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Quality&Service for EMC

# Power Leads Spike Pulse Generator　　　TPS-CS106

## Datasheet



### In Compliance with

>GJB151A-1997

>GJB152A-1997

>GJB151B-2013

>MIL-STD-461F

## Introduction

The TPS-CS106 is designed for CS106 test requirements specified in MIL-STD-461F, GJB 151A, GJB 152A and GJB 151B. It can apply pulses with repetition frequency 1 Hz～20 Hz onto EUT input power leads(not including grounds). Test duration time is up to 30 minutes, and pulse voltage linear adjustment from 0 V to 600 V can be realized. TPS-CS106 is designed on the 3rd generation intelligent control platform of our company with unique colorful touch screen interface and excellent human-machine function. It features easy operation, high system integration, intelligent control and saving test time, etc.

## Features

> 5.7" colorful touch screen operation;

> Meet the test requirement of CS106 in MIL-STD-461F, GJB 151A, GJB 152A and GJB 151B;

> Automatically identify multiple failures;

> Built-in 0.15 μs coupling transformer;

> Max. EUT load current 300 A;

## Application Areas

> Military

> Warships

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## Technical parameters

| Test Voltage Range | 0 V ~ 600 V (liner adjustment） | |
|---|---|---|
| Calibration Voltage | 100 V ~ 600 V | |
| GJB 151A-1997 GJB 152A-1997 Waveform parameters and impedance | 0.15 μs pulse (50% ~ 0%) | ≤0.15 μs (＜5 ohm) |
| | 5 μs pulse (50% ~ 0%) | ≤5 μs (＜2 ohm) |
| | 10 μs pulse (50% ~ 0%) | ≤10 μs (＜1 ohm) |
| MIL-STD-461F GJB 151B Waveform parameters and impedance | rise time | 1.5 μs±0.5 μs |
| | fall time | 3.5 μs±0.5 μs |
| | duration time | 5.0 μs （1±20%） |
| | sag or undershoot amplitude | ≤30% Vp |
| | sag or undershoot time | < 20 μs |
| | source impedance | ≤2 Ω |
| Output Polarity | +/- (only positive for 0.15 μs) | |
| Trigger | External, automatic and manual | |
| Pulse repetition frequency | 1~20 pulses per second | |
| External Phase Sync | 0°~360°, mains frequency 50 Hz~1000 Hz, available for async | |
| Parallel Connection | Built-in 5 μs/10 μs coupling transformer External 0.15 μs coupling transformer | |
| Series Connection | External 5 μs/10 μs coupling transformer (32 A, 50 A, 100 A, 200 A & 300 A are available, higher current is customizable); Built-in 0.15 μs coupling transformer (32 A, 50 A); External 0.15 μs coupling transformer (100 A, 200 A, 300 A available, higher current is customizable); | |
| Output Ports | 4 mm plugs | |
| Calibration Resistance | External | |

## Accessories

| User manual, Testing line, Power line, Earth line, Fuses |
|---|

## General parameters

| Display Screen | 5.7" TFT touch screen |
|---|---|
| Power Supply | AC 220 V 50 Hz |
| Fuse | 6 A |
| Max. Power Consumption | 200 W |
| Dimension | 19"/6U |
| Weight | Approx.20 kg |
| Ambient Temperature | 15 ℃~35 ℃ |
| Relative Humidity | 45% - 75% |
| Atmospheric Pressure | 86 kPa – 106 kPa |

## Options

| 1. Microsecond pulse transformer TPT-600-4 | For coupling 5 μs, 10 μs waveform, Max Coupling pulse voltage： 600 V Max. secondary side current load：50 A Dimension： 185*140*45 mm(L*W*H) Weight：1.9 kg |
|---|---|
| 2. Microsecond pulse transformer TPT-600-5 | For coupling 5 μs, 10 μs waveform, Max Coupling pulse voltage： 600 V Max. secondary side current load：300 A Dimension： 250*185*400 mm(W*H*D) Weight：15.5 kg |
| 3. 0.15 μs waveform module TPS-CS106-1 | For coupling 0.15 μs waveform, Max Coupling pulse voltage： 600 V Max. secondary side current load：300 A Dimension： 250*185*400 mm(W*H*D) Weight：10.8 kg |
| 4. Calibration resistance module CRM 050 | Non-inductive resistance： 5 Ω Dimension： 60*65*30 mm (L*W*H) Weight：0.1 kg |
| 5. Feed-through capacitor DCM 4032 | Voltage：500 V AC Current：32 A Capacitor：10 μF Dimension： 225 *100 *100 mm (L*W*H) Weight：2.5 kg |
| 6. Feed-through capacitor DCM 4050 | Voltage：500 V AC Current：50 A Capacitor：10 μF Dimension： 225 *100 *100 mm(L*W*H) Weight：2.5 kg |

