WILLAS

RoHS COMPLIANT

Single Silicon Switching Diode

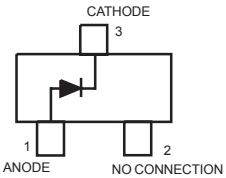
LM1MA141K
LM1MA142K

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**

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

MH^{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 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

MAXIMUM RATINGS (T_A = 25°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	°C
Operating/Storage Temperature	T_{stg}	–55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristic		Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	LM1MA141K	I_R	V_R = 35 V	—	0.1	μAdc
	LM1MA142K		V_R = 75 V	—	0.1	
Forward Voltage		V_F	I_F = 100 mA	—	1.2	Vdc
Reverse Breakdown Voltage	LM1MA141K	V_R	I_R = 100 μA	40	—	Vdc
	LM1MA142K			80	—	
Diode Capacitance		C_D	V_R=0, f=1.0 MHz	—	2.0	pF
Reverse Recovery	Time	trr(2)	I_F=10mA,V_R=6.0V	—	3.0	ns
			R_L=100Ω,I_{rr}=0.1 I_R			

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

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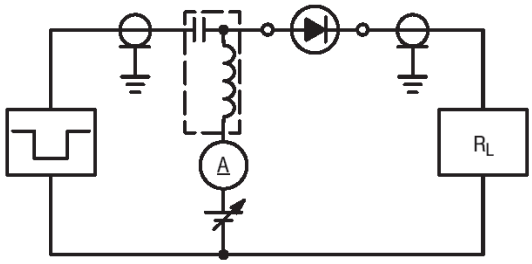
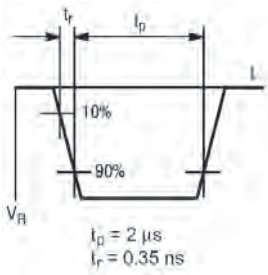
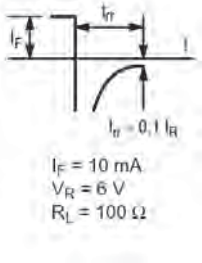
RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE



