



# WILLAS

Single Silicon Switching Diode

LM1MA141K  
LM1MA142K

This Silicon Epitaxial Planar Diode is designed for use in ultra high speed switching applications. This device is housed in the SOT-323 package which is designed for low power surface mount applications.

- Fast  $t_{rr} < 3.0$  ns
- Low  $C_{rr} < 2.0$  pF
- We declare that the material of product compliance with RoHS requirements.
- Moisture Sensitivity Level 1

#### DEVICE MARKING AND ORDERING INFORMATION

Device	Package	Shipping
LM1MA141K	SOT-323	3000/Tape&Reel
LM1MA142K	SOT-323	3000/Tape&Reel

#### Pb-Free package is available

RoHS product for packing code suffix "G"

Halogen free product for packing code suffix "H"

#### DEVICE MARKING

LM1MA141K = MH	LM1MA142K = MI
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#### MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ )

Rating	Symbol	Value	Unit
Reverse Voltage	LM1MA141K	$V_R$ 40	$V_{dc}$
	LM1MA142K	80	
Peak Reverse Voltage	LM1MA141K	$V_{RM}$ 40	$V_{dc}$
	LM1MA142K	80	
Forward Current		$I_F$ 100	mAdc
Peak Forward Current		$I_{FM}$ 225	mAdc
Peak Forward Surge Current		$I_{FSM}^{(1)}$ 500	mAdc

#### THERMAL CHARACTERISTICS

Rating	Symbol	Max	Unit
Power Dissipation	$P_D$	150	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Operating/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	LM1MA141K	$V_R = 35$ V	—	0.1	$\mu\text{Adc}$
	LM1MA142K	$V_R = 75$ V	—	0.1	
Forward Voltage		$I_F = 100$ mA	—	1.2	Vdc
Reverse Breakdown Voltage	LM1MA141K	$I_R = 100$ $\mu\text{A}$	40	—	Vdc
	LM1MA142K		80	—	
Diode Capacitance		$V_R=0, f=1.0$ MHz	—	2.0	pF
Reverse Recovery	Time	$I_F=10\text{mA}, V_R=6.0\text{V}$ $R_L=100\Omega, I_{rr}=0.1 I_R$	—	3.0	ns

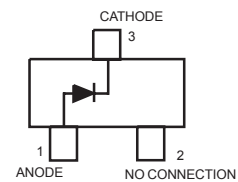
1.  $t = 1$  SEC

2.  $t_{rr}$  Test Circuit

SOT-323 PACKAGE  
SINGLE SILICON  
SWITCHING DIODE  
40/80 V-100 mA  
SURFACE MOUNT

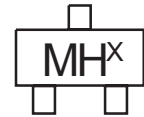


SOT-323 / SC - 70



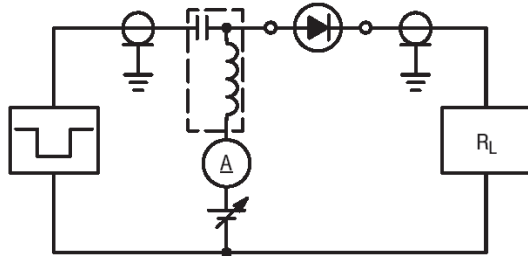
#### Marking Symbol

Type No.	141K	142K
Symbol	MH	MI

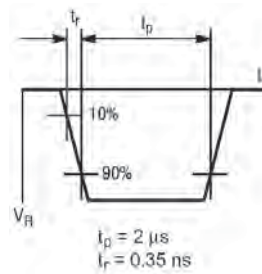


The "X" represents a smaller alpha digit Date Code. The Date Code indicates the actual month in which the part was manufactured.

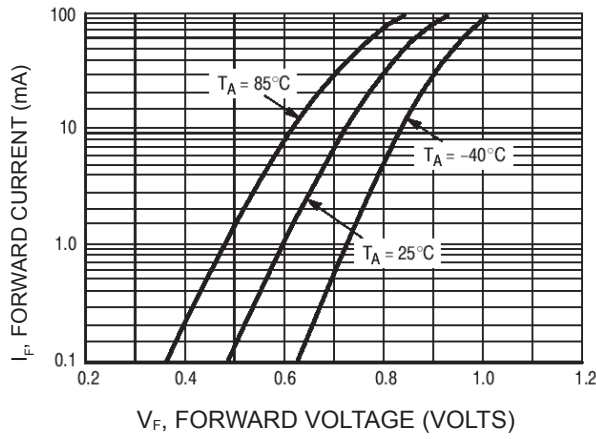
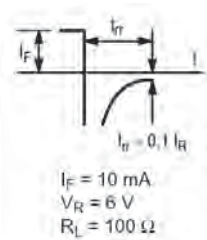
**RECOVERY TIME EQUIVALENT TEST CIRCUIT**



