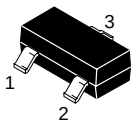
High Voltage Silicon Pin Diodes

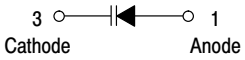
MMBV3700LT1
MPN3700

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 package for economical, high–volume consumer and industrial requirements. They are also available in surface mount.

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

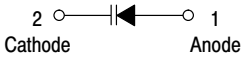


CASE 318–08, STYLE 8
SOT–23 (TO–236AB)



SOT–23

CASE 182–06, STYLE 1
TO–92 (TO–226AC)



TO–92

MAXIMUM RATINGS

Rating	Symbol	MPN3700	MMBV3700LT1	Unit
Reverse Voltage	V_R	200		Vdc
Total Power Dissipation @ T_A = 25°C Derate above 25°C	P_D	 280 2.8	 200 2.0	 mW mW/°C
Junction Temperature	T_J	+125		°C
Storage Temperature Range	T_{stg}	–55 to +150		°C

DEVICE MARKING

MMBV3700LT1 = 4R

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 (Figure 5) (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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Publication Order Number:
MMBV3700LT1D

TYPICAL CHARACTERISTICS

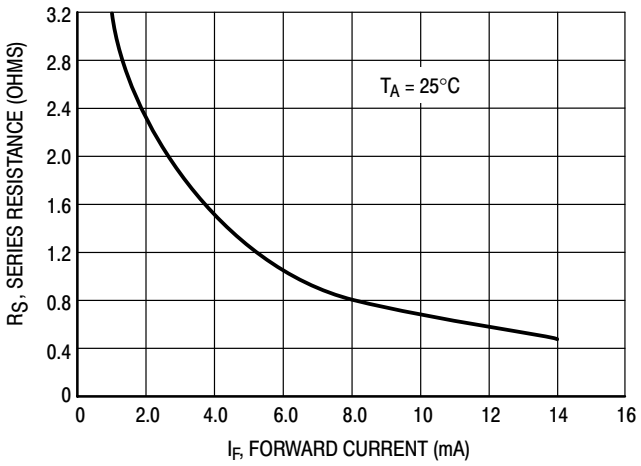

Figure 1. Series Resistance

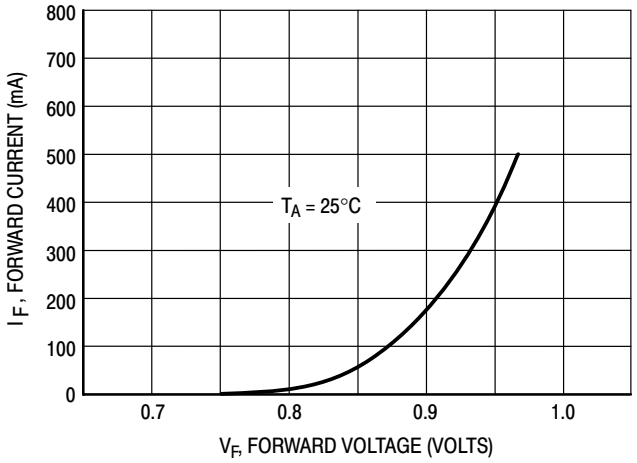

Figure 2. Forward Voltage

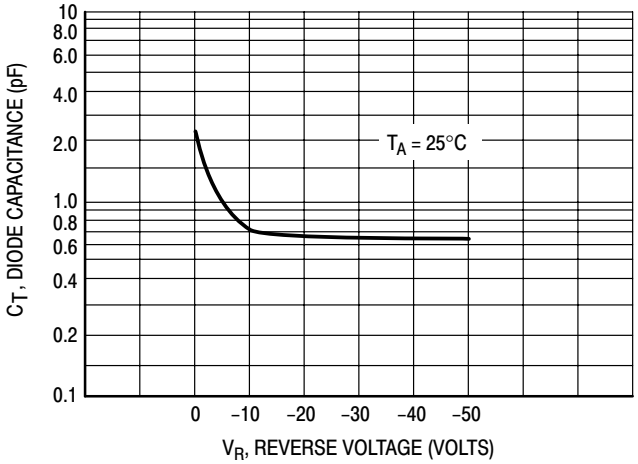

Figure 3. Diode Capacitance

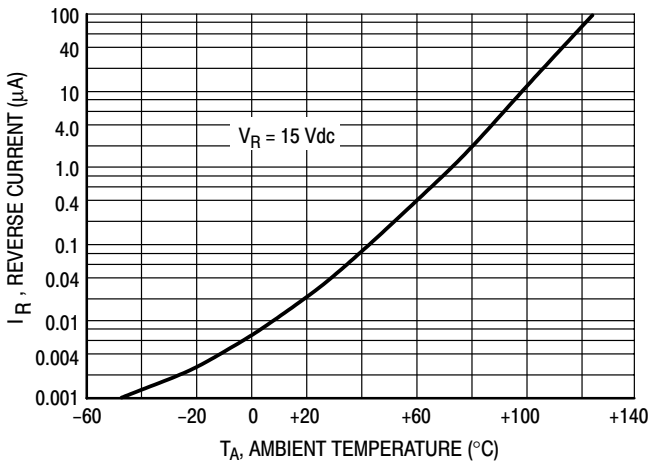

Figure 4. Leakage Current