## Options

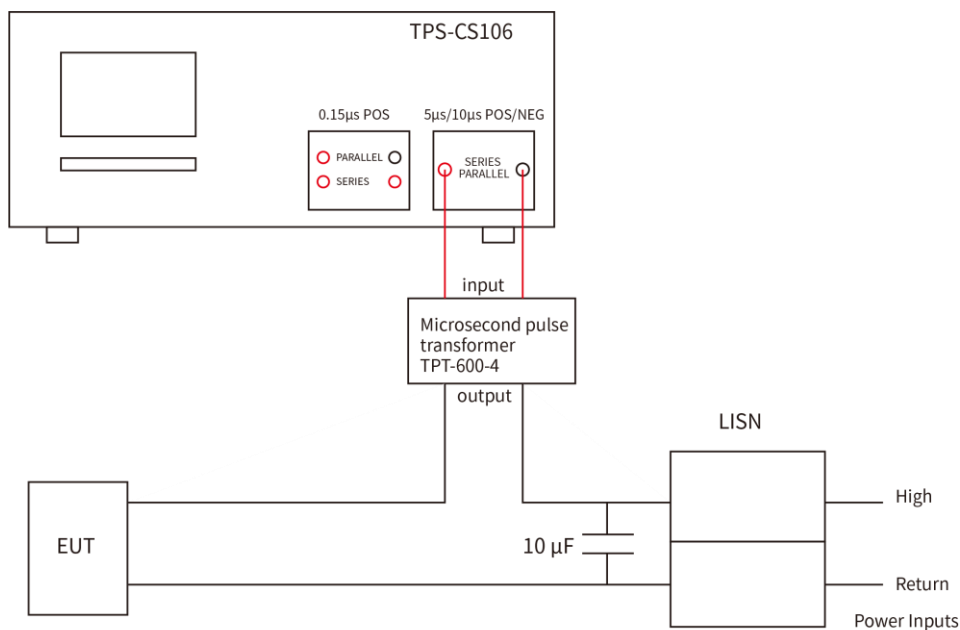| 5. Feed-through capacitor DCM 40100 | Voltage：500 V AC<br>Current：100 A<br>Capacitor：10 μF<br>Dimension：<br>225 *100 *100 mm(L*W*H)<br>Weight：2.5 kg |
|---|---|
| 6. Artificial mains network LISN J50 | Inductance：50 μH；<br>Through-current capability：50 A<br>Dimension：<br>160 *170 *410 mm(L*W*H)<br>Weight：2.5 kg |

