Common Anode Silicon Dual Switching Diode

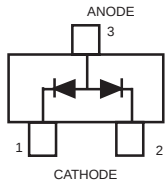
LM1MA141WAT1
LM1MA142WAT1

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

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.

CASE 419–04, STYLE 4
SOT–323 /SC – 70



Marking Symbol

Type No.	141WA	142WA
Symbol	MN	MO

MN^{X}

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

DEVICE MARKING

LM1MA141WAT1 = MN LM1MA142WAT2=MO

MAXIMUM RATINGS (T_A = 25°C)

Rating		Symbol	Value	Unit
Reverse Voltage	LM1MA141WAT1	V_R	40	V_{dc}
	LM1MA142WAT1		80	
Peak Reverse Voltage	LM1MA141WAT1	V_{RM}	40	V_{dc}
	LM1MA142WAT1		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}(1)	500	mAdc
	Dual		750	

THERMAL CHARACTERISTICS

Rating	Symbol	Max	Unit
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	–55 ~ +150	°C

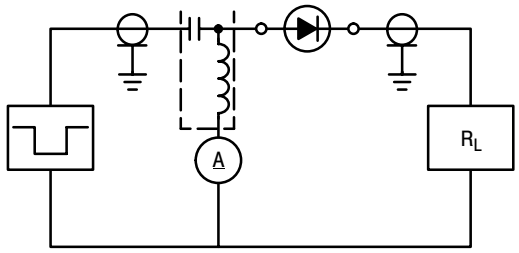
ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristic		Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	LM1MA141WAT1	I_R	V_R = 35 V	—	0.1	µAdc
	LM1MA142WAT1		V_R = 75 V	—	0.1	
Forward Voltage		V_F	I_F = 100 mA	—	1.2	Vdc
Reverse Breakdown Voltage	LM1MA141WAT1	V_R	I_R = 100 µA	40	—	Vdc
	LM1MA142WAT1			80	—	
Diode Capacitance		C_D	V_R=0, f=1.0 MHz	—	15	pF
Reverse Recovery	Time	t_{rr}(2)	I_F=10mA,V_R=6.0V	—	10	ns
			R_L=100Ω,I_{rr}=0.1 I_R			

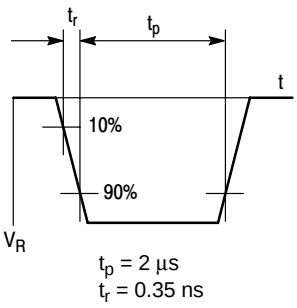
1. t = 1 SEC
2. t_{rr} Test Circuit

LM1MA141WAT1 LM1MA142WAT1

RECOVERY TIME EQUIVALENT TEST CIRCUIT

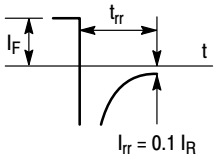


INPUT PULSE



t_p = 2 µs
t_r = 0.35 ns

OUTPUT PULSE



I_F = 10 mA
V_R = 6 V
R_L = 100 Ω

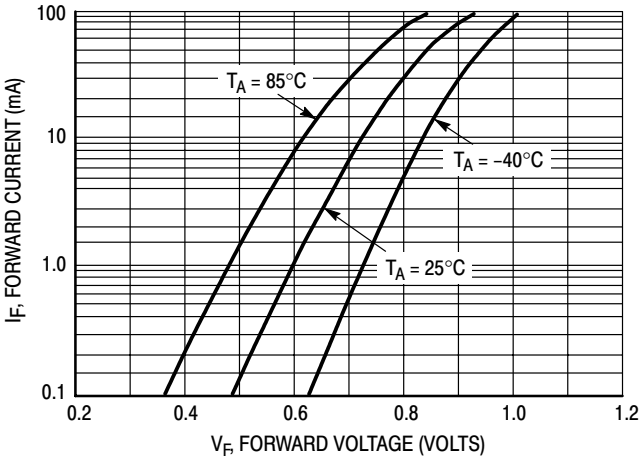


Figure 1. Forward Voltage

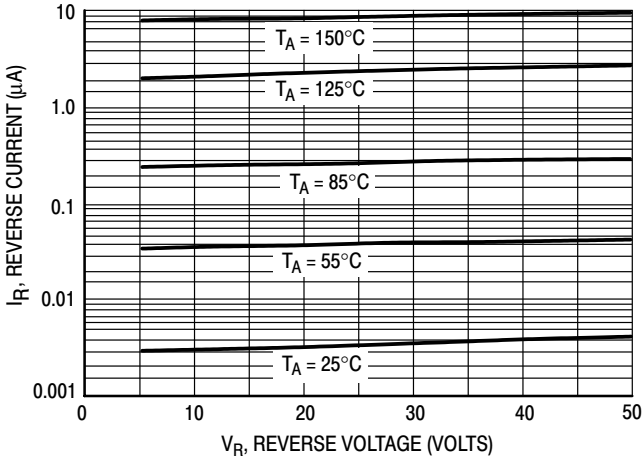


Figure 2. Reverse Current

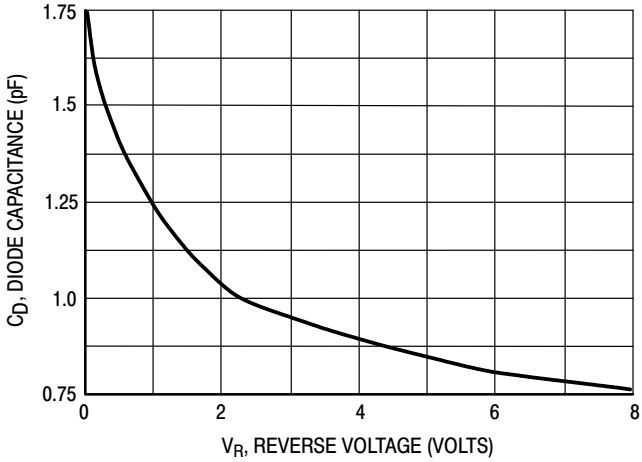


Figure 3. Diode Capacitance