

MMSD914T1

Preferred Device

Switching Diode

Features

- SOD-123 Surface Mount Package
- High Breakdown Voltage
- Fast Speed Switching Time
- Pb-Free Packages are Available



ON Semiconductor®

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MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	100	Vdc
Peak Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc
Non-repetitive Peak Forward Surge Current	I_{FSM}		
Pulse Width = 1 second		1.0	A
Pulse Width = 1 micro second		2.0	A

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

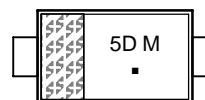
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	425	mW
		3.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	290	$^\circ\text{C/W}$

1. FR-5 = 1.0oz Cu, 1.0in² pad



PLASTIC
SOD-123
CASE 425

MARKING DIAGRAM



M = Date Code
■ = Pb-Free Package

ORDERING INFORMATION

Device	Package	Shipping†
MMSD914T1	SOD-123	3000 / Tape & Reel
MMSD914T1G	SOD-123 (Pb-Free)	3000 / Tape & Reel
MMSD914T3	SOD-123	10,000 / Tape & Reel
MMSD914T3G	SOD-123 (Pb-Free)	10,000 / Tape & Reel

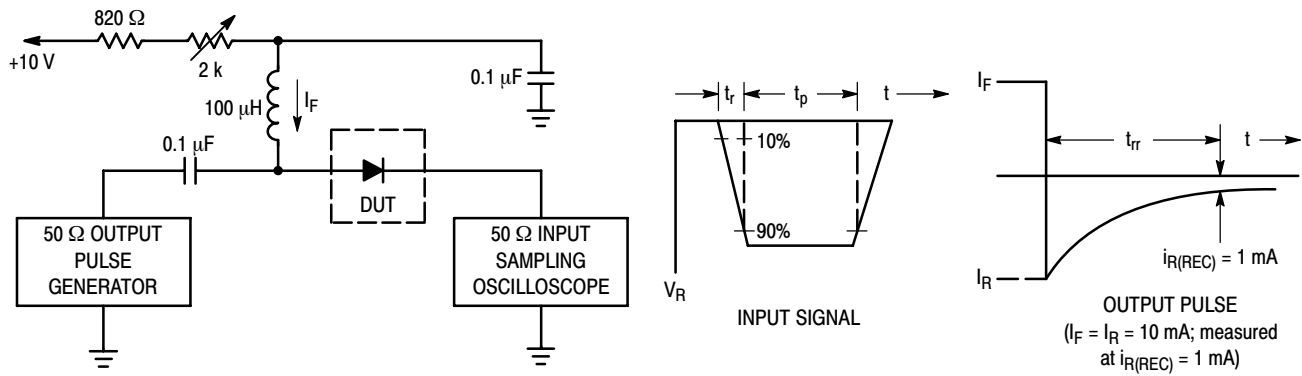
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value.

MMSD914T1

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Breakdown Voltage ($I_{BR} = 100 \mu\text{Adc}$)	$V_{(BR)}$	100	–	Vdc
Reverse Voltage Leakage Current ($V_R = 20 \text{Vdc}$)	I_R	–	25	nAdc
($V_R = 75 \text{Vdc}$)		–	5.0	μAdc
Forward Voltage ($I_F = 10 \text{mAdc}$)	V_F	–	1000	mVdc
Diode Capacitance ($V_R = 0 \text{Vdc}$, $f = 1.0 \text{MHz}$)	C_D	–	4.0	pF
Reverse Recovery Time ($I_F = I_R = 10 \text{mAdc}$) (Figure 1)	t_{rr}	–	4.0	ns



- Notes: 1. A 2.0 k Ω variable resistor adjusted for a Forward Current (I_F) of 10 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

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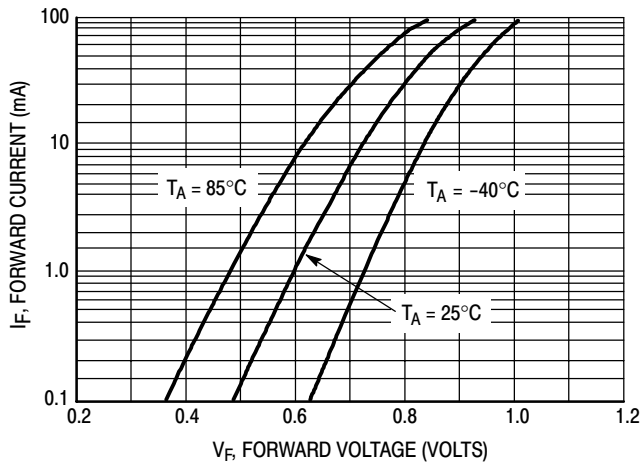


