

# 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
- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

## DEVICE MARKING AND ORDERING INFORMATION

Device	Package	Shipping
LM1MA141WAT1G S-LM1MA141WAT1G	SOT-323/SC-70	3000/Tape&Reel
LM1MA141KWA3G S-LM1MA141WAT3G	SOT-323/SC-70	10000/Tape&Reel
LM1MA142WAT1G S-LM1MA142WAT1G	SOT-323/SC-70	3000/Tape&Reel
LM1MA142WAT3G S-LM1MA142WAT3G	SOT-323/SC-70	10000/Tape&Reel

## DEVICE MARKING

LM1MA141WAT1G = MN LM1MA142WAT1G=MO

## MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

Rating	Symbol	Value	Unit	
Reverse Voltage	LM1MA141WAT1G	$V_R$	40	V <sub>dc</sub>
	LM1MA142WAT1G		80	
Peak Reverse Voltage	LM1MA141WAT1G	$V_{RM}$	40	V <sub>dc</sub>
	LM1MA142WAT1G		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<sub>A</sub> = 25°C)

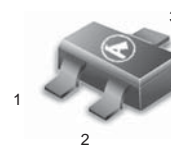
Characteristic	Symbol	Condition	Min	Max	Unit	
Reverse Voltage Leakage Current	LM1MA141WAT1G	$I_R$	$V_R = 35 V$	—	0.1	μAdc
	LM1MA142WAT1G		$V_R = 75 V$	—	0.1	
Forward Voltage	$V_F$	$I_F = 100 mA$	—	1.2	Vdc	
Reverse Breakdown Voltage	LM1MA141WAT1G	$V_R$	$I_R = 100 \mu A$	40	—	Vdc
	LM1MA142WAT1G			80	—	
Diode Capacitance	$C_D$	$V_R = 0, f = 1.0 MHz$	—	15	pF	
Reverse Recovery	Time	$t_{rr}^{(2)}$	$I_F = 10 mA, V_R = 6.0 V$	—	10	ns
			$R_L = 100 \Omega, I_{rr} = 0.1 I_R$			

1.  $t = 1 SEC$

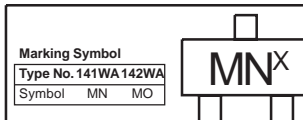
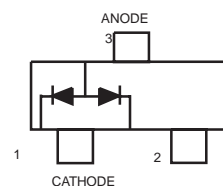
2.  $t_{rr}$  Test Circuit

**LM1MA141WAT1G**  
**S-LM1MA141WAT1G**  
**LM1MA142WAT1G**  
**S-LM1MA142WAT1G**

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



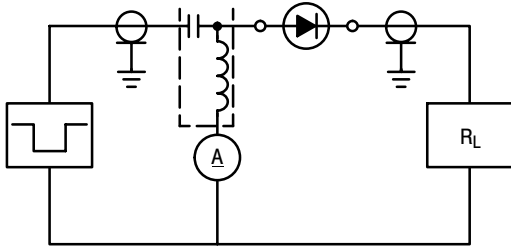
**CASE 419-04, STYLE 4**  
**SOT-323 / SC - 70**



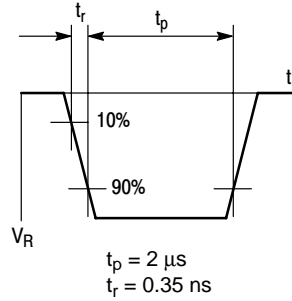
The "X" represents a smaller alpha digit Date Code. The Date Code indicates the actual month in which the part was manufactured.

LM1MA141WAT1G, S-LM1MA141WAT1G  
LM1MA142WAT1G, S-LM1MA142WAT1G

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

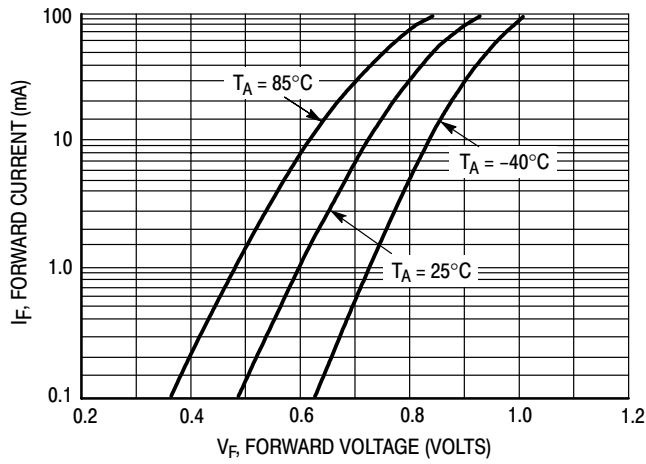
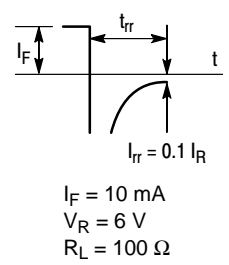


