

Advance Information

Voltage Variable Capacitance Diode for UHF Band Radio

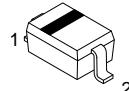
This device is designed for UHF tuning and general frequency control and tuning. This device is supplied in the SOD-323 plastic surface mount package for high volume, pick and place assembly requirements, and is a member of the Motorola microExecutive series.

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

MMVL535T1

**15 VOLT
VOLTAGE VARIABLE
CAPACITANCE DIODE**

1 ○ — 2
Cathode Anode



**CASE 477-02, STYLE 1
SOD-323**

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Forward Current	I_F	20	mAdc
Reverse Voltage	V_R	15	Vdc
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +125	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Voltage ($I_R = 1.0 \mu\text{Adc}$)	V_R	15	—	—	Vdc
Reverse Current ($V_R = 15 \text{ Vdc}$)	I_R	—	—	8.0	nAdc
Capacitance ($V_R = 1 \text{ V}$, $f = 1.0 \text{ MHz}$)	C_{1V}	17.5	18.7	20	pF
Capacitance ($V_R = 4 \text{ V}$, $f = 1.0 \text{ MHz}$)	C_{4V}	9.0	10.5	12.0	pF
Capacitance ($V_R = 10 \text{ V}$, $f = 1.0 \text{ MHz}$)	C_{10V}	5.4	6.0	6.6	pF
Capacitance Ratio	$C_{1V}/10V$	2.6	3.1	3.7	
Series Resistance ($V_R = 5.0 \text{ V}$, $f = 470 \text{ MHz}$)	r_S	—	0.27	0.5	Ω

