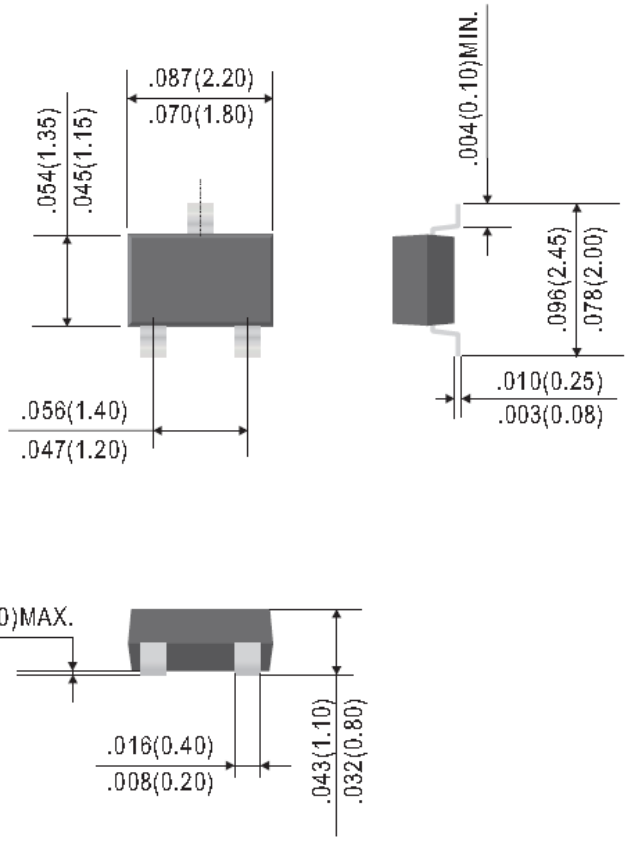
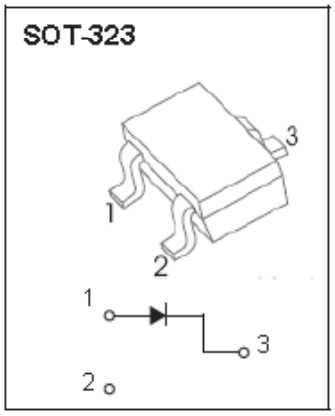
LM1MA141K, 142K

Single Silicon Switching Diode





Dimensions in inches and (millimeters)

FEATURES

·Fast t_{rr} < 3.0 ns

·Low C_{rr} < 2.0 pF

·We declare that the material of product compliance with RoHS requirements

·Pb-Free package is available

·RoHS product for packing code suffix "G"

·Halogen free product for packing code suffix "H"

·Moisture Sensitivity Level 1

Marking:

LM1MA141K	MH
LM1MA142K	MI

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Maximum Ratings (T_A=25°C unless otherwise noted)				
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	mA_{dc}
Peak Forward Current		I_{FM}	225	mA_{dc}
Peak Forward Surge Current		I_{FSM} (1)	500	mA_{dc}

Thermal Characteristics (T_A=25°C unless otherwise noted)			
Characteristic	**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 unless otherwise noted)						
Characteristic		**Symbol**	**Condition**	**Min.**	**Max.**	**Unit**
Reverse Voltage Leakage Current	LM1MA141K	I_R	V_R = 35 V	—	0.1	μA_{dc}
	LM1MA142K		V_R = 75 V	—	0.1	
Forward Voltage		V_F	I_F = 100 mA	—	1.2	V_{dc}
Reverse Breakdown Voltage	LM1MA141K	V_R	I_R = 100 μA	40	—	V_{dc}
	LM1MA142K			80	—	
Diode Capacitance		C_D	V_R=0, f=1.0 MHz	—	2	pF
Reverse Recovery Time		t_{rr} (2)	I_F=10mA, V_R=6.0V R_L=100Ω, I_{rr}=0.1 I_R	—	3	ns

