

# Common Anode Silicon Dual Switching Diode

This Common Anode Silicon Epitaxial Planar Dual Diode is designed for use in ultra high speed switching applications. This device is housed in the SC-70 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 LM1MA141/2WAT1 to order the 7 inch/3000 unit reel.

Use LM1MA141/2WAT3 to order the 13 inch/10,000 unit reel.

## DEVICE MARKING

LM1MA141WAT1 = MN LM1MA142WAT2=MO

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

| Rating                     | Symbol                       | Value                  | Unit     |
|----------------------------|------------------------------|------------------------|----------|
| Reverse Voltage            | LM1MA141WAT1<br>LM1MA142WAT1 | $V_R$<br>80            | $V_{dc}$ |
| Peak Reverse Voltage       | LM1MA141WAT1<br>LM1MA142WAT1 | $V_{RM}$<br>80         | $V_{dc}$ |
| Forward Current            | Single<br>Dual               | $I_F$<br>150           | mAdc     |
| Peak Forward Current       | Single<br>Dual               | $I_{FM}$<br>340        | mAdc     |
| Peak Forward Surge Current | Single<br>Dual               | $I_{FSM}^{(1)}$<br>750 | mAdc     |

## THERMAL CHARACTERISTICS

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

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

| Characteristic                  | Symbol                       | Condition                                                                                 | Min      | Max | Unit            |
|---------------------------------|------------------------------|-------------------------------------------------------------------------------------------|----------|-----|-----------------|
| Reverse Voltage Leakage Current | LM1MA141WAT1<br>LM1MA142WAT1 | $V_R = 35\text{ V}$<br>$V_R = 75\text{ V}$                                                | —        | 0.1 | $\mu\text{Adc}$ |
| Forward Voltage                 | $V_F$                        | $I_F = 100\text{ mA}$                                                                     | —        | 1.2 | Vdc             |
| Reverse Breakdown Voltage       | LM1MA141WAT1<br>LM1MA142WAT1 | $I_R = 100\text{ }\mu\text{A}$                                                            | 40<br>80 | —   | Vdc             |
| Diode Capacitance               | $C_D$                        | $V_R=0, f=1.0\text{ MHz}$                                                                 | —        | 15  | pF              |
| Reverse Recovery                | Time                         | $t_{rr}^{(2)}$<br>$I_F=10\text{ mA}, V_R=6.0\text{ V}$<br>$R_L=100\Omega, I_{rr}=0.1 I_R$ | —        | 10  | ns              |

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

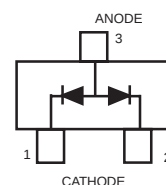
2.  $t_{rr}$  Test Circuit

LM1MA141WAT1  
LM1MA142WAT1

SC-70/SOT-323 PACKAGE  
COMMON ANODE  
DUAL SWITCHING DIODE  
40/80 V-100 mA  
SURFACE MOUNT



CASE 419-04, STYLE 4  
SOT-323 / SC - 70



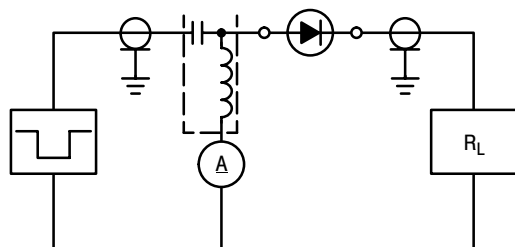
Marking Symbol  
Type No. 141WA 142WA  
Symbol MN MO



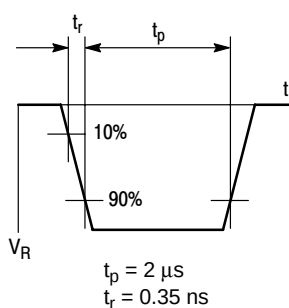
The "X" represents a smaller alpha digit Date Code. The Date Code indicates the actual month in which the part was manufactured.

## LM1MA141WAT1 LM1MA142WAT1

### RECOVERY TIME EQUIVALENT TEST CIRCUIT



### INPUT PULSE



### OUTPUT PULSE

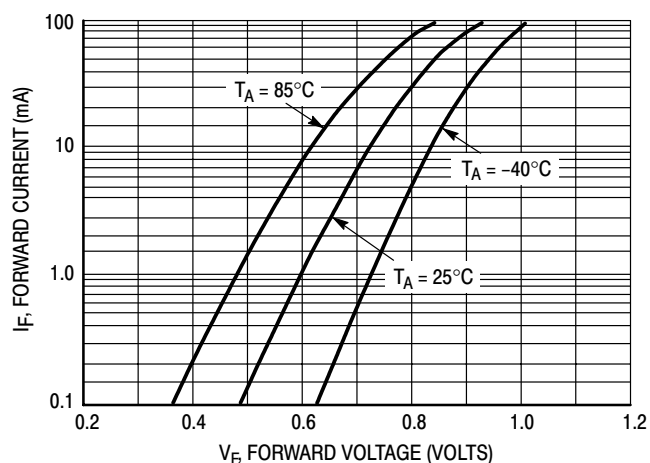
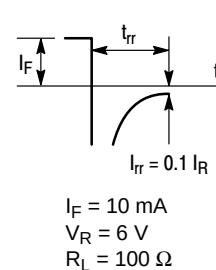


Figure 1. Forward Voltage

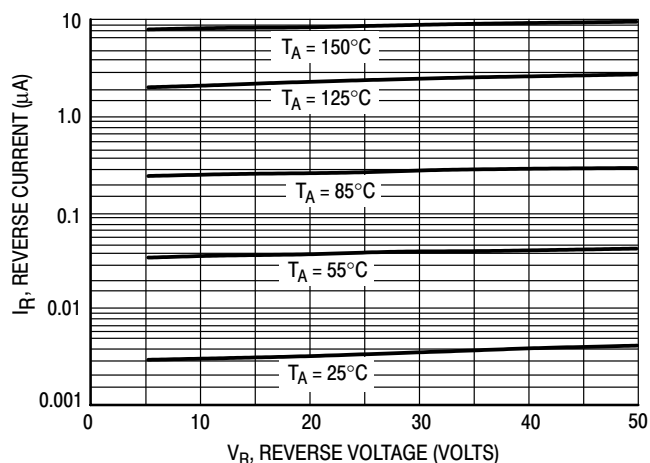


Figure 2. Reverse Current

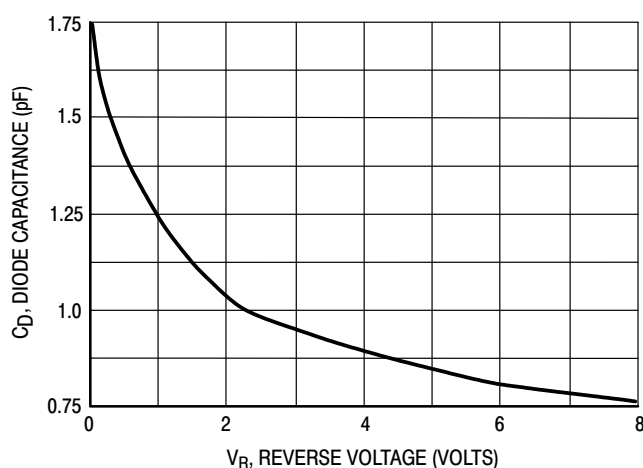


Figure 3. Diode Capacitance