

Common Anode Silicon Dual Switching Diode

This Common Anode Silicon Epitaxial Planar Dual 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} , < 10 ns
- Low C_D , < 15 pF
- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

DEVICE MARKING

M1MA141WA = MN , M1MA142WA=MO

MAXIMUM RATINGS (T_A = 25°C)

| Rating | Symbol | Value | Unit |
|----------------------------|------------------------|---|-----------------|
| Reverse Voltage | M1MA141WA M1MA142WA | V _R 80 | V _{dc} |
| Peak Reverse Voltage | M1MA141WA M1MA142WA | V _{RM} 80 | V _{dc} |
| Forward Current | Single Dual | I _F 100 150 | mAdc |
| Peak Forward Current | Single Dual | I _{FM} 225 340 | mAdc |
| Peak Forward Surge Current | Single Dual | I _{FSM} ⁽¹⁾ 500 750 | 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 |

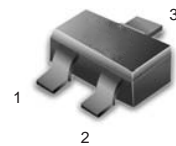
ELECTRICAL CHARACTERISTICS (T_A = 25°C)

| Characteristic | Symbol | Condition | Min | Max | Unit |
|---------------------------------|------------------------|---|-----------|-----|------|
| Reverse Voltage Leakage Current | M1MA141WA M1MA142WA | V _R = 35 V V _R = 75 V | — | 0.1 | μAdc |
| Forward Voltage | V _F | I _F = 100 mA | — | 1.2 | Vdc |
| Reverse Breakdown Voltage | M1MA141WA M1MA142WA | I _R = 100 μA | 40 80— | — | Vdc |
| Diode Capacitance | C _D | V _R =0, f=1.0 MHz | — | 15 | pF |
| Reverse Recovery | Time | t _{rr} ⁽²⁾ I _F =10mA, V _R =6.0V R _L =100Ω, I _{rr} =0.1 I _R | — | 10 | ns |

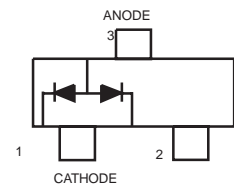
1. t = 1 SEC

2. t_{rr} Test Circuit

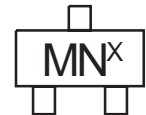
**SC-70/SOT-323 PACKAGE
COMMON ANODE
DUAL SWITCHING DIODE
40/80 V-100 mA
SURFACE MOUNT**



CASE 419-04, STYLE 4
SOT-323 / SC - 70

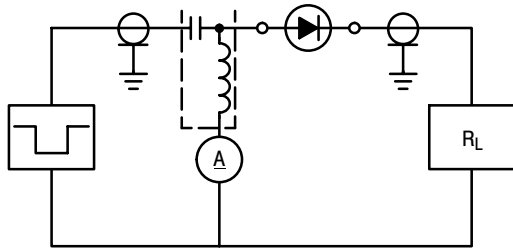


Marking Symbol
Type No. 141WA 142WA
Symbol MN MO

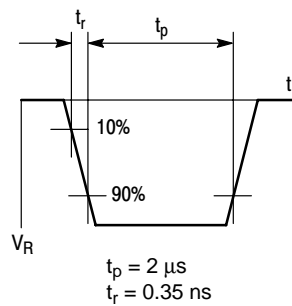


The "X" represents a smaller alpha digit Date Code. The Date Code indicates the actual month in which the part was manufactured.

