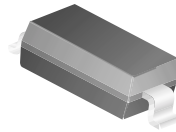


# MMSD914

## Small Signal Diode



**SOD123**  
COLOR BAND DENOTES CATHODE  
TOP MARKING: 5D

### Absolute Maximum Ratings \* $T_a = 25^\circ\text{C}$ 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	A
		2.0	A
$T_{STG}$	Storage Temperature Range	-55 to +150	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	150	$^\circ\text{C}$

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

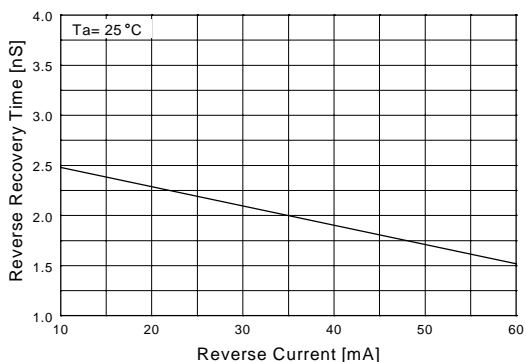
### Thermal Characteristics

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

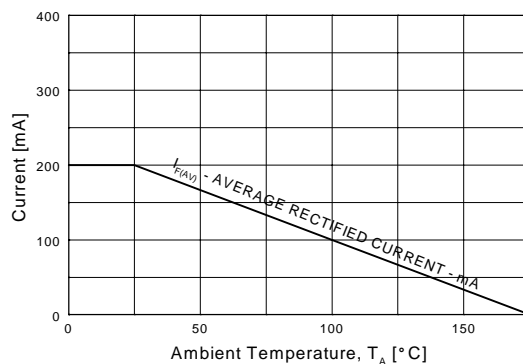
### Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

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

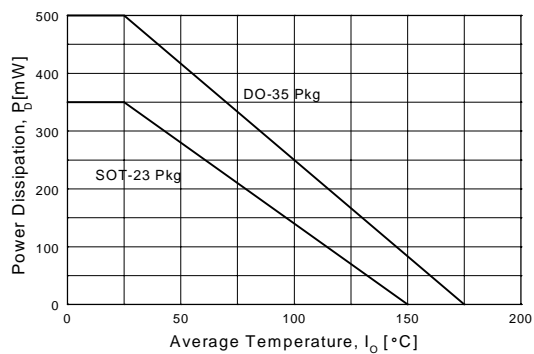
### Typical Characteristics



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

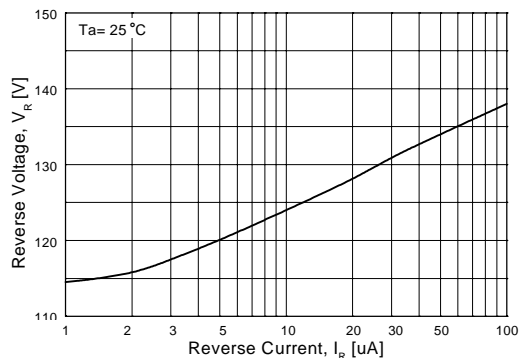


**Figure 8. Average Rectified Current ( $I_{F(AV)}$ ) versus Ambient Temperature ( $T_A$ )**

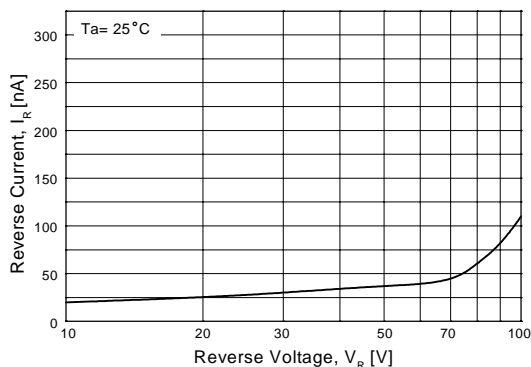


**Figure 9. Power Derating Curve**

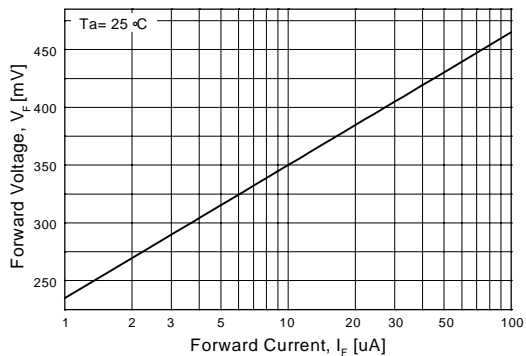
## Typical Characteristics



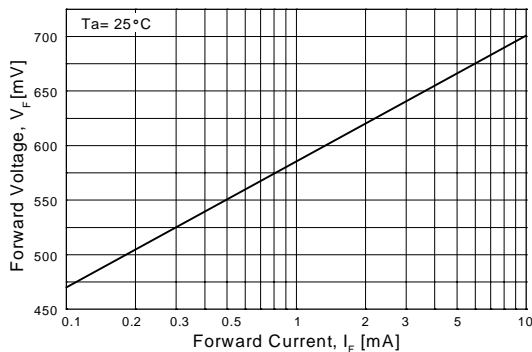
**Figure 1. Reverse Voltage vs Reverse Current**  
BV - 1.0 to 100uA



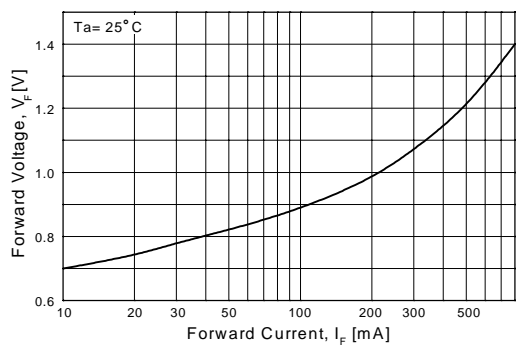
**Figure 2. Reverse Current vs Reverse Voltage**  
IR - 10 to 100 V



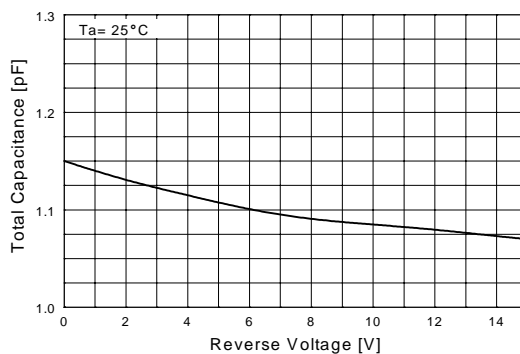
**Figure 3. Forward Voltage vs Forward Current**  
VF - 1.0 to 100 uA



**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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FACT™	ImpliedDisconnect™	OCX™	RapidConfigure™	TruTranslation™
FACT Quiet Series™		OCXPro™	RapidConnect™	UHC™
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The Power Franchise <sup>®</sup>		OPTOPLANAR™	SILENT SWITCHER <sup>®</sup>	UniFET™
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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