

### **Coaxial Limiters**

Rev. V5

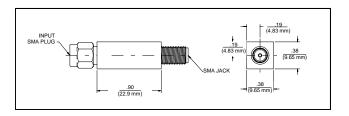
#### **Features**

- Broadband Frequency Ranges
- Environmentally Sealed
- Feedback Leveling
- Small Size
- Reduced VSWR

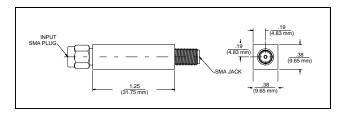
## **Description**

M/A-COM's standard limiter series 2690 is a line of completely passive solid state receiver protectors. They exhibit octave and multi-octave performance using a unique construction technique involving PIN diodes in broadband microstrip circuits. Careful diode selection allows a variety of device performance, trading off peak and average power handling, spike leakage and recovery time. Typical insertion loss and VSWR curves are shown below.

#### **Outline 1**



#### **Outline 2**



# Electrical Specifications: T<sub>A</sub> = 25℃

| Part      | Frequency<br>Range (GHz) | Insertion<br>Loss (dB) | VSWR  | Average<br>Power (W) | Peak Power<br>(W) | Recovery<br>Time (nS) | Leakage<br>Power (mW) | Outline Draw-<br>ing |
|-----------|--------------------------|------------------------|-------|----------------------|-------------------|-----------------------|-----------------------|----------------------|
| Number    |                          |                        |       |                      |                   |                       |                       |                      |
| 2690-1001 | 1.0 - 2.0                | 0.7                    | 1.5:1 | 1                    | 100               | 100                   | 75                    | 1                    |
| 2690-1003 | ]                        | 0.9                    | 1.5:1 | 3                    | 1000              | 1000                  | 100                   | 2                    |
| 2690-1005 | 2.0 - 8.0                | 1.1                    | 1.6:1 | 1                    | 100               | 100                   | 50                    | 1                    |
| 2690-1007 | ]                        | 1.3                    | 1.6:1 | 3                    | 1000              | 1000                  | 100                   | 2                    |
| 2690-1009 | 8.0 - 18.0               | 1.8                    | 2.0:1 | 1                    | 100               | 100                   | 50                    | 1                    |
| 2690-1011 | 1                        | 2.3                    | 2.0:1 | 3                    | 1000              | 1000                  | 100                   | 2                    |
| 0000 1010 | 2.0 - 15.0               | 2                      | 2.0:1 | 1                    | 100               | 100                   | 50                    | 1                    |
| 2690-1013 | 15.0-18.0                | 3                      | 2.0:1 | 1                    | 100               | 100                   | 50                    | 1                    |
| 2690-1014 | 2.0 - 15.0               | 2.2                    | 2.0:1 | 2                    | 500               | 250                   | 75                    | 1                    |
|           | 15.0-18.0                | 3                      | 2.0:1 | 2                    | 500               | 250                   | 75                    | 1                    |
| 0000 4045 | 2.0 - 15.0               | 2.3                    | 2.0:1 | 3                    | 1000              | 1000                  | 100                   | 2                    |
| 2690-1015 | 15.0-18.0                | 3                      | 2.0:1 | 3                    | 1000              | 1000                  | 100                   | 2                    |

- 1. Insertion Loss and VSWR measured at 0 dBm input power.
- 2. Peak input power rated at 1 microsecond pulse width, 1% duty into 1.5:1 source VSWR and 1.15 load VSWR.
- 3. Spike leakage energy: 0.5 ergs max.

Commitment to produce in volume is not guaranteed.

4. 1 dB compression: +7 dBm min.



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#### **Environmental**

| Test                         | MIL-STD    | Method       | Cond        |  |
|------------------------------|------------|--------------|-------------|--|
| Non-Destructive Bond<br>Pull | 883        | 2023         | _           |  |
| Internal Visual              | 883        | 2017         |             |  |
| Stabilization Bake           | 883        | 1008         | В           |  |
| Thermal Cycle                | 883        | 1010         | В           |  |
| Constant Acceleration        | 883        | 2001         | A (Y1 Axis) |  |
| Burn-In                      | 883        | 1015         | 125℃        |  |
| Seal Fine<br>Gross           | 883<br>883 | 1014<br>1014 | A1<br>C1    |  |
| External Visual              | 883        | 2009         | _           |  |

Devices are designed to meet the above screening conditions.

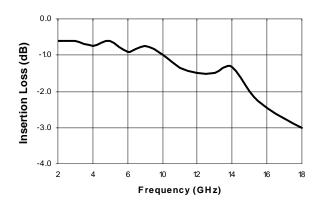
# Absolute Maximum Ratings 5

| Parameter             | Absolute Maximum |  |  |
|-----------------------|------------------|--|--|
| Operating Temperature | -55℃ to +85℃     |  |  |
| Storage Temperature   | -65℃ to +125℃    |  |  |

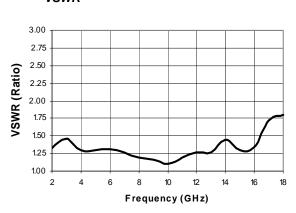
5. Operation of this device above any one of these parameters may cause permanent damage.

# **Typical Performance Curves**

#### Insertion Loss

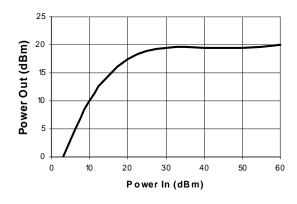


#### **VSWR**



#### Leakage Power at 100 mW

2



PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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