

Agilent 11867 A RF Limiter, DC to 1800 MHz Data Sheet

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.



Figure 1. RF limiter

Description

The Agilent 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.

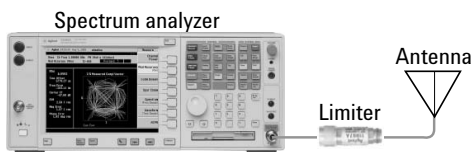


Figure 2. Typical application

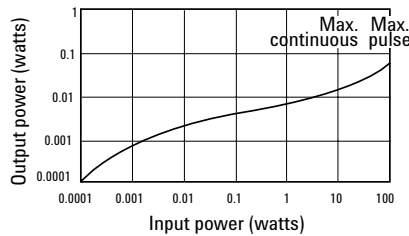


Figure 3. Typical output power vs input power;
T = 25 °C

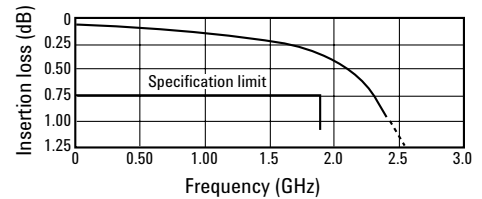


Figure 4. Typical insertion loss vs frequency

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:	DC to 1800 MHz
Insertion loss:	< 0.75 dB
Frequency response (flatness):	< ±0.25 dB
	Note: For operation to 2.4 GHz, see typical response shown in Figure 4.
Impedance:	50 ohms, nominal
Reflection coefficient:	< 0.1 (1.2 SWR)
Maximum input power levels:	
Continuous:	10 watts average (+40 dBm)
Pulse:	100 watts peak, pulse width ≤ 1 μsec, 0.001 duty cycle
Limiting threshold:	1 mW (0 dBm) typical
RF input connector:	type N female
RF output connector:	type N male
	Note: Device limited to unilateral operation; i.e., input and output are not interchangeable.
Weight:	Net 0.09 kg (3 oz); shipping 0.45 kg (1 lb)

Weight:

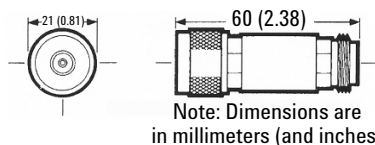


Figure 5. Dimensions

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