Figure 2. Forward Voltage

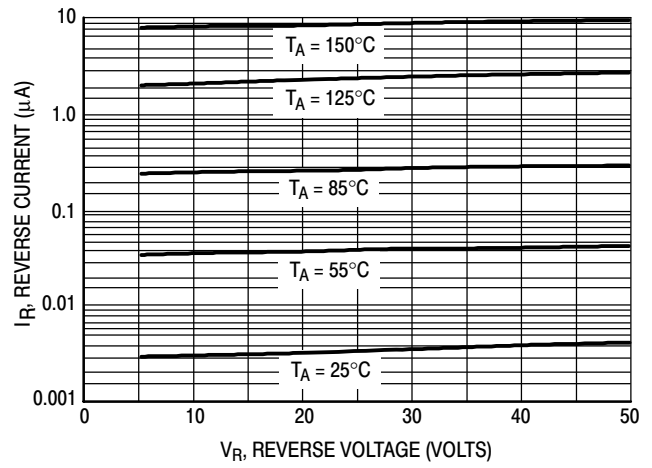


Figure 3. Leakage Current

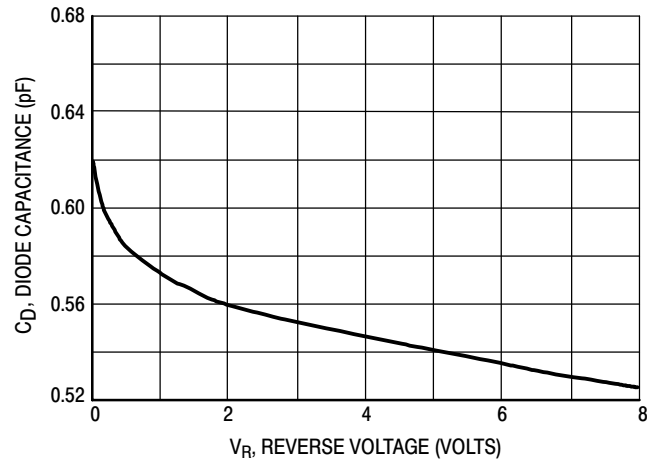
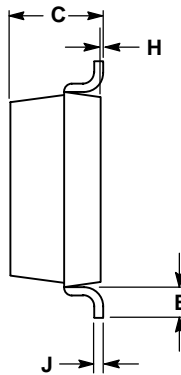
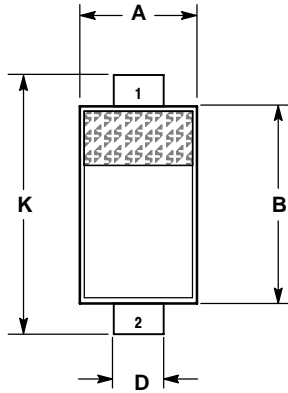


Figure 4. Capacitance

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PACKAGE DIMENSIONS

SOD-123
PLASTIC PACKAGE
CASE 425-04
ISSUE C



NOTES:

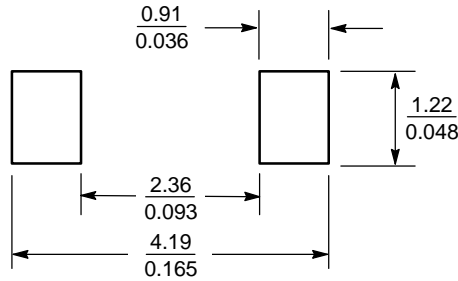
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.071	1.40	1.80
B	0.100	0.112	2.55	2.85
C	0.037	0.053	0.95	1.35
D	0.020	0.028	0.50	0.70
E	0.004	---	0.25	---
H	0.000	0.004	0.00	0.10
J	---	0.006	---	0.15
K	0.140	0.152	3.55	3.85

STYLE 1:

- PIN 1. CATHODE
- PIN 2. ANODE

SOLDERING FOOTPRINT*



SCALE 10:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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