## SILICON EPITAXIAL WAVEGUIDE SWITCHING DIODES

The MA-47000 series of silicon epitaxial switching diodes is recommended for use in microwave switches, modulators, voltage controlled microwave attenuators, phase shifters and limiters as well as other microwave power control applications. Each of these devices, ranging in frequency from 7.5 GHz to 17.5 GHz, is housed in an axial pronged hermetically sealed glass package.

When used as RF switches, these diode types are mounted in a resonant waveguide mount such that positive bias produces minimum insertion loss while negative bias produces a large impedance mismatch with resulting high isolation values. The switching time is less than 10 ns for all devices in this series.

| MODEL NUMBER | CASE STYLE | CENTER FREQ.[1] (GHz) | WAVE-GUIDE DESIG. | MAX. INSER-TION LOSS[2] (dB) | MAX. INCI-DENT CW PWR. (WATTS) | MIN. ISOL.[3] (dB) |
|---|---|---|---|---|---|---|
| MA-47067 | 151 | 7.5 | WR112 | 1.2 | 4.0 | 25 |
| MA-47068 | 151 | 8.0 | WR112 | 1.2 | 4.0 | 25 |
| MA-47069 | 151 | 8.5 | WR112 | 1.2 | 3.5 | 25 |
| MA-47070 | 151 | 9.0 | WR112 | 1.2 | 2.5 | 25 |
| MA-47071 | 151 | 9.5 | WR112 | 1.2 | 2.0 | 25 |
| MA-47105 | 151 | 10.0 | WR90 | 0.75 | 4.0 | 25 |
| MA-47106 | 151 | 10.5 | WR90 | 0.75 | 3.5 | 25 |
| MA-47107 | 151 | 11.0 | WR90 | 0.75 | 2.5 | 25 |
| MA-47108 | 151 | 11.5 | WR90 | 0.75 | 2.0 | 25 |
| MA-47109 | 152 | 12.0 | WR90 | 0.75 | 2.0 | 25 |
| MA-47126 | 152 | 13.0 | WR62 | 0.75 | 4.0 | 25 |
| MA-47127 | 152 | 13.5 | WR62 | 0.75 | 4.0 | 20 |
| MA-47128 | 152 | 14.0 | WR62 | 0.75 | 4.0 | 20 |
| MA-47129 | 152, 164 | 14.5 | WR62 | 0.75 | 3.5 | 20 |
| MA-47130 | 164 | 15.0 | WR62 | 0.75 | 3.5 | 20 |
| MA-47131 | 164 | 15.5 | WR62 | 0.75 | 2.5 | 20 |
| MA-47132 | 164 | 16.0 | WR62 | 0.75 | 2.0 | 20 |
| MA-47133 | 164 | 16.5 | WR62 | 0.75 | 2.0 | 20 |
| MA-47134 | 164 | 17.0 | WR62 | 0.75 | 2.0 | 20 |
| MA-47135 | 164 | 17.5 | WR62 | 1.0 | 2.0 | 20 |

**NOTES:**

1. VSWR is less than 1.3:1 at the center frequency.
2. Insertion loss is measured at a forward bias current of 50 mA.
3. Isolation is measured at a reverse bias voltage of 50 volts.