

M1MA151WAT1, M1MA152WAT1

Preferred Device

Common Anode Silicon Dual Switching Diodes

These Common Anode Silicon Epitaxial Planar Dual Diodes are designed for use in ultra high speed switching applications. These devices are housed in the SC-59 package which is designed for low power surface mount applications.

- Fast t_{rr} , < 10 ns
- Low C_D , < 15 pF
- Available in 8 mm Tape and Reel

Use M1MA151/2WAT1 to order the 7 inch/3000 unit reel.

Use M1MA151/2WAT3 to order the 13 inch/10,000 unit reel.

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

Rating		Symbol	Value	Unit
Reverse Voltage	M1MA151WAT1	V_R	40	Vdc
	M1MA152WAT1		80	
Peak Reverse Voltage	M1MA151WAT1	V_{RM}	40	Vdc
	M1MA152WAT1		80	
Forward Current	Single	I_F	100	mAdc
	Dual		150	
Peak Forward Current	Single	I_{FM}	225	mAdc
	Dual		340	
Peak Forward Surge Current	Single	I_{FSM} (Note 1)	500	mAdc
	Dual		750	

THERMAL CHARACTERISTICS

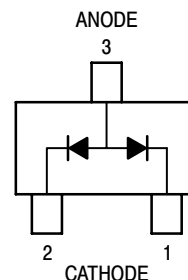
Rating	Symbol	Max	Unit
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

1. $t = 1 \text{ SEC}$



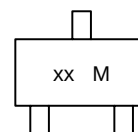
ON Semiconductor®

<http://onsemi.com>



**SC-59
SUFFIX
CASE 318D**

MARKING DIAGRAM



xx = MN for 151
MO for 152
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping [†]
M1MA151WAT1	SC-59	3000 / Tape & Reel
M1MA151WAT3	SC-59	10000 / Tape & Reel
M1MA152WAT1	SC-59	3000 / Tape & Reel
M1MA152WAT3	SC-59	10000 / 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.

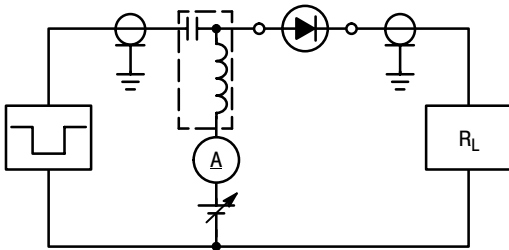
M1MA151WAT1, M1MA152WAT1

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

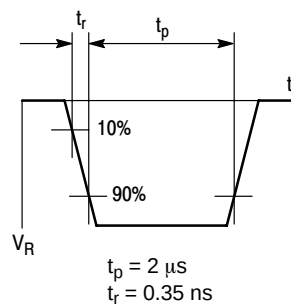
Characteristic		Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	M1MA151WAT1	I_R	$V_R = 35\text{ V}$	—	0.1	μA_{dc}
	M1MA152WAT1		$V_R = 75\text{ V}$	—	0.1	
Forward Voltage		V_F	$I_F = 100\text{ mA}$	—	1.2	V_{dc}
Reverse Breakdown Voltage	M1MA151WAT1	V_R	$I_R = 100\text{ }\mu\text{A}$	40	—	V_{dc}
	M1MA152WAT1			80	—	
Diode Capacitance		C_D	$V_R = 0, f = 1.0\text{ MHz}$	—	15	pF
Reverse Recovery Time (Figure 1)		t_{rr} (Note 2)	$I_F = 10\text{ mA}, V_R = 6.0\text{ V}, R_L = 100\text{ }\Omega, I_{rr} = 0.1 I_R$	—	10	ns

