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# MMVL535T1



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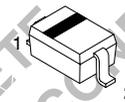
Advance Information

## 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

### 15 VOLT VOLTAGE VARIABLE CAPACITANCE DIODE



SOD-323  
CASE 477-02  
STYLE 1

#### 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	$\Omega$

# MMVL535T1

## TYPICAL DEVICE CHARACTERISTICS

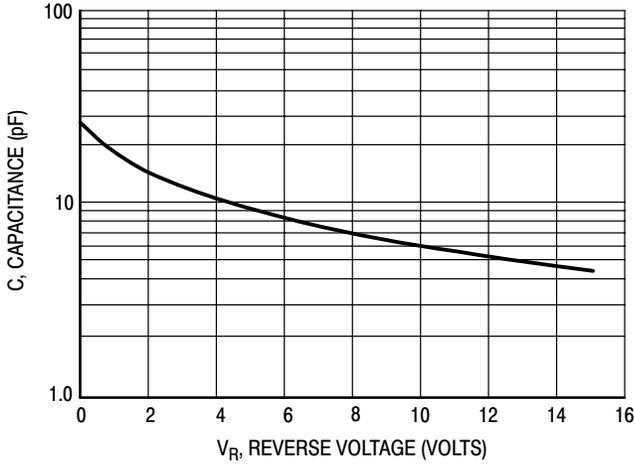


Figure 1. Capacitance versus Reverse Voltage

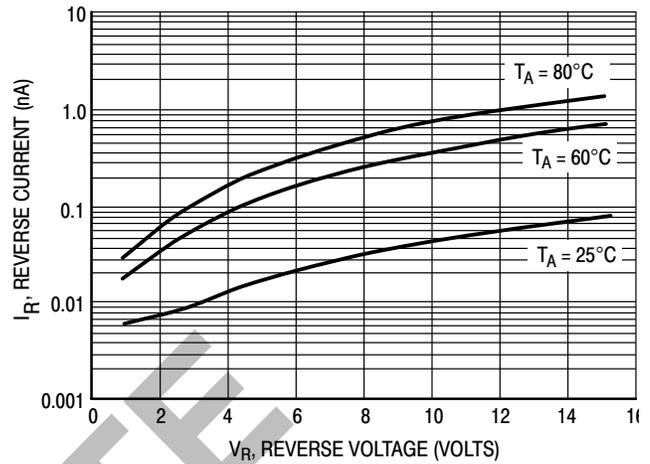


Figure 2. Reverse Current versus Reverse Voltage

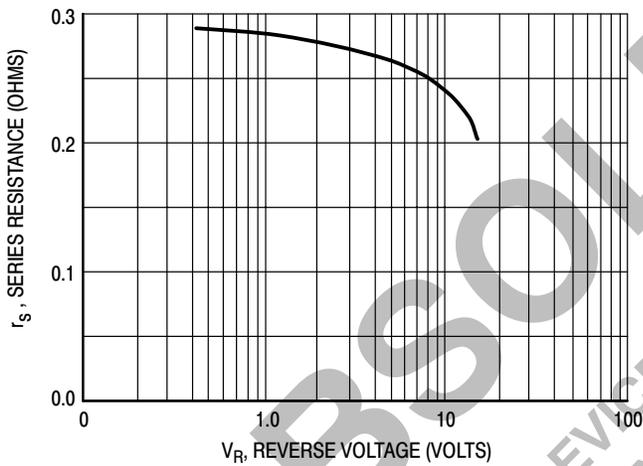


Figure 3. Series Resistance versus Reverse Voltage

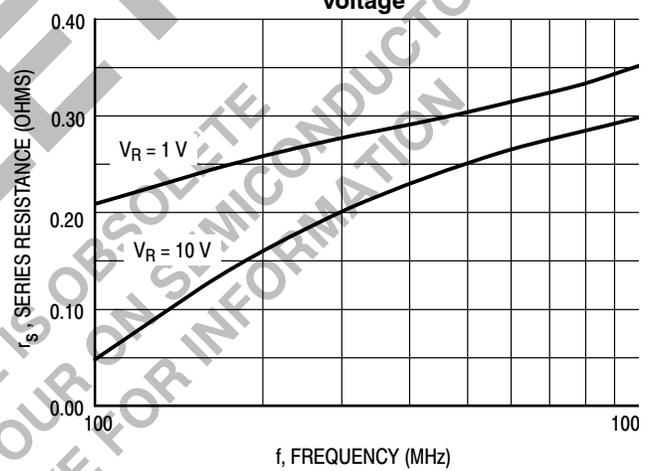


Figure 4. Series Resistance versus Frequency

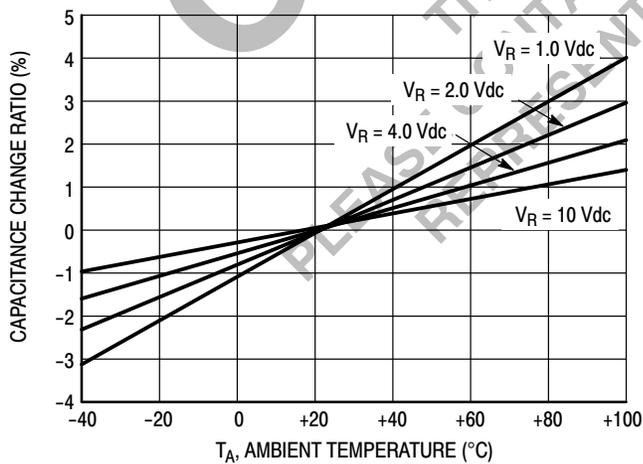


Figure 5. Capacitance Change Ratio versus Ambient Temperature

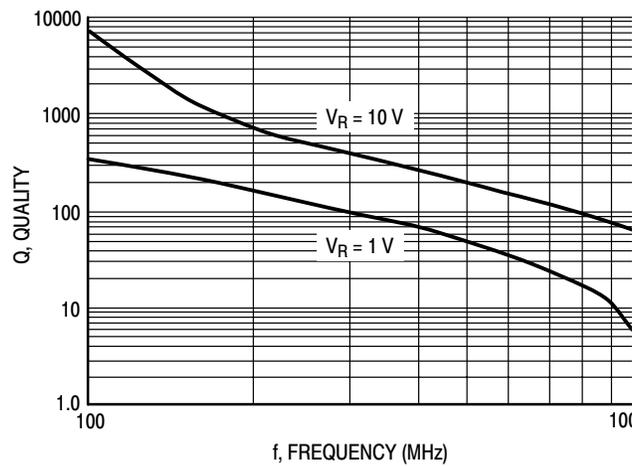
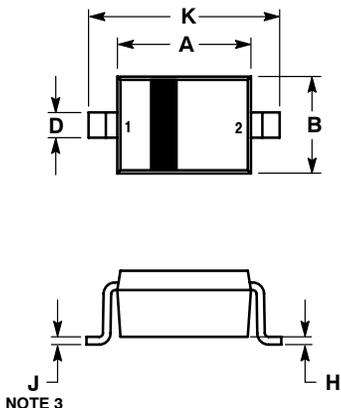


Figure 6. Quality versus Frequency

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## PACKAGE DIMENSIONS

### CASE 477-02 SOD-323 ISSUE A



- 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

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