

Transient Limiter

EM5010A



Shenzhen Zhiyong Electronics Co., Ltd.

Introduction

First of all, thank you for purchasing our products, this instruction manual is the description about the function, usage, operation attention points, etc. Before use, please read the instructions carefully and use correctly.

Manual annotation will use the following symbols to distinguish.



This symbol means it is harmful to the machine and human body; you must strictly follow the instruction manual to operate.

Warn

In the case of wrong operation, the user risk injury. The content under this mark records the relevant matters needing attention to avoid such dangers.

Notice

The user may have suffered minor injuries and material damage while with the wrong operation, to avoid such situation, note the matters needing attention.

Note

Record of important notes using the machine.

To the safely use the machine, you must abide by the following safety precautions strictly. The violation against the manual is likely to damage the protective function of the machine. In addition, the company is not responsible for any safety problem caused by the violation of matters needing attention in operation.



- Pay attention to the Maximum input level
- Do not operate in wet/damp or combustible conditions.
- To ensure that the surface of the instrument is dry and clean before use.

1. Summary

Transient Limiter is an accessory that protects input circuitry of instrument from transients and accidental overloads. The EM5010A Transient Limiter is a unidirectional, solid-state, passive device whose frequency range is 9kHz to 500MHz. It consists of a diode limiter, a 10dB attenuator, and a high-pass filter.

2. Specifications

| | | | |
|-------------------------------------|--------|--------------------------|-------------------|
| Frequency range | | 9kHz-500MHz | |
| Limiting threshold | | 50mW（+17dBm） | |
| Impedance | | 50Ω | |
| Connectors | Input | BNC（female） | |
| | Output | N（male） | |
| Maximum input level | | Continuous: 2.5W（+34dBm） | |
| | | Pulse: 10kW（10uS） | |
| | | DC voltage: ±12V | |
| Insertion loss | | <2kHz | >20dB |
| | | 9kHz-50MHz | 10dB±1.5dB |
| | | 50MHz-200MHz | 10dB+2.2dB/-0.5dB |
| | | <6kHz, >500MHz | >12dB |
| Typical insertion loss VS frequency | | Figure 1 | |
| Typical limiting characteristics | | Figure 2 | |
| Working temperature | | 0℃-55℃ | |
| Storage temperature | | -40℃-80℃ | |

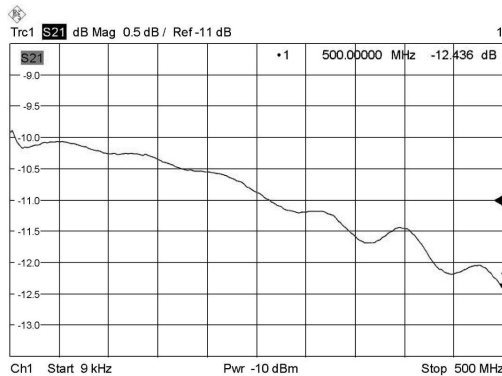


Fig.1 Typical Insertion Loss VS Frequency

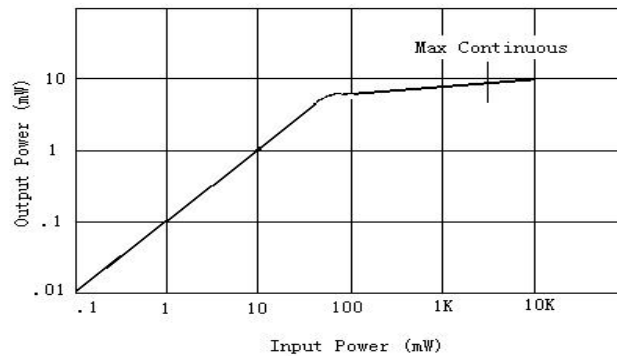
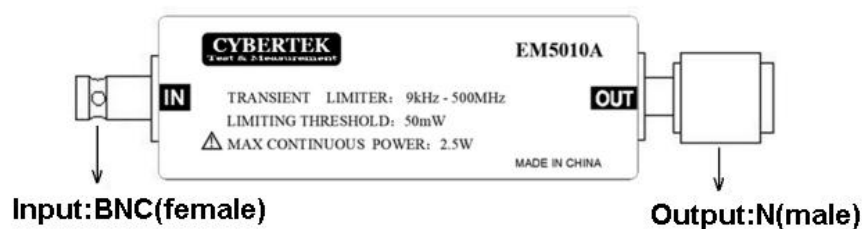


Fig.2 Typical Limiting Characteristics

3. Products Description



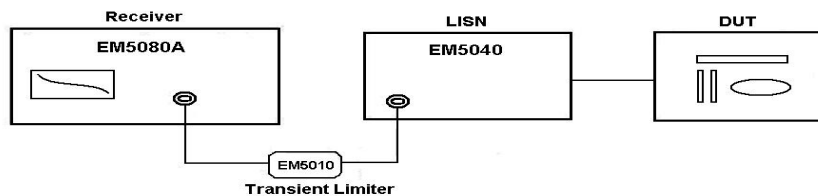
Note

- ✧ Do not apply more than 2.5W average power or 10kW pulse power to the limiter. Apply $< \pm 12\text{Vdc}$. Exceeding these levels could result in permanent damage to the limiter.
- ✧ Do not reverse the polarity of the limiter. Doing so can destroy the limiter.

4. Mechanical Specification

| | |
|--------------|-------------|
| Size (L*W*H) | 142*37*20mm |
| weight | 310g |

5. Application Diagram



6. Packing List

| Packing List | |
|----------------|----------|
| Name | Quantity |
| EM5010A | 1 PCS |
| User manual | 1 book |
| Warranty card | 1 unit |
| Testing report | 1 PCS |

CYBERTEK

SHENZHEN ZHIYONG ELECTRONICS CO., LTD.

Addr: Room A1702, Building 4, TianAn Cyber Park, HuangGe Road, LongGang
District, ShenZhen City, China

Tel: (86) 400 852 0005 / (86 755) 86628000

Q Q: 400 852 0005

Email: cybertek@cybertek.cn

Url: <http://www.cybertek.cn>

© Zhiyong Electronics, 2025
Published in China, Jun. 1, 2025