

# High Voltage Silicon Pin Diode

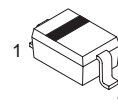
These devices are designed primarily for VHF band switching applications but are also suitable for use in general-purpose switching circuits. They are supplied in a cost-effective plastic surface mount package for economical, high-volume consumer and industrial requirements.

- Long Reverse Recovery Time  
 $t_{rr} = 300 \text{ ns}$  (Typ)
- Rugged PIN Structure Coupled with Wirebond Construction for Optimum Reliability
- Low Series Resistance @ 100 MHz —  
 $R_S = 0.7 \text{ Ohms}$  (Typ) @  $I_F = 10 \text{ mAdc}$
- Reverse Breakdown Voltage = 200 V (Min)



**MMVL3700T1**

**SILICON PIN  
SWITCHING DIODE**



**CASE 477-02, STYLE 1  
SOD323**

## MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	$V_R$	75	Vdc
Peak Forward Current	$I_F$	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,* $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	200 1.57	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	$^\circ\text{C/W}$
Junction and Storage Temperature	$T_J, T_{stg}$	150	$^\circ\text{C}$

\*FR-4 Minimum Pad

## DEVICE MARKING

MMVL3700T1 = 4R

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ( $I_R = 10 \text{ }\mu\text{Adc}$ )	$V_{(BR)R}$	200	—	—	Vdc
Diode Capacitance ( $V_R = 20 \text{ Vdc}$ , $f = 1.0 \text{ MHz}$ )	$C_T$	—	—	1.0	pF
Series Resistance (Figure 5) ( $I_F = 10 \text{ mAdc}$ )	$R_S$	—	0.7	1.0	$\Omega$
Reverse Leakage Current ( $V_R = 150 \text{ Vdc}$ )	$I_R$	—	—	0.1	$\mu\text{Adc}$
Reverse Recovery Time ( $I_F = I_R = 10 \text{ mAdc}$ )	$t_{rr}$	—	300	—	ns

## TYPICAL CHARACTERISTICS

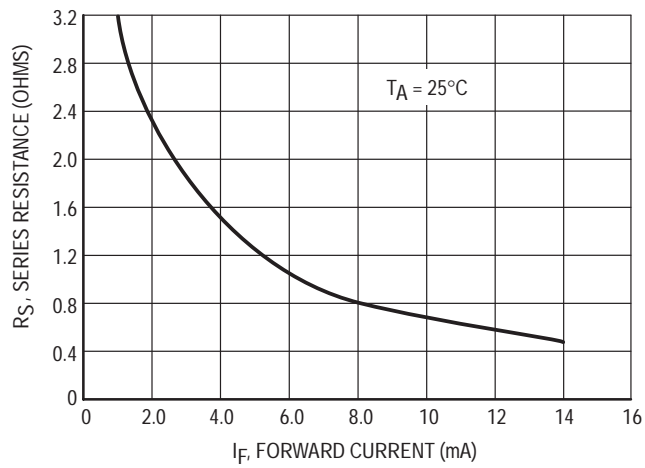


Figure 1. Series Resistance

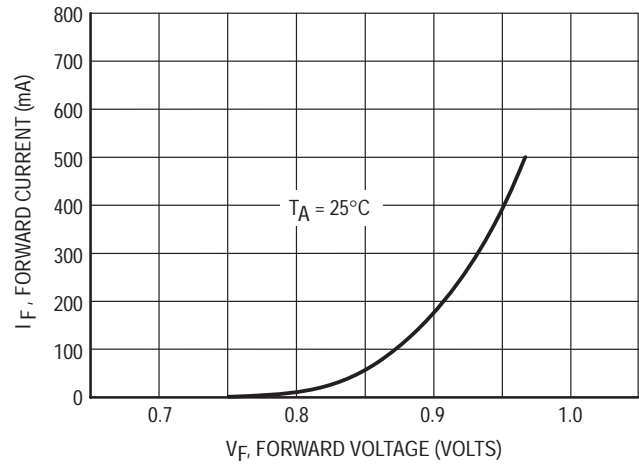


Figure 2. Forward Voltage

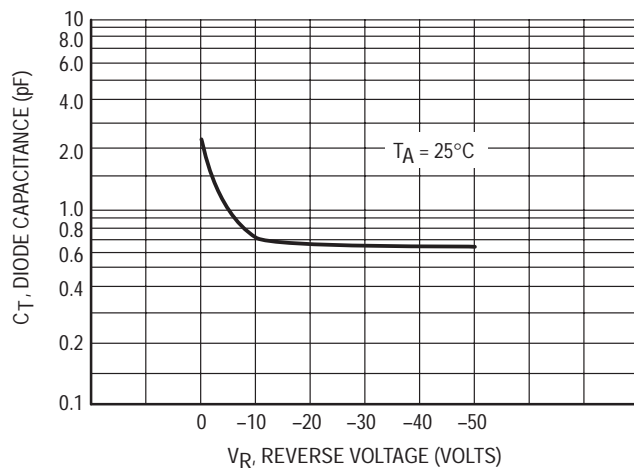


Figure 3. Diode Capacitance

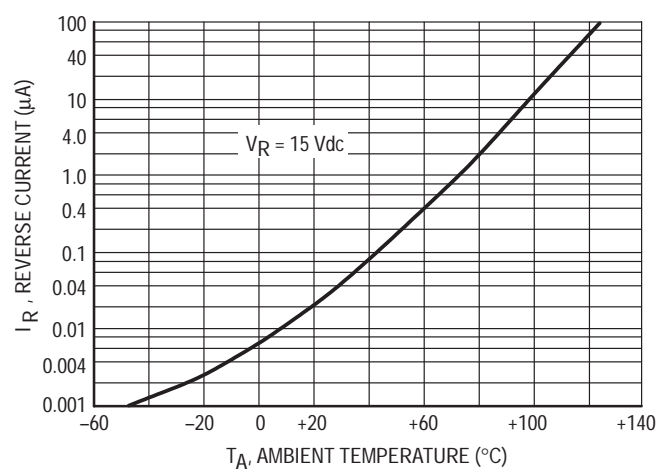
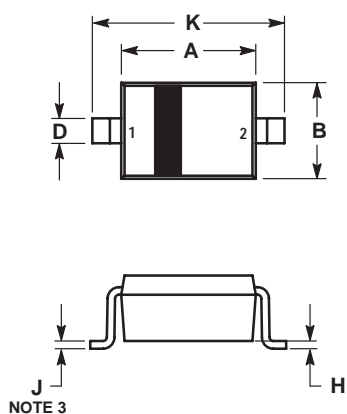


Figure 4. Leakage Current

## PACKAGE DIMENSIONS

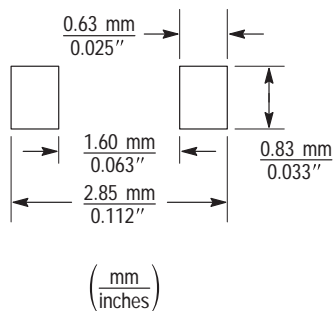


- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: MILLIMETERS.
  3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.


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**  
**ISSUE A**  
**SOD323**



**SOD-323**  
Soldering Footprint

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