Keysight Technologies
11867A RF Limiter,
10 Hz to 1800 MHz
Data Sheet

Figure 3. Typical output power vs. input power; T = 25 °C

Figure 4. Typical insertion loss vs. frequency

RF input   RF output

Figure 1. RF limiter

Introduction

The 11867A offers very low insertion loss and linear operation to minimize its effect on low level (< 0 dBm) signals passing through it. A typical application is shown in Figure 2; the input mixer of a spectrum analyzer is protected from inadvertent overload due to high level signals from an antenna.

Description

The Keysight Technologies, Inc. 11867A RF limiter is a general purpose diode limiter designed to provide input protection for a variety of instruments. For example, the input circuitry of spectrum analyzers, frequency counters or amplifiers can be protected from unintentional inputs as high as 100 watts peak or 10 watts average power. At even greater power levels, failure mode for the limiter is either an open circuit or a short circuit to ground, thereby protecting the instrument from damage.
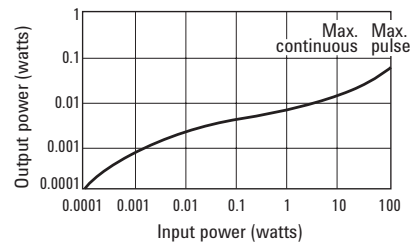

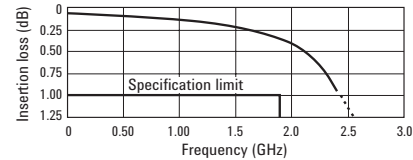*Figure 2. Typical application*

Specifications

Specifications describe the instrument's warranted performance over the temperature range 0 to 55 °C (except where noted). Supplemental characteristics are intended to provide information useful in applying the instrument by giving typical, but non-warranted, performance parameters. These are denoted as "typical," "nominal," or "approximately."

Frequency range	10 Hz to 1800 MHz
Insertion loss	< 1.0 dB
Frequency response (flatness)	< ± 0.25 dB1
Impedance	50 ohms, nominal
Reflection coefficient	< 0.13 (1.3 SWR)
Maximum input power levels	
Continuous	10 watts average (+40 dBm)
Pulse	100 watts peak, pulse width ≤ 1 µsec,
Limiting threshold	0.001 duty cycle
	1 mW (0 dBm) typical
RF input connector	type N female
RF output connector	type N male2
Weight	Net 0.09 kg (3 oz); shipping 0.45 kg (1 lb)

1. For operation to 2.4 GHz, see typical response shown in Figure 4.
2. Device limited to unilateral operation; i.e., input and output are not interchangeable.
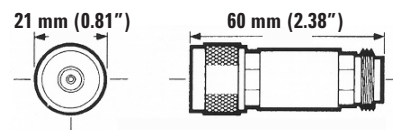

21 mm (0.81")   60 mm (2.38")

Figure 5. Dimensions

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