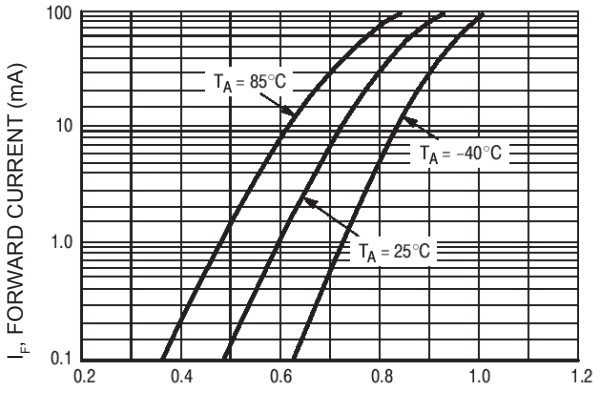


Figure 1. Forward Voltage

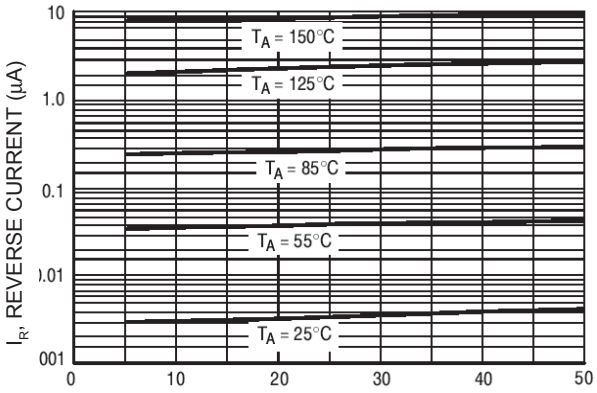


Figure 2. Reverse Current

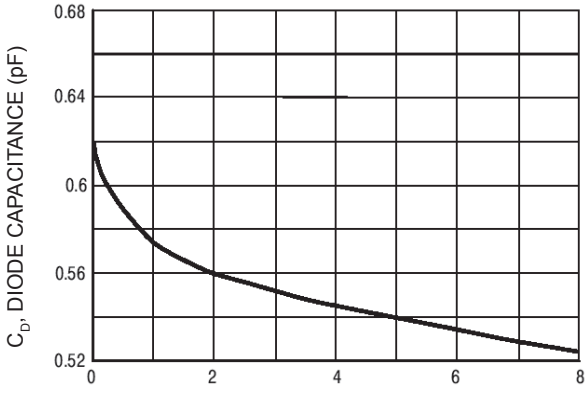


Figure 3. Diode Capacitance

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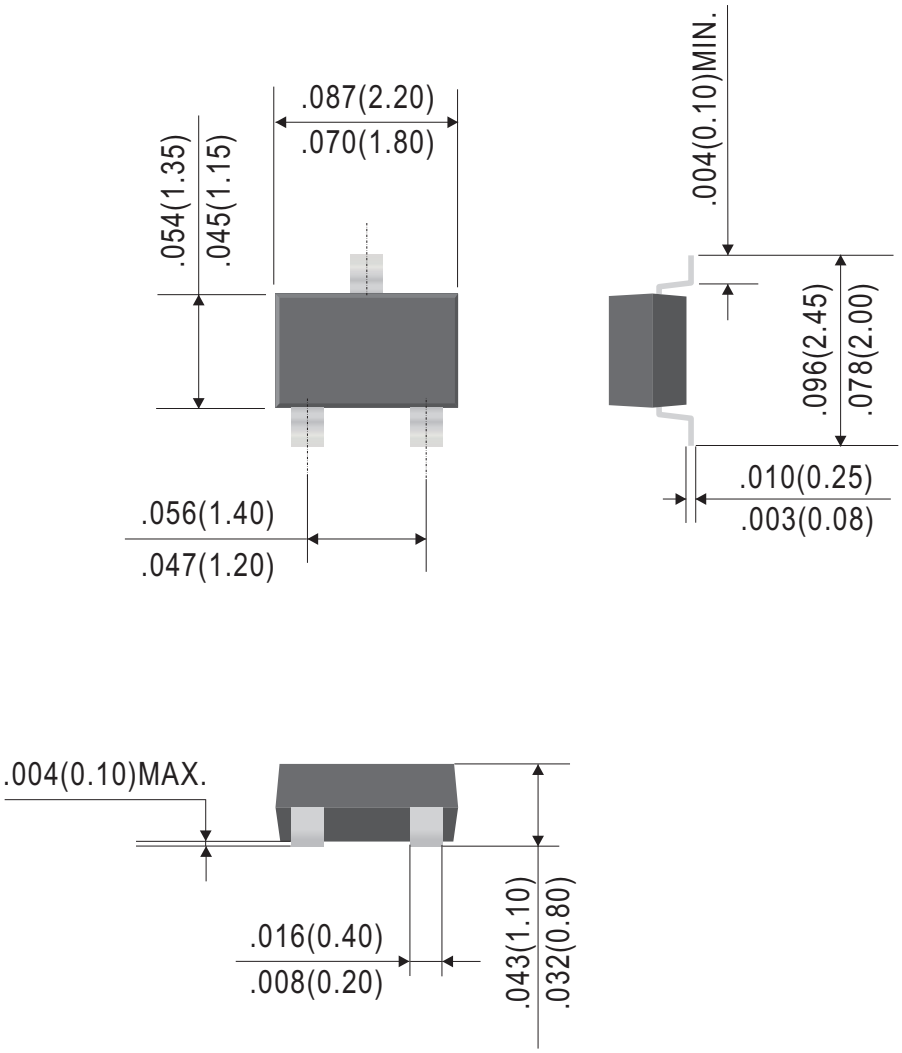
SOT–323



Dimensions in inches and (millimeters)

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Ordering Information:

Device PN	Packing
Part Number-T[(1)]G[(2)]-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"