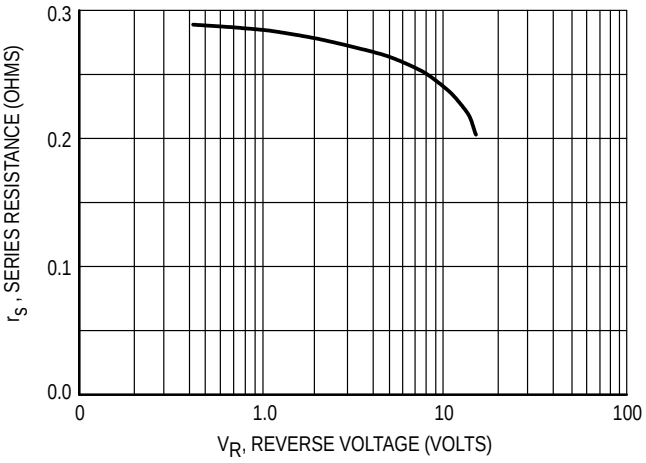


Figure 3. Series Resistance versus Reverse Voltage

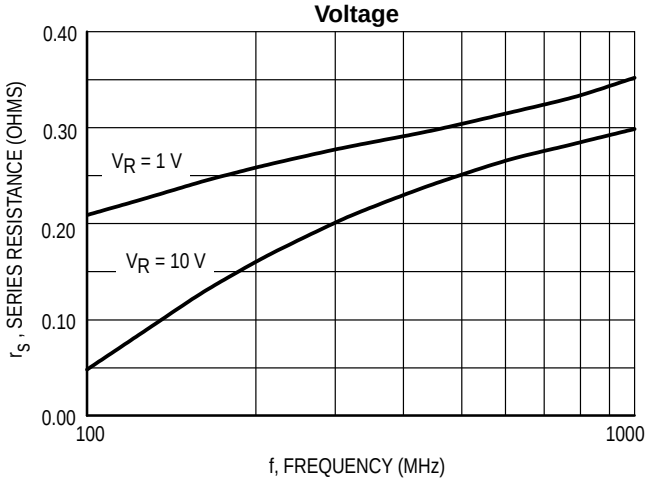


Figure 4. Series Resistance versus Frequency

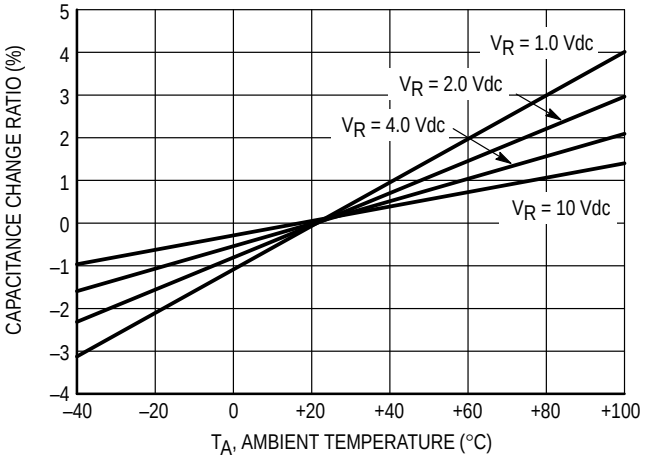


Figure 5. Capacitance Change Ratio versus Ambient Temperature

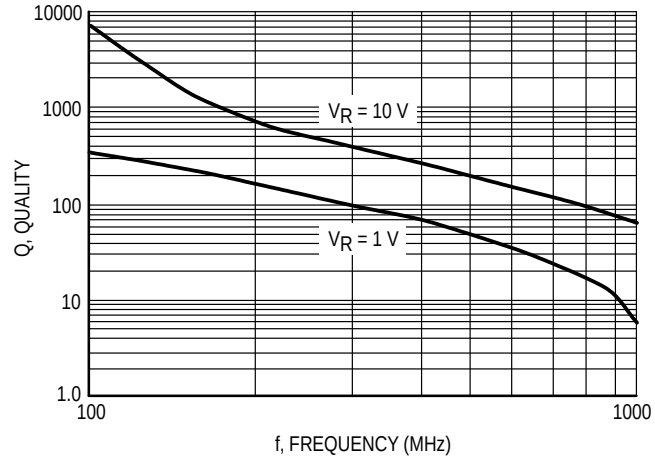
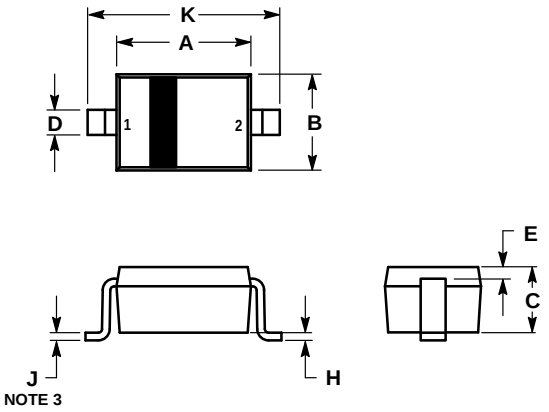


Figure 6. Quality versus Frequency

PACKAGE DIMENSIONS



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

STYLE 1:
PIN 1. CATHODE
2. ANODE

CASE 477–02
SOD–323
ISSUE A

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