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

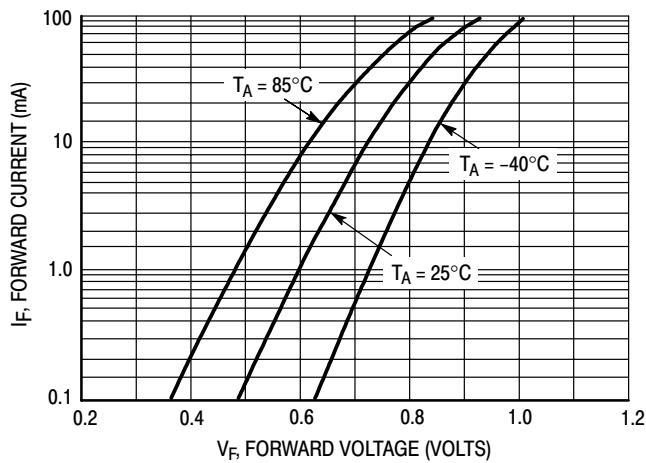
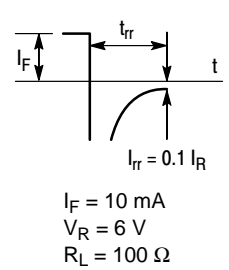


Figure 1. Forward Voltage

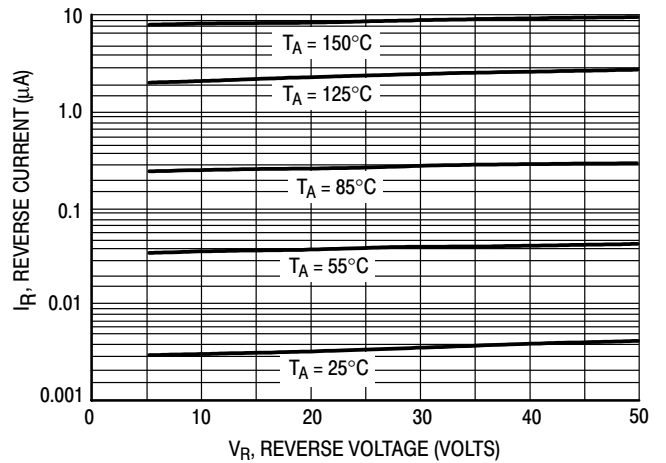


Figure 2. Reverse Current

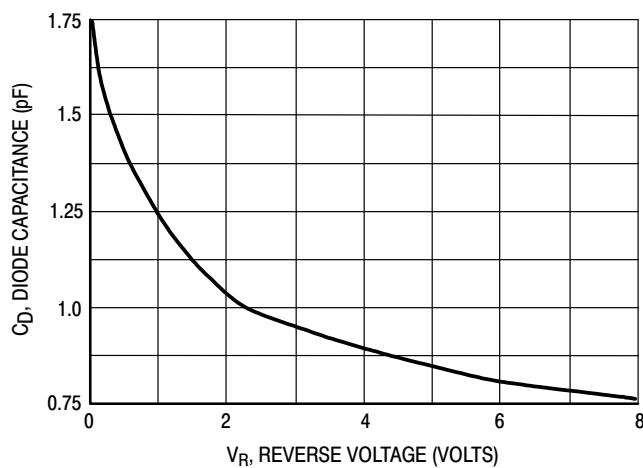
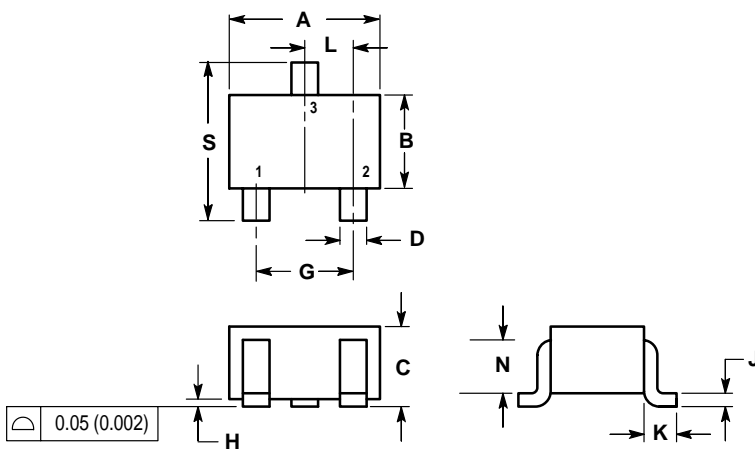


Figure 3. Diode Capacitance

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 |

