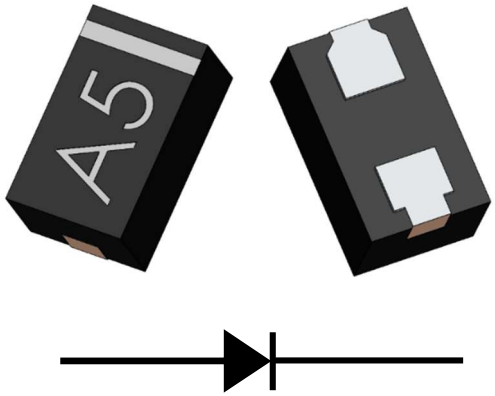
Surface Mount Plastic PIN Diode
0402P / SOD882

MADP-007436-0402P
Rev. V1

Features

- Low Loss, High Isolation Switching Diode
- Tape & Reel Packaging
- Small Size, Lead-Free Surface Mount Package (SOD-882)
- Competitive Cross to Skyworks' SMP1322-040LF
- RoHS* Compliant



Description and Applications

The MADP-007436-0402P offers low series resistance for best performance in low loss series switch applications.

The MADP-007436-0402P is a silicon PIN diode in a small size, surface mount plastic package. The SOD-882 package is 40 x 24 mil DFN with a NiPdAu Lead Finish. The MADP-007436-0402P 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
MADP-007436-0402P	3,000-piece reel

Electrical Specifications @ +25°C

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Reverse Current	Vr = 35 V	µA	---	---	1
Forward Voltage	If = 100 mA	V	0.5	---	1.2
Capacitance	Vr = 20 V, f = 1 MHz	pF	---	---	1.0
Series Resistance	If = 10 mA, f = 100 MHz	Ω	---	0.5	---
Carrier Lifetime	If = 10 mA / Ir = 6 mA, 90% Recovery	µs	---	0.2	---
I-Region Thickness	---	mils	---	0.4	---

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

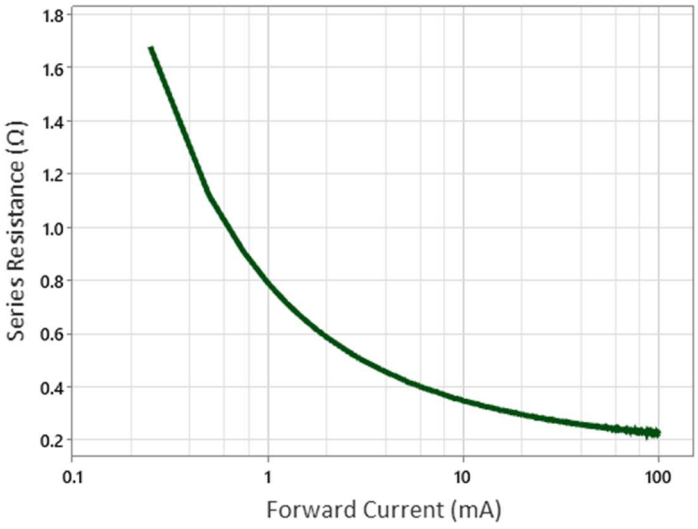
Absolute Maximum Ratings @ +25°C[5] (Unless Otherwise Noted)

Parameter	Rating
Operating Temperature	-65°C to +125°C
Storage Temperature	-65°C to +150°C
Junction Temperature	+175°C
RF CW Incident Power: (θ die = 25°C/W), RF & DC Incident De-rating Coefficient = -16.8 mW/°C	31 dBm
Power Dissipation: RF & DC Dissipated De-rating Coefficient = -33.3 mW/°C	250 mW
Reverse Voltage	75 V
Forward Current	150 mA DC

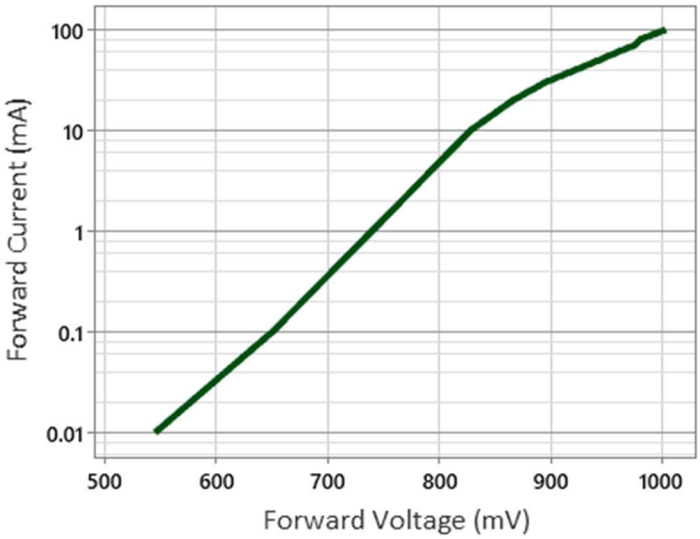
5. Operation of these devices above any one of these parameters may cause permanent damage.

Typical Performance Curves @ +25 ˚C

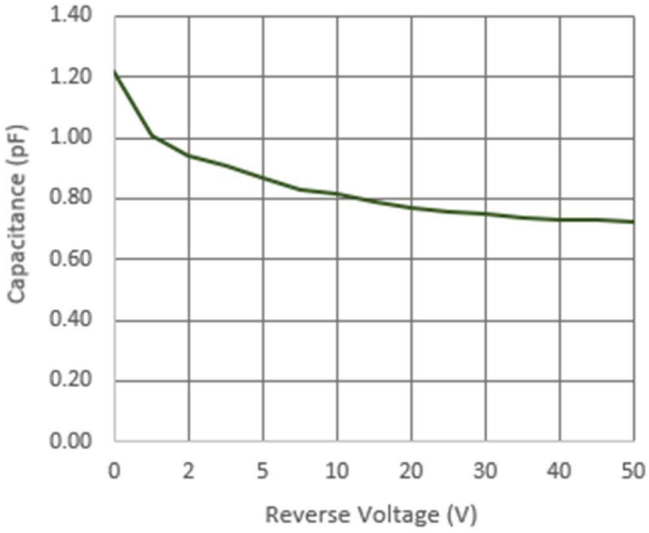
Series Resistance vs Current [f = 100 MHz]



Forward Current vs Voltage



Capacitance vs Reverse 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 Class 1 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 MADP-007436-0402P 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