2. t_{rr} Test Circuit

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

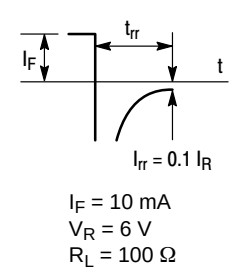


Figure 1. Reverse Recovery Time Equivalent Test Circuit

M1MA151WAT1, M1MA152WAT1

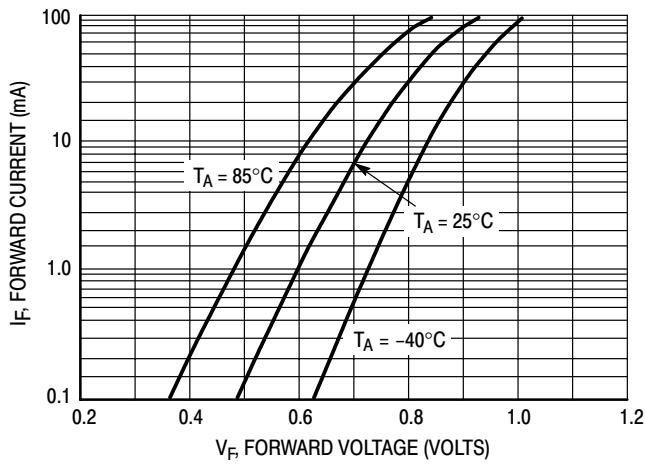


Figure 2. Forward Voltage

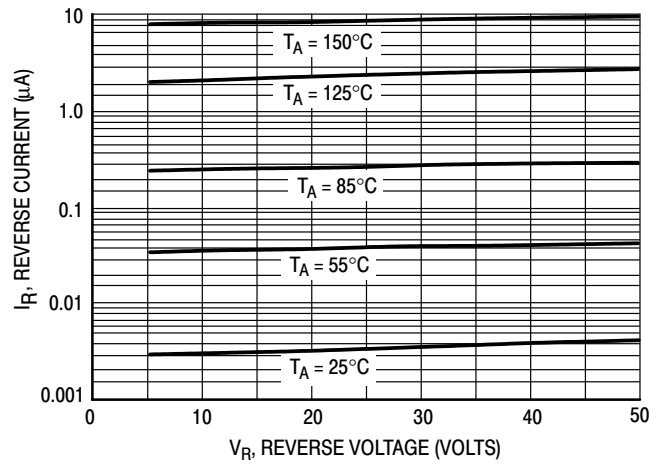


Figure 3. Leakage Current

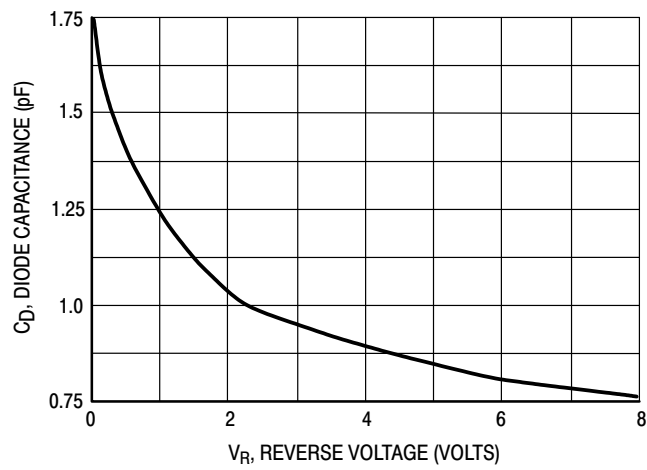
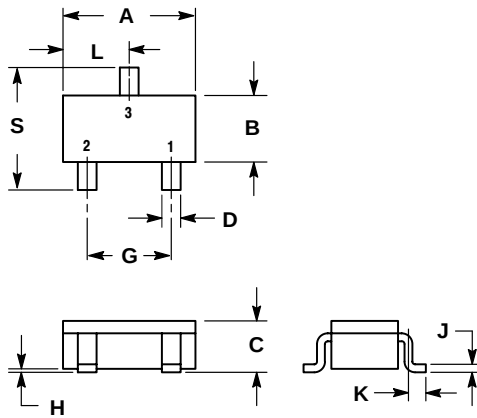


Figure 4. Capacitance

M1MA151WAT1, M1MA152WAT1

PACKAGE DIMENSIONS

SC-59
CASE 318-04
ISSUE F



NOTES:

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

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.70	3.10	0.1063	0.1220
B	1.30	1.70	0.0512	0.0669
C	1.00	1.30	0.0394	0.0511
D	0.35	0.50	0.0138	0.0196
G	1.70	2.10	0.0670	0.0826
H	0.013	0.100	0.0005	0.0040
J	0.09	0.18	0.0034	0.0070
K	0.20	0.60	0.0079	0.0236
L	1.25	1.65	0.0493	0.0649
S	2.50	3.00	0.0985	0.1181

STYLE 4:

- PIN 1. N.C.
2. CATHODE
3. ANODE

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