

### Features

- Low Capacitance
- Fast Switching
- Wide Selection of  $R_S$  &  $C_J$
- 10 mil & 15 mil Chips
- RoHS\* Compliant



### Applications

- Aerospace & Defense

### Description

The MPN73xx-x Series of silicon PIN diodes feature fully passivated mesa designs with tri-metallization for reliable operation under the most demanding conditions. These diodes provide low capacitance and fast switching for switches, phase shifters, modulators and high speed attenuators.

Consult factory for availability of packaged devices, high reliability screening or custom designs.

### Electrical Specifications: $T_A = +25^\circ\text{C}$

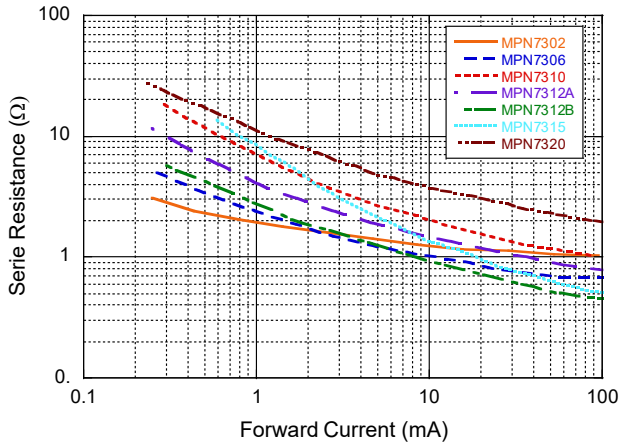
Part #	Breakdown Voltage $V_B$ $I_R = 10 \mu\text{A}$	Series Resistance $R_S$ $I_F = 10 \text{ mA}$ (1 GHz)	Junction Capacitance $C_J$ $V_R = 10 \text{ V}$	Minority Carrier Lifetime $I_F = 10 \text{ mA}$ $I_R = 6 \text{ mA}$ 50% recovery	Theta	I-Region Width	Contact Diameter	Chip Size
	V	$\Omega$	pF	ns	$^\circ\text{C/W}$	$\mu\text{m}$	mils	mils (sq.)
	Min.	Max.	Max.	Typ.	Max.	Nominal		
MPN7302	20	1.5	0.12	8	60	2	1.5	15
MPN7306	60	1.2	0.10	50	60	6	2.0	15
MPN7310	100	2.0	0.07	100	50	10	2.0	15
MPN7312	120	1.5	0.10	150	45	12	2.0	15
MPN7315	150	1.5	0.12	180	40	15	2.0	15
MPN7320	150	4.0	0.03	120	60	20	1.5	10

### Absolute Maximum Ratings<sup>1,2</sup>

Parameter	Absolute Maximum
Power Dissipation ( $P_{DISS}$ )	0.5W @ 25°C. Derate linearity to 0 W at 175°C
Reverse Voltage	Rated $V_{BR}$
Junction Temperature	+175°C
Operating Temperature	-65°C to +175°C
Storage Temperature	-65°C to +200°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

Series Resistance vs. Forward Current



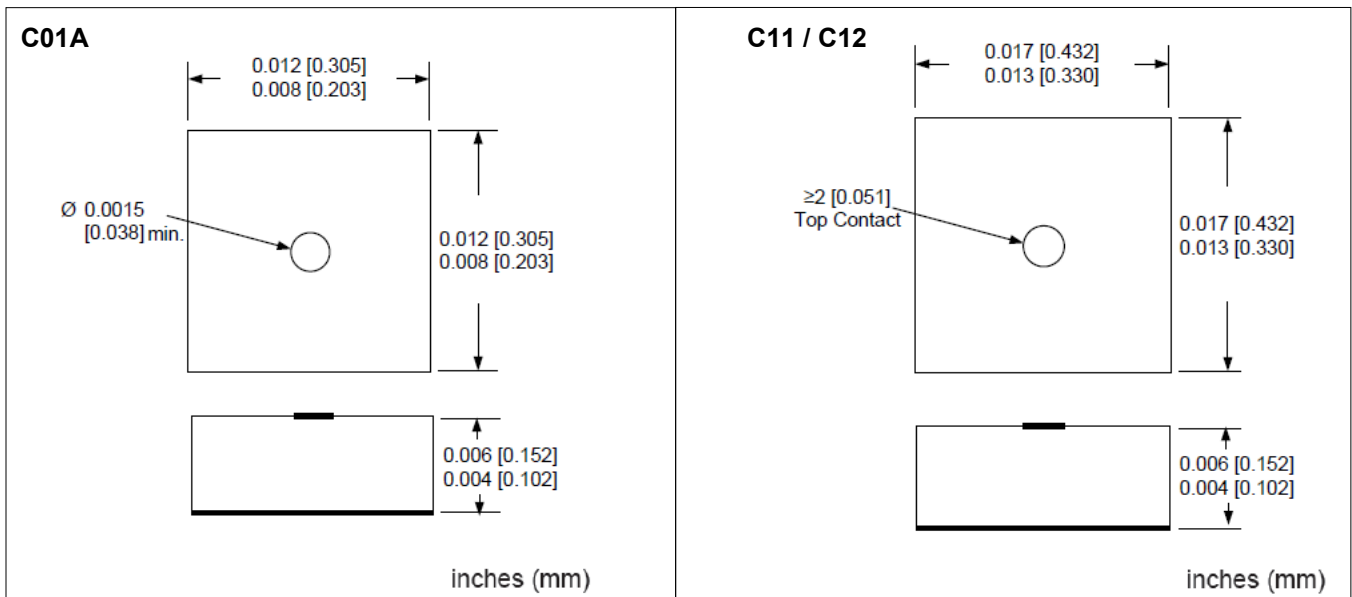
Handling Procedures

Please observe the following precautions to avoid damage:

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.

Outline Drawings<sup>3</sup>



3. Bonding pads are anode. Both bonding pads and backside are Au.

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