

Silicon Medium Barrier Schottky Diode

0402P / SOD882



MA4E1338A1-0402P

Rev. V1

Features

- RF & Microwave Medium Barrier Silicon 8 V Schottky Diode
- Competitive Cross to Skywork's SMS3922-040LF
- Small Size Surface Mount Plastic Package
- Lead Free
- RoHS* Compliant

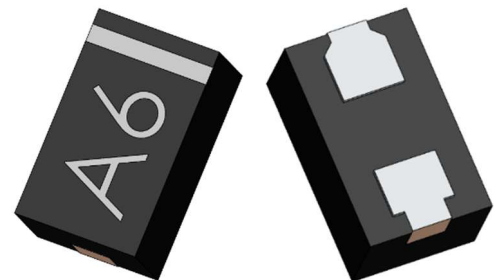
Applications

- ISM

Description

The MA4E1338A1-0402P is a silicon medium barrier, 8V Schottky diode suitable for use in mixer, limiter, detector, and surge protection applications for 50 Ω and 75 Ω systems. The MA4E1338A1-0402P is fit for applications with operating frequencies from DC through 6 GHz.

The MA4E1338A1-0402P is packaged in a small size, surface-mount plastic package. The SOD822 is a 40 x 24 mil DFN with a NiPdAu lead finish. The MA4E1338A1-0402P is supplied on tape and reel for automatic pick and place assembly and for surface mount placement to circuit boards.



Ordering Information

Part Number	Packaging
MA4E1338A1-0402P	3,000-piece reel

Electrical Specifications @ +25°C

Parameter	Condition	Specification
Forward Voltage (V_F)	$I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$	360 mV max. 500 mV max.
Total Capacitance (C_T)	$V_R = 0 \text{ V}$, $F = 1 \text{ MHz}$	1 pF max.
Reverse Leakage Current (I_R)	$V_R = 1 \text{ V}$	100 nA max.
Reverse Voltage Breakdown (V_B)	$I_R = 10 \text{ }\mu\text{A}$	8 V min.

* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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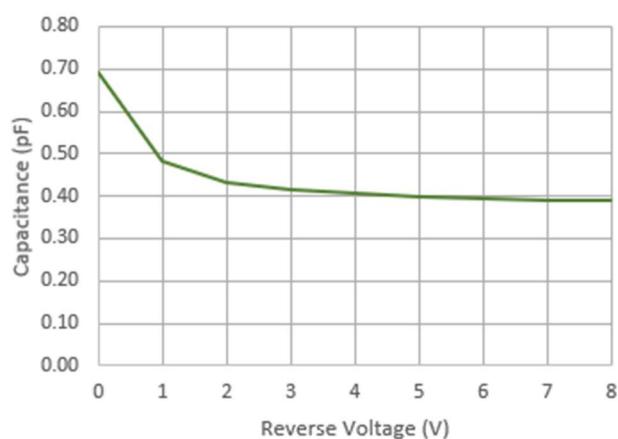
Maximum Ratings @ 25°C (unless otherwise specified)^{1,2}

Parameter	Values
Operating Temperature	-55 °C to +125 °C
Storage Temperature	-55 °C to +125 °C
Total Power Dissipation	140 mW
Continuous Forward Current	150 mA
Surge Forward Current, @ t <10 ms	150 mA
Reverse Voltage	8 V
Soldering Temperature	+260 °C for 5 sec.

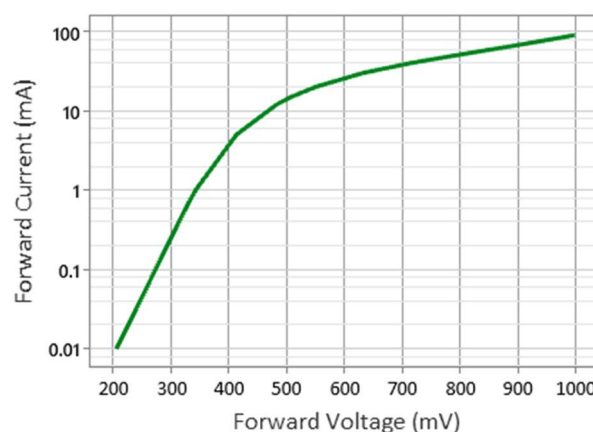
1. Operation of this device above any one of the maximum rated parameters may cause permanent damage.
2. Please refer to application note M538 for surface mounting instructions.