Replaces MMVL535

TYPICAL DEVICE CHARACTERISTICS

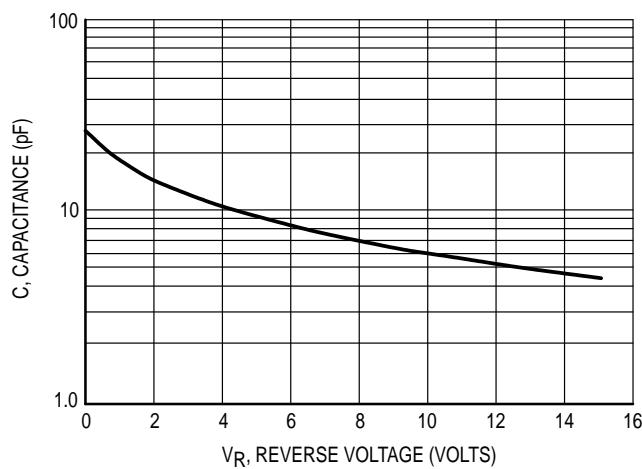


Figure 1. Capacitance versus Reverse Voltage

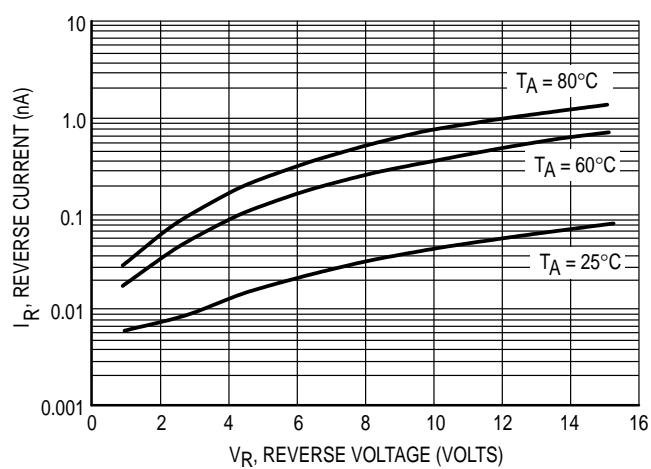


Figure 2. Reverse Current versus Reverse Voltage

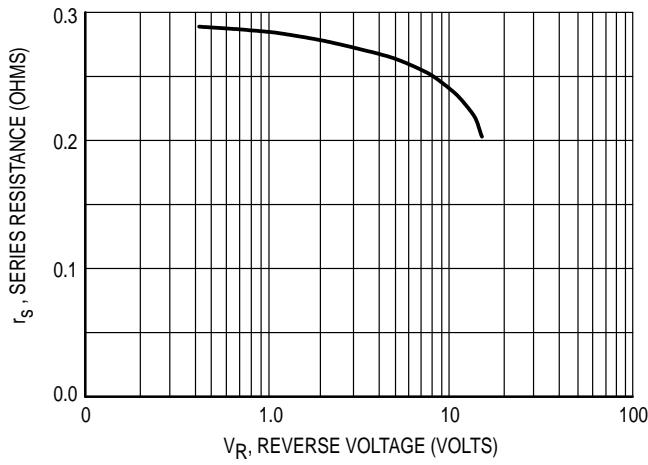


Figure 3. Series Resistance versus Reverse Voltage

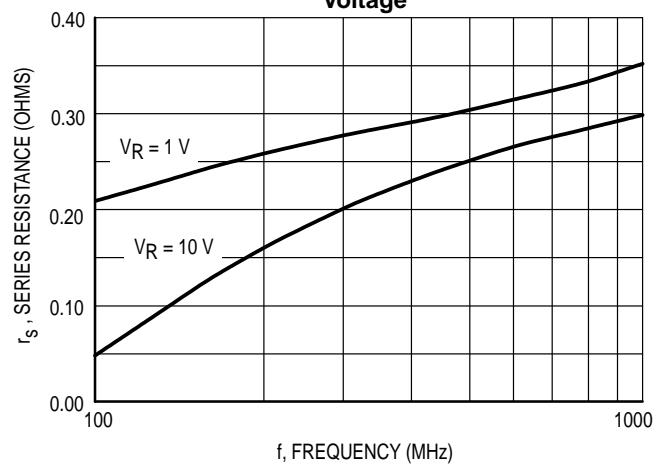


Figure 4. Series Resistance versus Frequency

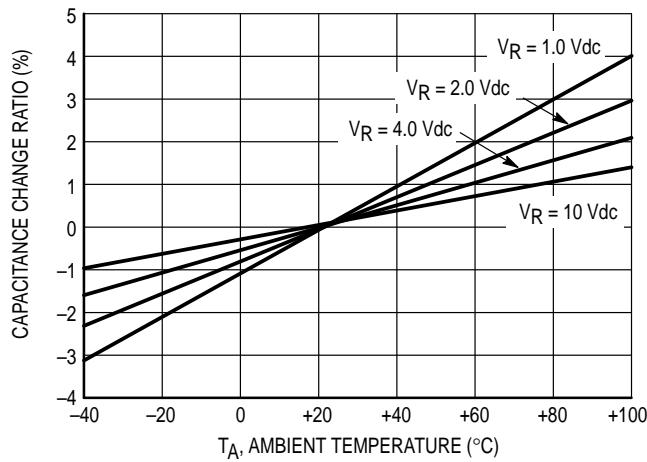


Figure 5. Capacitance Change Ratio versus Ambient Temperature

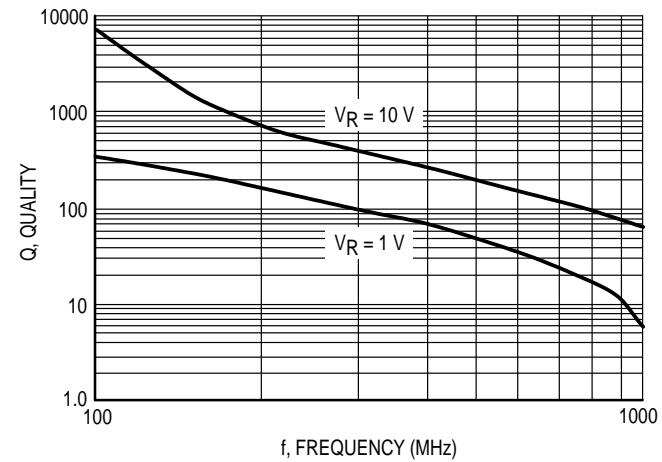
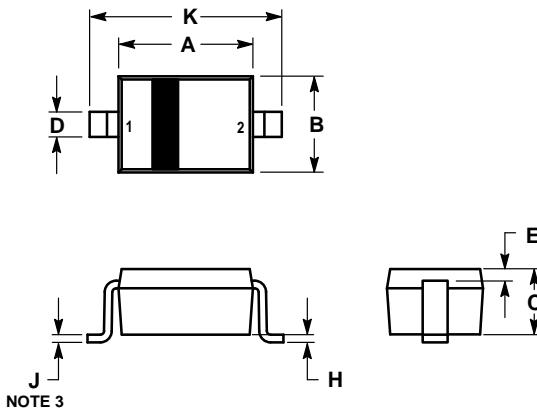


Figure 6. Quality versus Frequency

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.

DIM	MILLIMETERS		INCHES	
	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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