

Single Silicon Switching Diode

This Silicon Epitaxial Planar 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_j , < 2.0 pF
- We declare that the material of product compliance with RoHS requirements.

DEVICE MARKING AND ORDERING INFORMATION

Device	Package	Shipping
LM1MA141KT1G	SOT-323/SC-70	3000/Tape&Reel
LM1MA141KT3G	SOT-323/SC-70	10000/Tape&Reel
LM1MA142KT1G	SOT-323/SC-70	3000/Tape&Reel
LM1MA142KT3G	SOT-323/SC-70	10000/Tape&Reel

DEVICE MARKING

LM1MA141KT1G = MH	LM1MA142KT1G=MI
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MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Value	Unit
Reverse Voltage	LM1MA141KT1G	V _R	40 V _{dc}
	LM1MA142KT1G		80
Peak Reverse Voltage	LM1MA141KT1G	V _{RM}	40 V _{dc}
	LM1MA142KT1G		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
Storage Temperature	T _{stg}	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

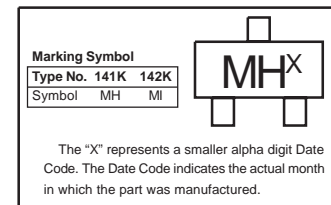
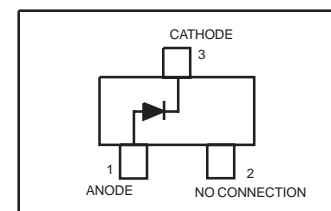
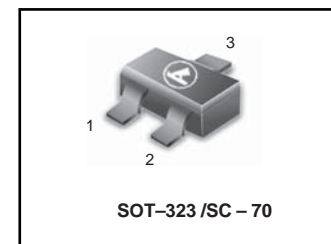
Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	LM1MA141KT1G	V _R = 35 V	—	0.1	μAdc
	LM1MA142KT1G	V _R = 75 V	—	0.1	
Forward Voltage	V _F	I _F = 100 mA	—	1.2	Vdc
Reverse Breakdown Voltage	LM1MA141KT1G	I _R = 100 μA	40	—	Vdc
	LM1MA142KT1G		80	—	
Diode Capacitance	C _D	V _R =0, f=1.0 MHz	—	2.0	pF
Reverse Recovery	Time	t _{rr} ⁽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

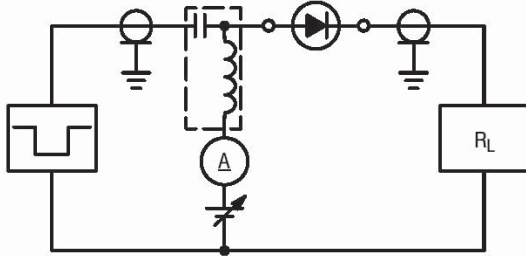
LM1MA141KT1G
LM1MA142KT1G

SC-70/SOT-323 PACKAGE
SINGLE SILICON
SWITCHING DIODE
40/80 V-100 mA
SURFACE MOUNT

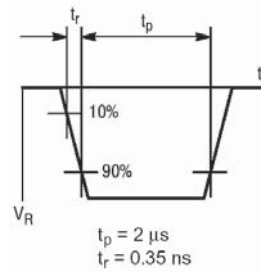


LM1MA141KT1G LM1MA142KT1G

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

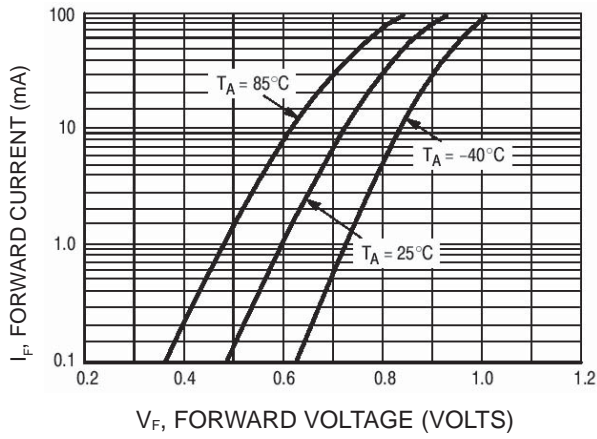
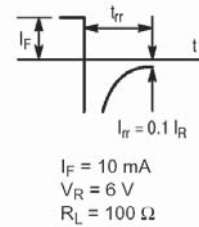


Figure 1. Forward Voltage

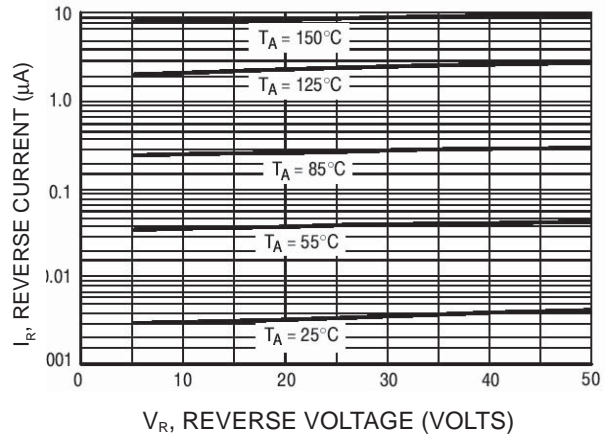


Figure 2. Reverse Current

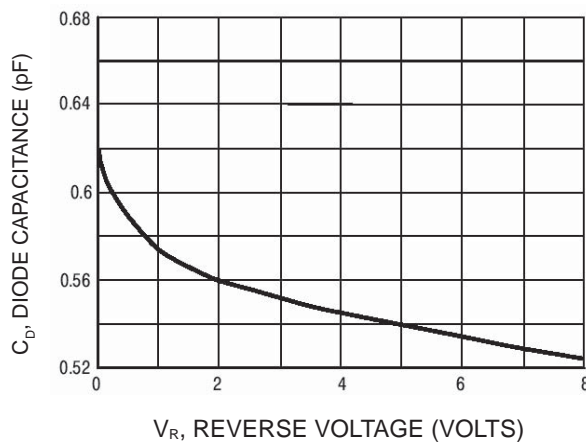


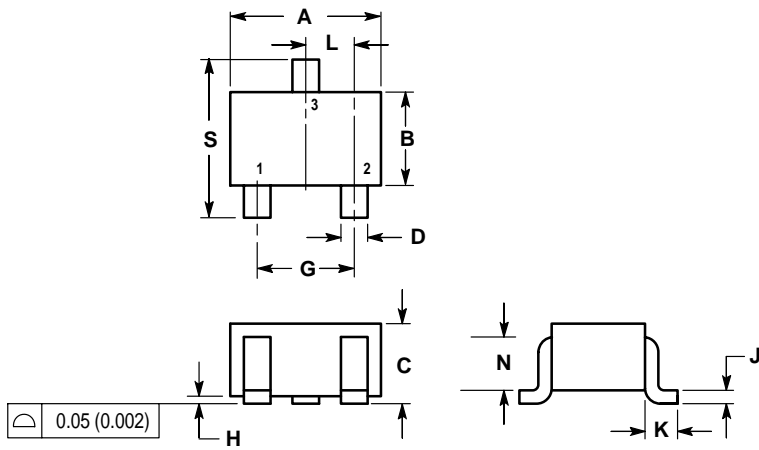
Figure 3. Diode Capacitance

LM1MA141KT1G LM1MA142KT1G

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