Typical Performance Curves @ +25°C

Capacitance vs. Reverse Voltage



Forward Current vs Forward Voltage



Handling Procedures

Please observe the following precautions to avoid damage:

Device can be handled with tweezers or vacuum pickups and are suitable for use with automatic pick-and-place equipment.

Static Sensitivity

These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Cleanliness and Storage

These devices should be handled and stored in a clean environment. Ends of the device are tin plated for greater solderability. Continuous exposure to high humidity (>80%) for extended periods may cause the surface to oxidize. Caution should be taken when storing devices for long periods.

Mounting Techniques

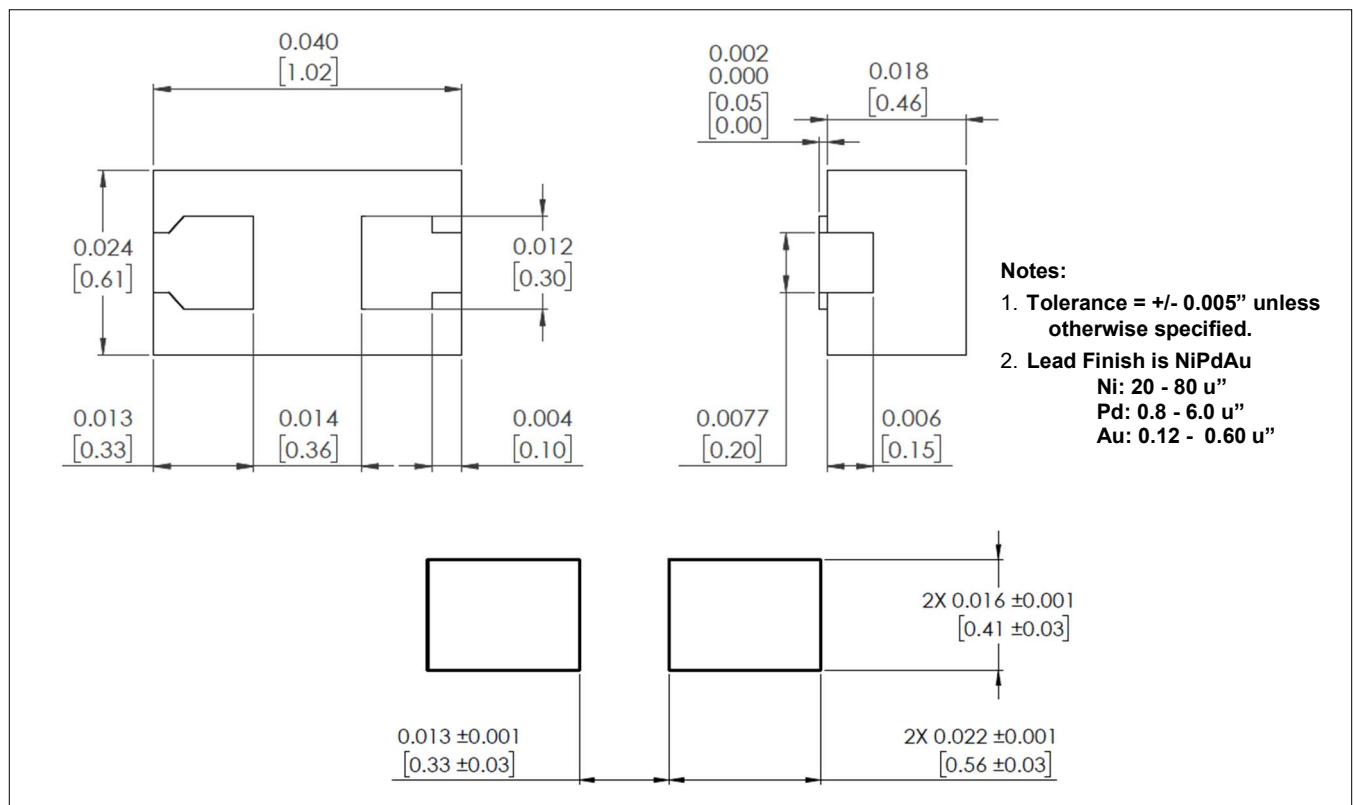
Solder Attach

Typical wave soldering or reflow techniques may be used to mount MACOM's SMT packages to circuit boards using Sn63/Pb37 alloy or RoHS compliant solders. For more information visit the MACOM website and read application note M538.

RoHS

The MA4E1338A1-0402P is fully RoHS compliant meaning it contains less than the maximum allowable concentration of 0.1% by weight in homogenous materials for lead, hex chrome, mercury, PBB, PBDE, and 0.01% for cadmium.

Package (SOD-882) Pad Dimensions & PCB Layout



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