Figure 1:    5 μs /10 μs series test connection



Figure 2:    0.15 μs series test connection
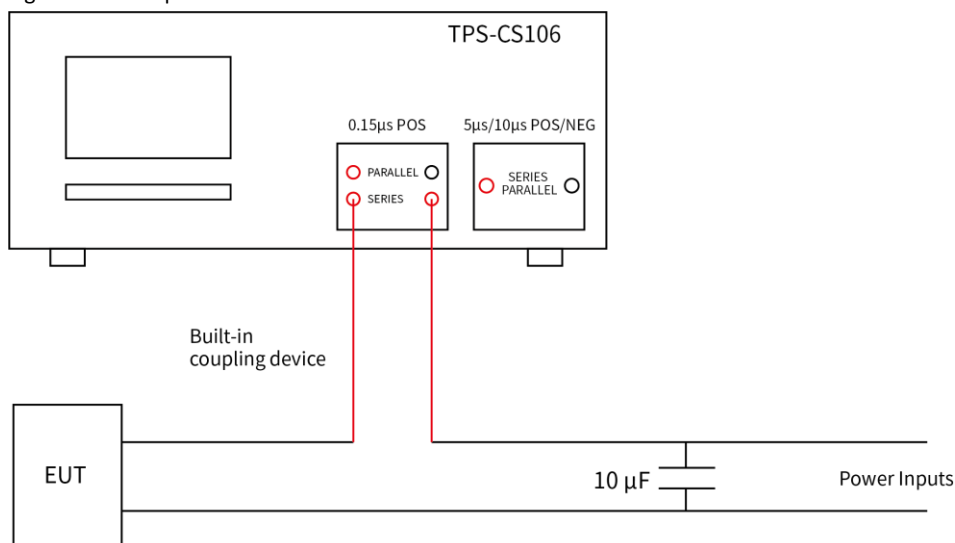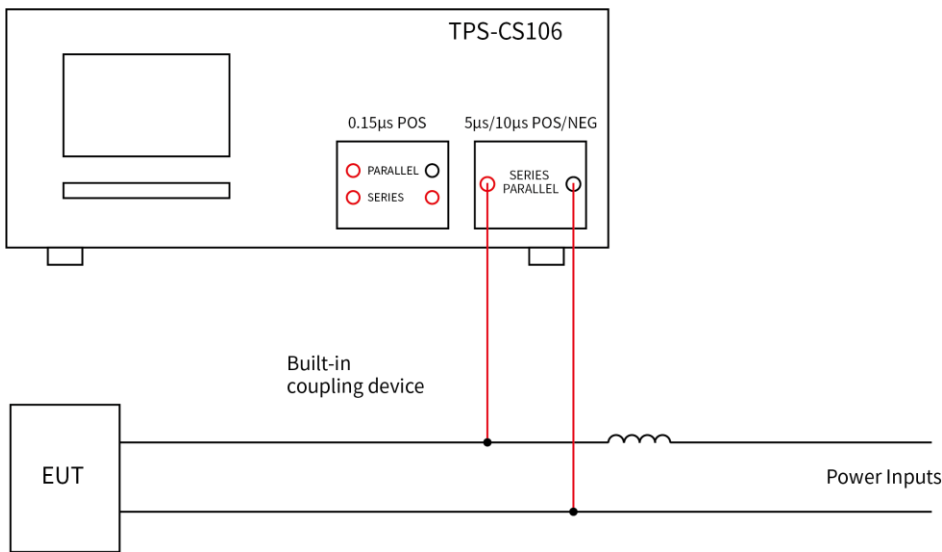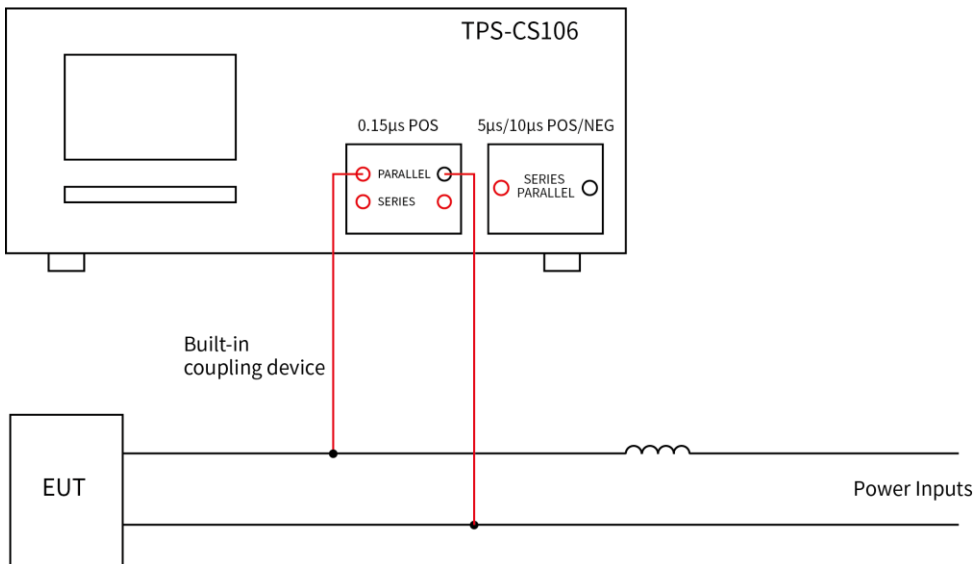
Figure 3:    5 μs /10 μs Parallel test connection



Figure 4：    0.15 μs Parallel test

## SUZHOU 3CTEST ELECTRONIC CO., LTD.

Add.: No. 99 E'meishan Road, SND, Suzhou, Jiangsu Province, China

Tel: +86 (0)512 6807 7192          Fax: +86-512-68079795

Sales Email: globalsales@3ctest.cn      Service Email: service@3ctest.cn

www.3c-test.com