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

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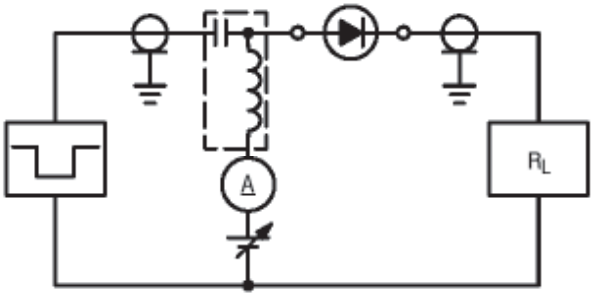
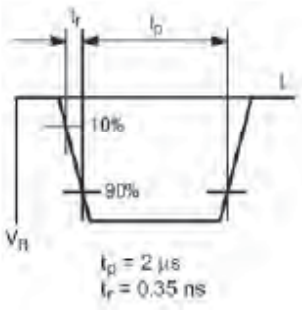
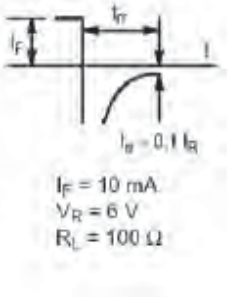
RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE



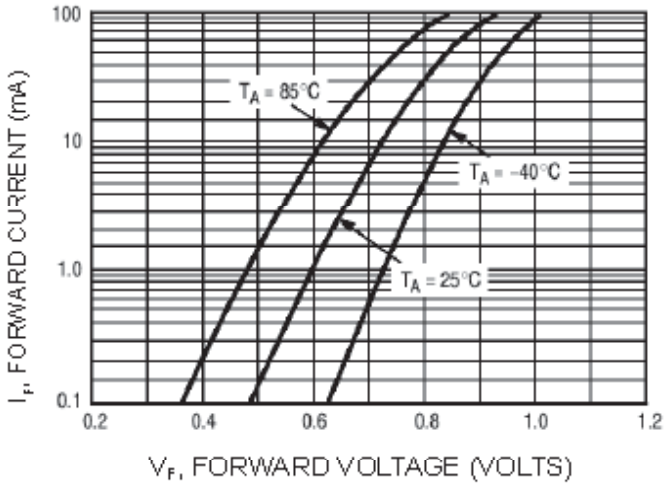


Figure 1. Forward Voltage

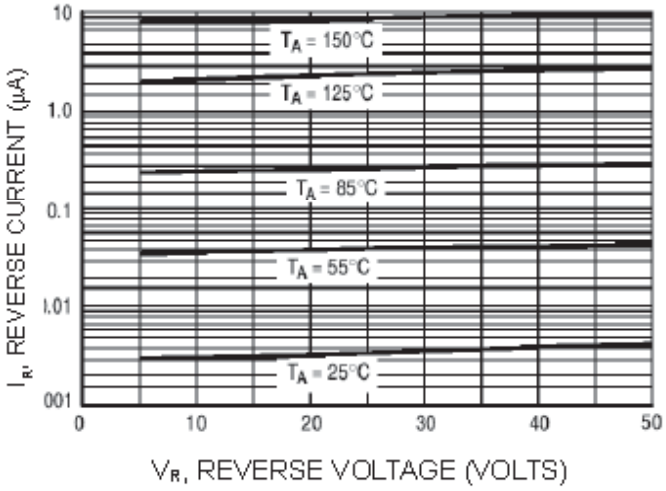


Figure 2. Reverse Current

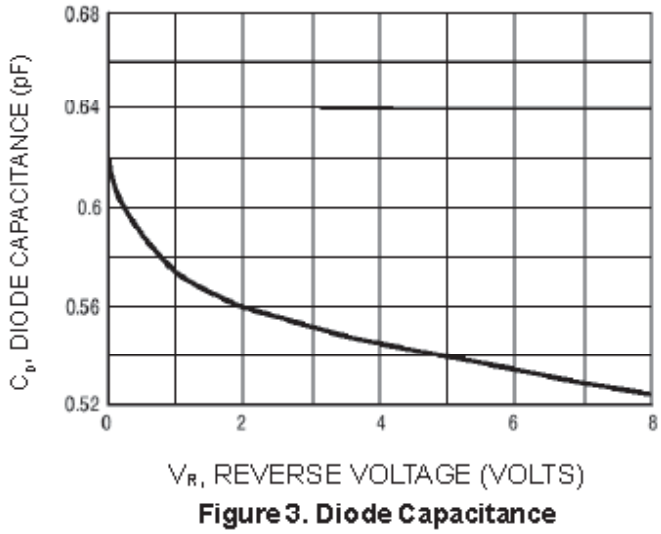


Figure 3. Diode Capacitance