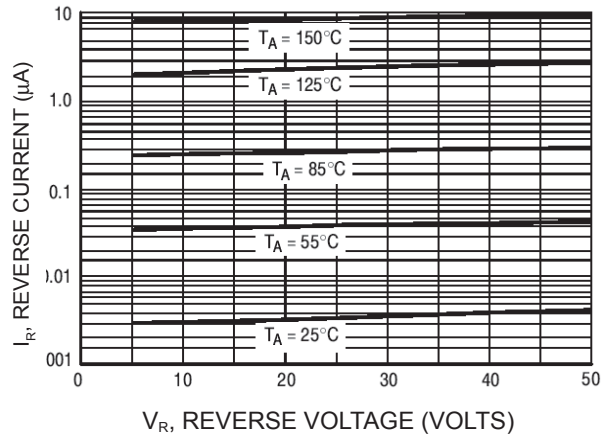
**INPUT PULSE**



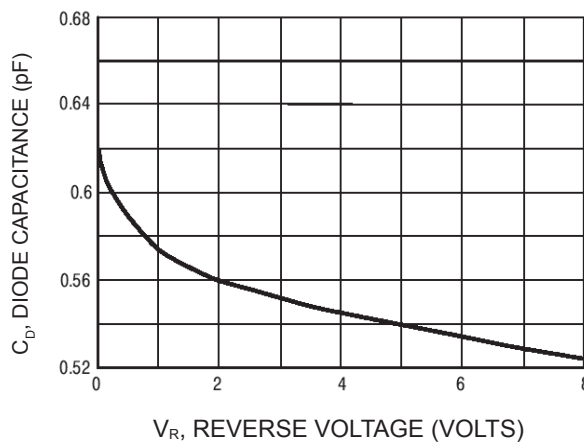
**OUTPUT PULSE**



**Figure 1. Forward Voltage**

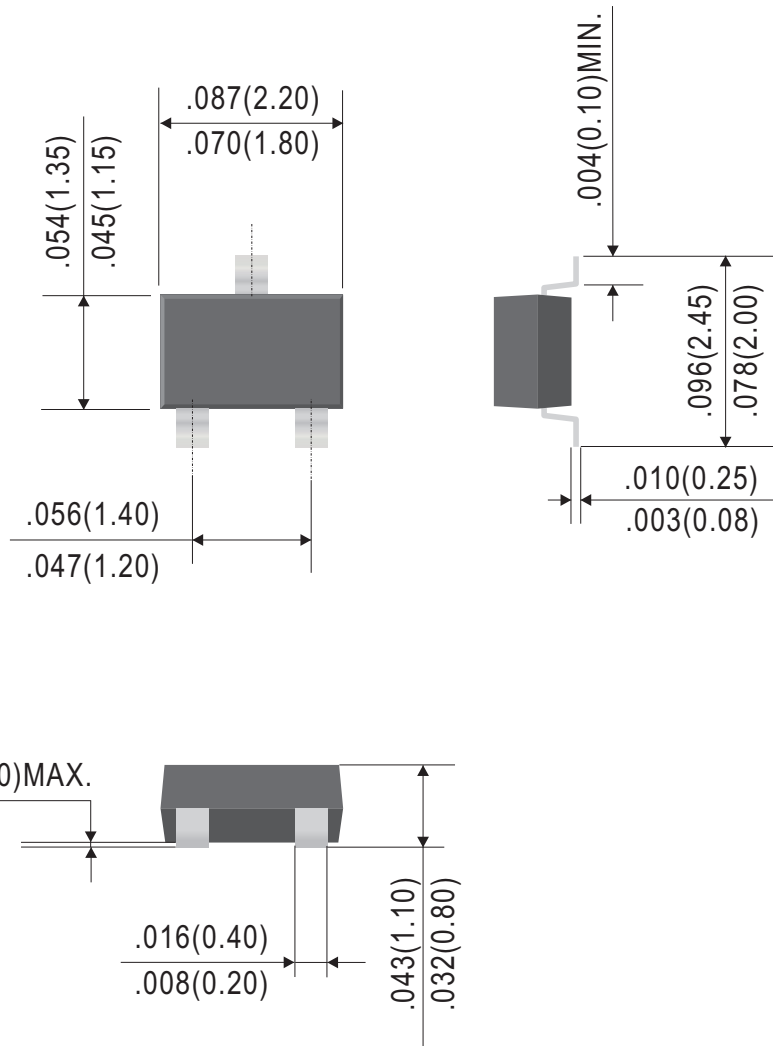


**Figure 2. Reverse Current**



**Figure 3. Diode Capacitance**

**SOT-323**



Dimensions in inches and (millimeters)



# WILLAS



LM1MA141K

LM1MA142K

## Single Silicon Switching Diode

### Ordering Information:

Device PN	Packing
Part Number-T <sup>(1)</sup> G <sup>(2)</sup> -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape&Reel Packing

(2) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

### \*\*\*Disclaimer\*\*\*

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