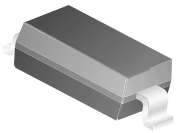
FAIRCHILD SEMICONDUCTOR®

February 2005

MMSD914
Small Signal Diode



SOD123

COLOR BAND DENOTES CATHODE
TOP MARKING: **5D**

Absolute Maximum Ratings * T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Unit
V_{RRM}	Maximum Repetitive Reverse Voltage	100	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 second Pulse Width = 1.0 microsecond	 1.0 2.0	 A A
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	400	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	312	°C/W

Electrical Characteristics T_C = 25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max.	Units
V_R	Breakdown Voltage	I_R = 5.0µA I_R = 100µA	75 100		V V
V_F	Forward Voltage	I_F = 10mA		1.0	V
I_R	Reverse Leakage	V_R = 20V V_R = 20V, T_A = 150°C V_R = 75V		25 50 5.0	nA µA µA
C_T	Total Capacitance	V_R = 0V, f = 1.0MHz		4.0	pF
t_{rr}	Reverse Recovery Time	I_F = 10mA, V_R = 6.0V, I_{RR} = 1.0mA, R_L = 100Ω		4.0	ns
$V_{F(peak)}$	Peak Forward Recovery Voltage	I_F = 50mA, Peak square wave pulse width = 0.1µS, 5kHz - 100kHz rep rate		2.5	V

Typical Characteristics

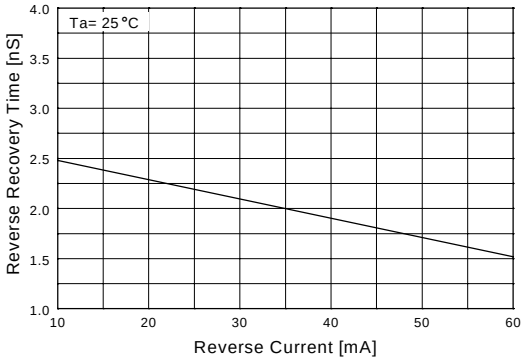


Figure 7. Reverse Recovery Time vs Reverse Current TRR - IR 10 mA vs 60 mA

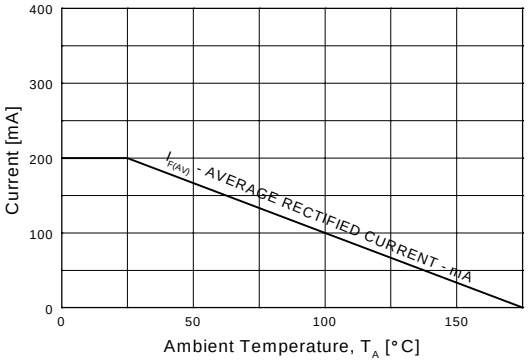


Figure 8. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

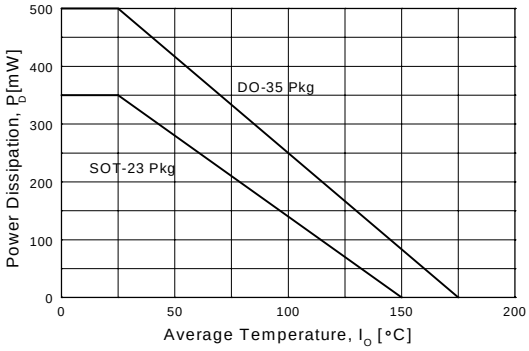


Figure 9. Power Derating Curve

Typical Characteristics

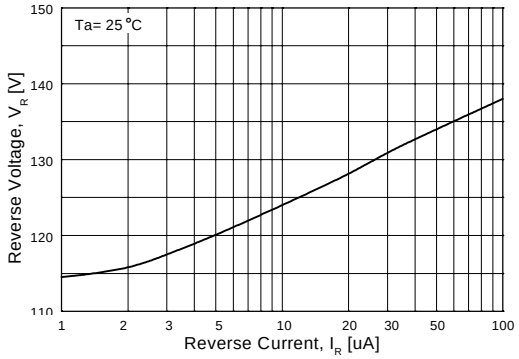


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100uA

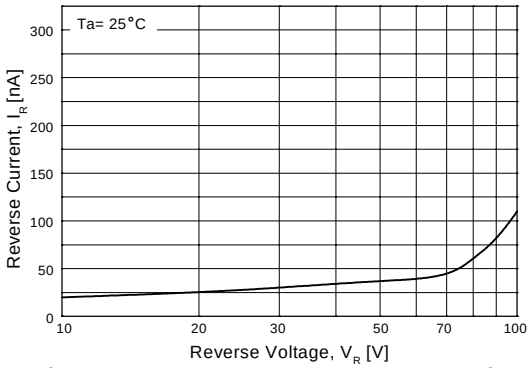


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

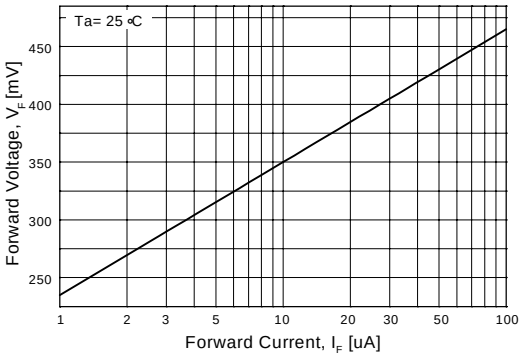


Figure 3. Forward Voltage vs Forward Current
VF - 1.0 to 100 uA

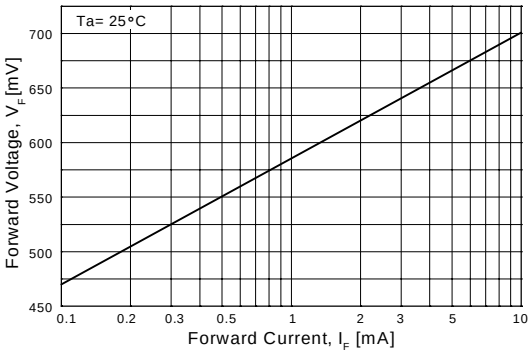


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

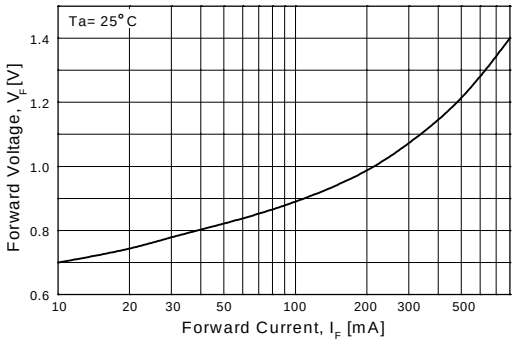


Figure 5. Forward Voltage vs Forward Current
VF - 10 - 800 mA

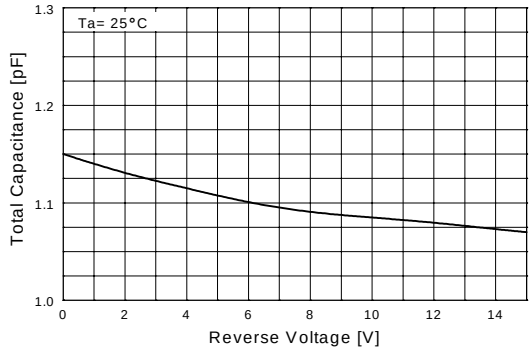


Figure 6. Total Capacitance vs Reverse Voltage

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