Figure 1. Forward Voltage

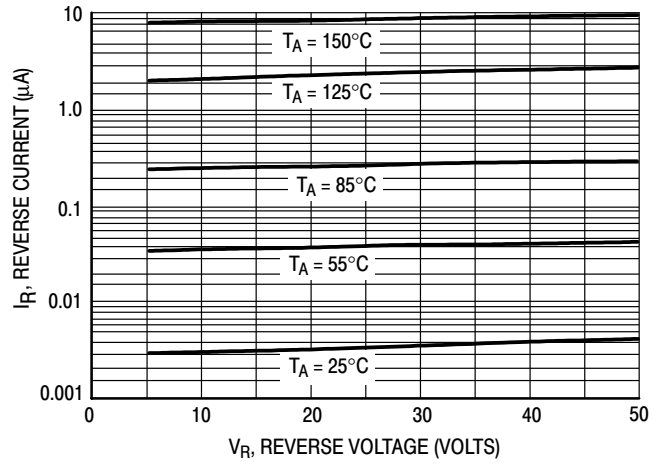


Figure 2. Reverse Current

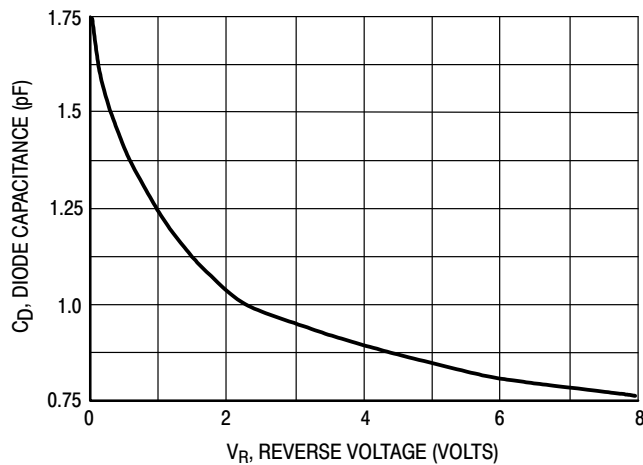


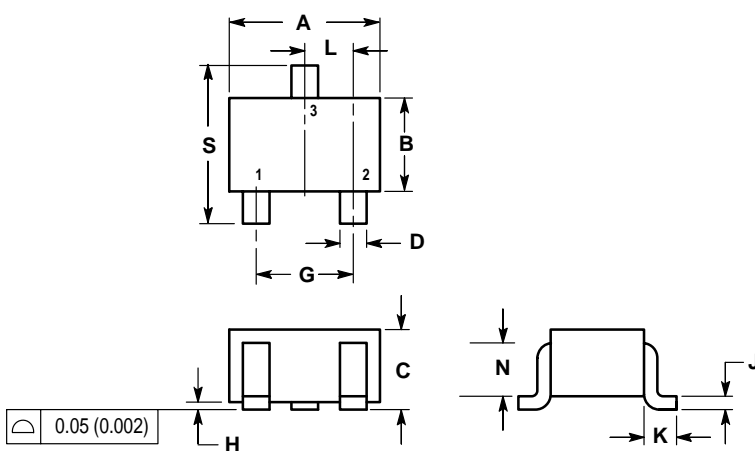
Figure 3. Diode Capacitance

LM1MA141WAT1G, S-LM1MA141WAT1G  
LM1MA142WAT1G, S-LM1MA142WAT1G

SC-70/SOT-323

NOTES:

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



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.032	0.040	0.80	1.00
D	0.012	0.016	0.30	0.40
G	0.047	0.055	1.20	1.40
H	0.000	0.004	0.00	0.10
J	0.004	0.010	0.10	0.25
K	0.017 REF		0.425 REF	
L	0.026 BSC		0.650 BSC	
N	0.028 REF		0.700 REF	
S	0.079	0.095	2.00	2.40

