

# Common Cathode Silicon Dual Switching Diode

This Common Cathode 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  $t_{rr}$ , < 3.0 ns
- Low  $C_D$ , < 2.0 pF
- Pb-Free package is available
- Available in 8 mm Tape and Reel

Use LM1MA141/2WKT1 to order the 7 inch/3000 unit reel.

Use LM1MA141/2WKT3 to order the 13 inch/10,000 unit reel.

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

Rating	Symbol	Value	Unit
Reverse Voltage	LM1MA141WKT1	$V_R$	40 $V_{dc}$
	LM1MA142WKT1		80
Peak Reverse Voltage	LM1MA141WKT1	$V_{RM}$	40 $V_{dc}$
	LM1MA142WKT1		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 ( $T_A = 25^\circ\text{C}$ )

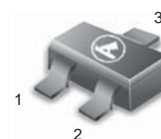
Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	LM1MA141WKT1	$V_R = 35\text{ V}$	—	0.1	$\mu\text{Adc}$
	LM1MA142WKT1	$V_R = 75\text{ V}$	—	0.1	
Forward Voltage	$V_F$	$I_F = 100\text{ mA}$	—	1.2	Vdc
Reverse Breakdown Voltage	LM1MA141WKT1	$I_R = 100\ \mu\text{A}$	40	—	Vdc
	LM1MA142WKT1		80	—	
Diode Capacitance	$C_D$	$V_R=0, f=1.0\text{ MHz}$	—	2.0	pF
Reverse Recovery	Time	$t_{rr}^{(2)}$	$I_F=10\text{ mA}, V_R=6.0\text{ V}$	—	3.0 ns
			$R_L=100\ \Omega, I_{rr}=0.1\ I_R$		

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

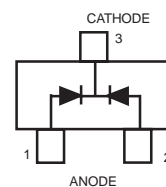
2.  $t_{rr}$  Test Circuit

**LM1MA141WKT1**  
**LM1MA142WKT1**

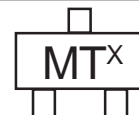
**SC-70/SOT-323 PACKAGE**  
**COMMON CATHODE**  
**DUAL SWITCHING DIODE**  
**40/80 V-100 mA**  
**SURFACE MOUNT**



**CASE 419-04, STYLE 5**  
**SOT-323/SC-70**



Marking Symbol  
Type No. 141WK142WK  
Symbol MT MU



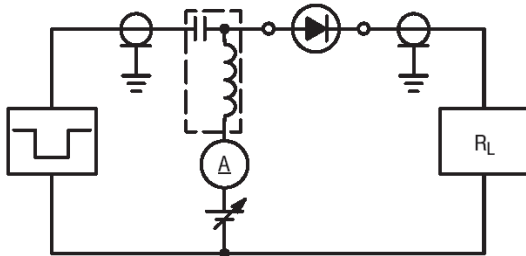
The "X" represents a smaller alpha digit Date Code. The Date Code indicates the actual month in which the part was manufactured.

**LM1MA141WKT1 LM1MA142WKT1****DEVICE MARKING AND ORDERING INFORMATION**

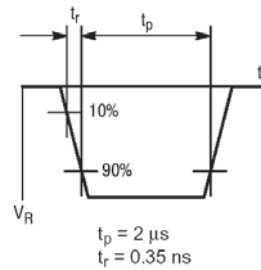
<b>Device</b>	<b>Marking</b>	<b>Package</b>	<b>Shipping</b>
LM1MA141WKT1	MT	SOT-323/SC-70	3000/Tape&Reel
LM1MA141WKT1G (Pb-Free)	MT	SOT-323/SC-70	3000/Tape&Reel
LM1MA141WKT3	MT	SOT-323/SC-70	10000/Tape&Reel
LM1MA141WKT3G (Pb-Free)	MT	SOT-323/SC-70	10000/Tape&Reel
LM1MA142WKT1	MU	SOT-323/SC-70	3000/Tape&Reel
LM1MA142WKT1G (Pb-Free)	MU	SOT-323/SC-70	3000/Tape&Reel
LM1MA142WKT3	MU	SOT-323/SC-70	10000/Tape&Reel
LM1MA142WKT3G (Pb-Free)	MU	SOT-323/SC-70	10000/Tape&Reel

