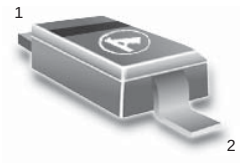
High Voltage Silicon Pin Diode

MMVL3700T1

SILICON PIN SWITCHING 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 trr = 300 ns (Typ)
- Rugged PIN Structure Coupled with Wirebond Construction for Optimum Reliability
- Low Series Resistance @ 100 MHz – R_S = 0.7 Ω (Typ) @ I_F = 10 mAdc
- Reverse Breakdown Voltage = 200 V (Min)
- Device Marking: 4R



PLASTIC, CASE 477
SOD– 323

ORDERING INFORMATION

Device	Package	Shipping
MMVL3700T1	SOD–323	3000 / Tape & Reel

MAXIMUM RATINGS

Symbol	Rating	Value	Unit
V_R	Continuous Reverse Voltage	200	Vdc
I_F	Peak Forward Current	20	mAdc

THERMAL CHARACTERISTICS

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

*FR–4 Minimum Pad

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

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

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TYPICAL CHARACTERISTICS

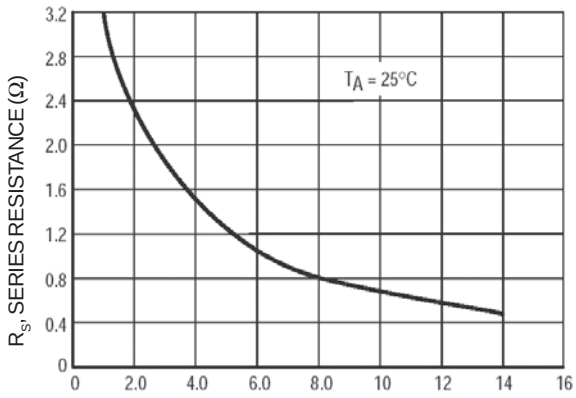

Figure 1. Series Resistance

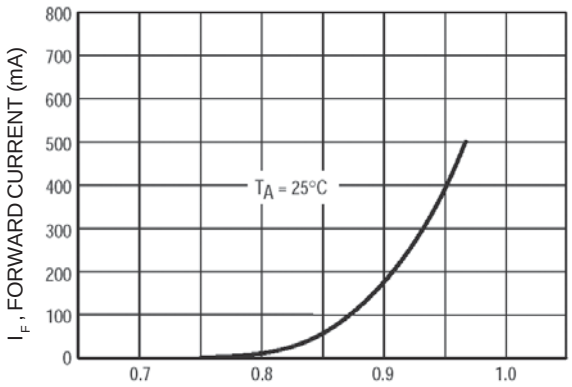

Figure 2. Forward Voltage

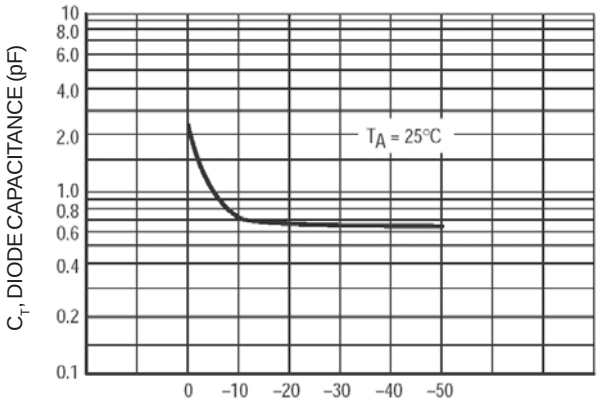

Figure 3. Diode Capacitance

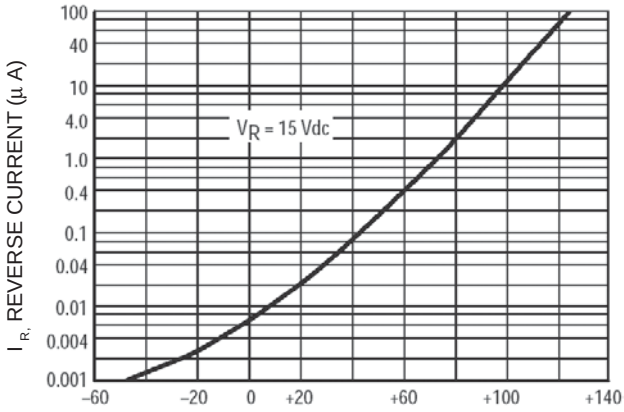

Figure 4. Leakage Current