

M1MA151KT1, M1MA152KT1

Preferred Device

Single Silicon Switching Diodes

These Silicon Epitaxial Planar Diodes are designed for use in ultra high speed switching applications. These devices are housed in the SC-59 package which is designed for low power surface mount applications.

Features

- Fast t_{rr} , < 3.0 ns
- Low C_D , < 2.0 pF
- Available in 8 mm Tape and Reel
 - Use M1MA151/2KT1 to order the 7 inch/3000 unit reel.
 - Use M1MA151/2KT3 to order the 13 inch/10,000 unit reel.
- Pb-Free Packages are Available

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

| Rating | | Symbol | Value | Unit |
|----------------------------|------------|-----------------------|-------|------|
| Reverse Voltage | M1MA151KT1 | V_R | 40 | Vdc |
| | M1MA152KT1 | | 80 | |
| Peak Reverse Voltage | M1MA151KT1 | V_{RM} | 40 | Vdc |
| | M1MA152KT1 | | 80 | |
| Forward Current | | I_F | 100 | mAdc |
| Peak Forward Current | | I_{FM} | 225 | mAdc |
| Peak Forward Surge Current | | I_{FSM} (Note 1) | 500 | mAdc |

THERMAL CHARACTERISTICS

| Rating | Symbol | Max | Unit |
|----------------------|-----------|-------------|------------------|
| Power Dissipation | P_D | 200 | mW |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

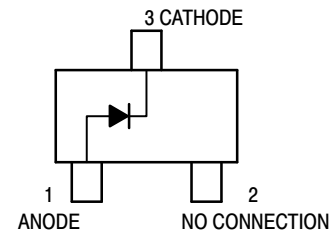
1. $t = 1 \text{ SEC}$



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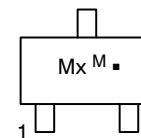
<http://onsemi.com>

SC-59 PACKAGE SINGLE SILICON SWITCHING DIODES 40/80 V-100 mA SURFACE MOUNT



SC-59
CASE 318D

MARKING DIAGRAM



- Mx = Device Code
 - x = H for 151
I for 152
 - M = Date Code*
 - = Pb-Free Package
- (Note: Microdot may be in either location)

*Date Code orientation may vary depending upon manufacturing location.

ORDERING INFORMATION

See detailed ordering and shipping information in the package dimensions section on page 2 of this data sheet.

Preferred devices are recommended choices for future use and best overall value.

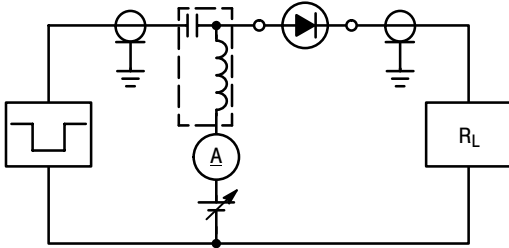
M1MA151KT1, M1MA152KT1

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

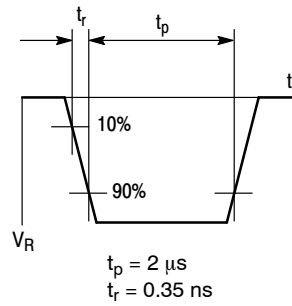
| Characteristic | Symbol | Condition | Min | Max | Unit |
|----------------------------------|--------------------------|--|-----|-----|------------------|
| Reverse Voltage Leakage Current | M1MA151KT1 | V _R = 35 V | - | 0.1 | μA _{dc} |
| | M1MA152KT1 | | | | |
| Forward Voltage | V _F | I _F = 100 mA | - | 1.2 | V _{dc} |
| Reverse Breakdown Voltage | M1MA151KT1 | I _R = 100 μA | 40 | - | V _{dc} |
| | M1MA152KT1 | | | | |
| Diode Capacitance | C _D | V _R = 0, f = 1.0 MHz | - | 2.0 | pF |
| Reverse Recovery Time (Figure 1) | t _{rr} (Note 2) | I _F = 10 mA, V _R = 6.0 V, R _L = 100 Ω, I _{rr} = 0.1 I _R | - | 3.0 | ns |

2. t_{rr} Test Circuit

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

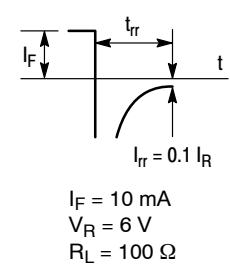


Figure 1. Reverse Recovery Time Equivalent Test Circuit

ORDERING INFORMATION

| Device | Package | Shipping† |
|-------------|--------------------|--------------------------|
| M1MA151KT1 | SC-59 | 3000 Units / Tape & Reel |
| M1MA151KT1G | SC-59 (Pb-Free) | 3000 Units / Tape & Reel |
| M1MA152KT1 | SC-59 | 3000 Units / Tape & Reel |
| M1MA152KT1G | SC-59 (Pb-Free) | 3000 Units / Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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