LM1MA141WKT1 LM1MA142WKT1

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

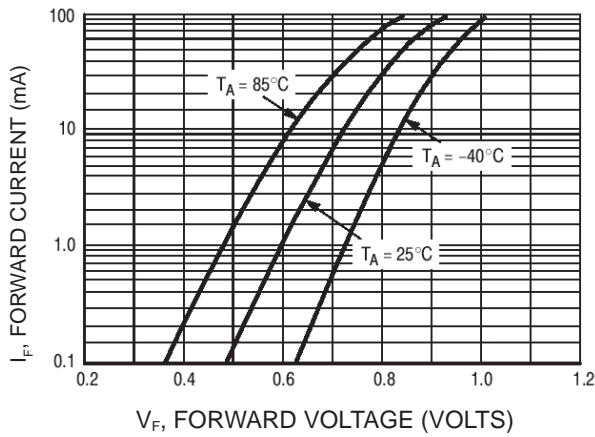
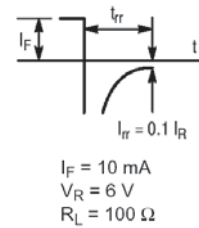


Figure 1. Forward Voltage

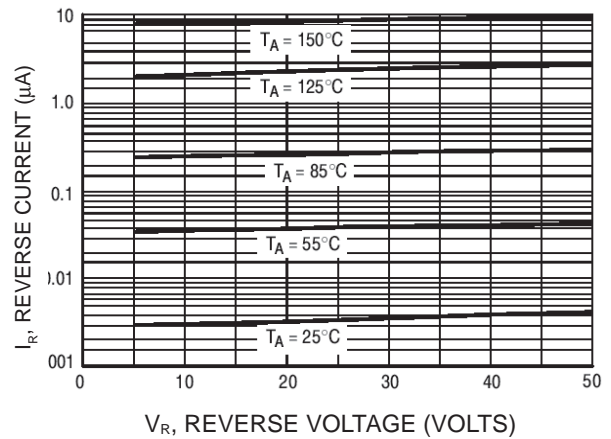


Figure 2. Reverse Current

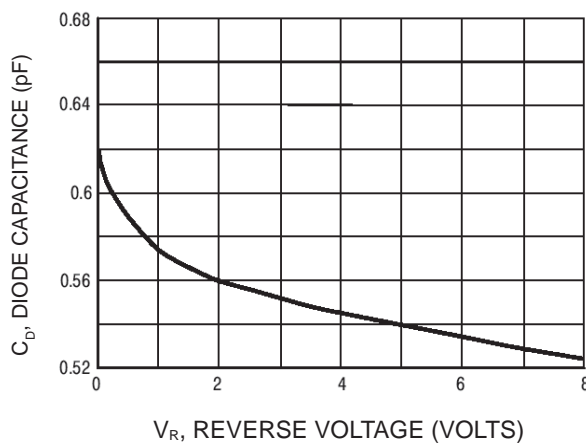


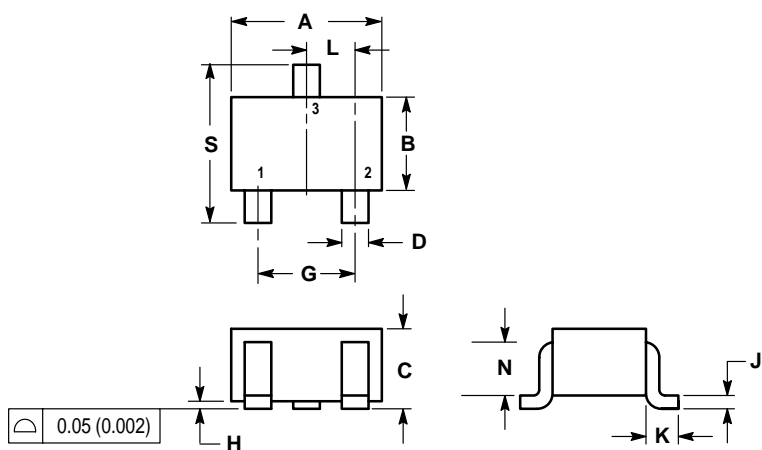
Figure 3. Diode Capacitance

LM1MA141WKT1 LM1MA142WKT1

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

