

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.

DEVICE MARKING AND ORDERING INFORMATION

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

DEVICE MARKING

LM1MA141WAT1G = MN LM1MA142WAT1G=MO

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

Rating	Symbol	Value	Unit	
Reverse Voltage	LM1MA141WAT1G	V_R	40	V_{dc}
	LM1MA142WAT1G		80	
Peak Reverse Voltage	LM1MA141WAT1G	V_{RM}	40	V_{dc}
	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	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

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

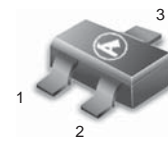
Characteristic	Symbol	Condition	Min	Max	Unit	
Reverse Voltage Leakage Current	LM1MA141WAT1G	I_R	$V_R = 35\text{ V}$	—	0.1	μAdc
	LM1MA142WAT1G		$V_R = 75\text{ V}$	—	0.1	
Forward Voltage	V_F	$I_F = 100\text{ mA}$	—	1.2	Vdc	
Reverse Breakdown Voltage	LM1MA141WAT1G	V_R	$I_R = 100\ \mu\text{A}$	40	—	Vdc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

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

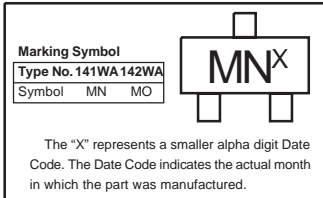
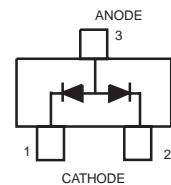
2. t_{rr} Test Circuit

LM1MA141WAT1G LM1MA142WAT1G

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

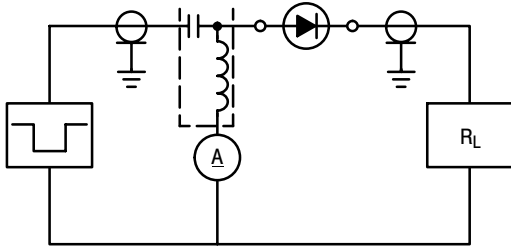


CASE 419-04, STYLE 4
SOT-323 / SC - 70

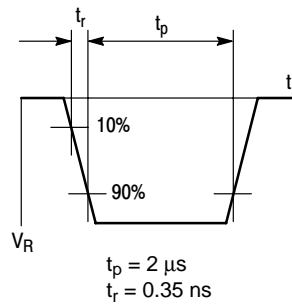


LM1MA141WAT1G LM1MA142WAT1G

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

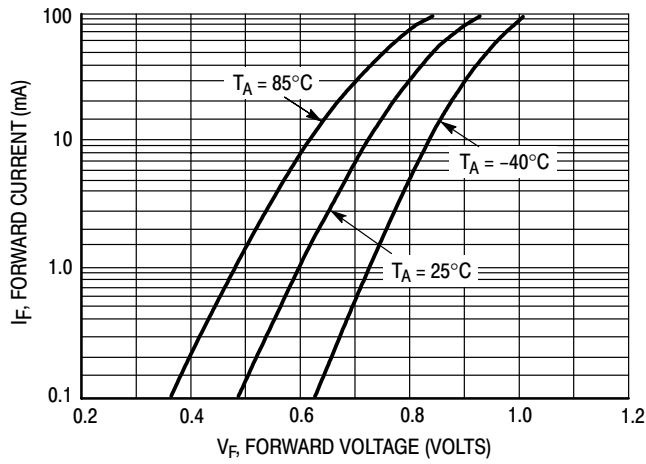
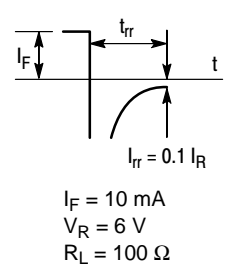


Figure 1. Forward Voltage

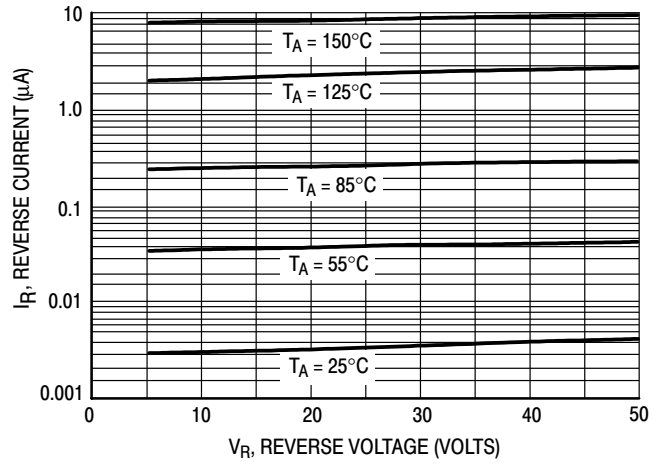


Figure 2. Reverse Current

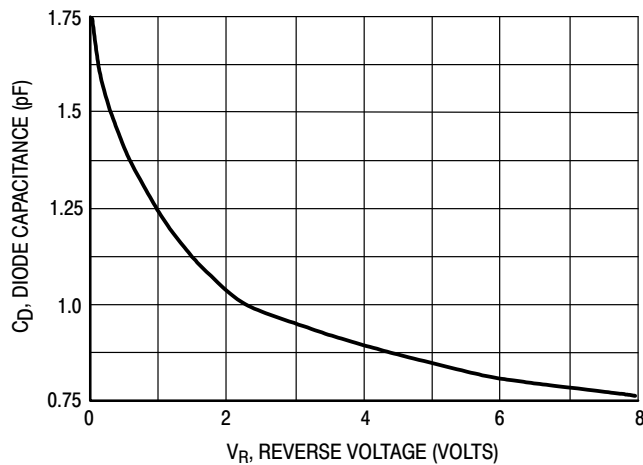


Figure 3. Diode Capacitance

LM1MA141WAT1G 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

