



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 5095.2501-2021

**Electromechanical components for electronic equipment -
Basic testing procedures and measuring methods - Part 25-1:
Test 25a: Crosstalk ratio**

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Foreword

GB/T 5095 "Basic test procedures and measurement methods for electromechanical components for electronic equipment" is divided into several parts according to the test methods.

Part 25 of GB/T 5095 is a signal integrity test. The parts that have been released or planned to be released are as follows.

---Part 25-1. Test 25a. Crosstalk ratio;

---Part 25-2. Test 25b. Attenuation (insertion loss);

---Part 25-3. Test 25c. Rise time decay;

---Part 25-4. Test 25d. Transmission delay;

---Part 25-5.Test 25e. Return loss;

---Part 25-6.Test 25f. Eye diagram and jitter;

---Part 25-7.Test 25g. impedance, reflection coefficient and voltage standing wave ratio (VSWR);

--- Part 25-9.Signal Integrity Test Test 25i. Alien Crosstalk.

This part is part 25-1 of GB/T 5095.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

The translation method used in this part is equivalent to the use of IEC 60512-25-1.2001 "Connector Test and Measurement for Electronic Equipment Part 25-1"

Minutes. Test 25a. Crosstalk Ratio.

This section has made the following editorial changes.

---The name of the standard was revised from "Connector Test and Measurement for Electronic Equipment Part 25-1.Test 25a. Crosstalk Ratio" to "Electronics

Basic test procedures and measurement methods for electromechanical components for equipment. Part 25-1.Test 25a. Crosstalk Ratio.

1.1 Scope and purpose

This part of GB/T 5095 applies to interconnecting components, such as electrical connectors, sockets and cable assemblies.

This section specifies the test procedures for measuring the amount of electromagnetic coupling between the excitation circuit and the noise suppression circuit of the interconnection assembly. Single-ended

The time domain method (method A) and frequency domain method (method B) of differential transmission and its insertion and standard device method.

1.2 Terms and definitions

The following terms and definitions apply to this document.

1.2.1

Excitation signal drivesignal

A step waveform (in the time domain) or sine waveform (in the frequency domain).

1.2.2

Crosstalk ratio crosstalkratio

The ratio of the magnitude of the signal coupled (inductive) into the squelch signal line or line pair and the signal in the excitation line or line pair. The two signals have the same

The unit of voltage or current, and the ratio can be expressed in percentage or decibel (dB).

1.2.3

Near-end crosstalk ratio nearendcrosstalkratio; NEXT

The crosstalk ratio calculated on the squelch line close to the emission (signal source) end of the excitation line. This is the signal amplitude of the near-end squelch line and

The ratio of the signal amplitude of the near-end excitation line.

1.2.4

Far-end crosstalk ratio farendcrosstalkratio; FEXT

The crosstalk ratio calculated on the squelch line close to the receiving (end) end of the excitation line. This is the signal amplitude of the far-end squelch line and the near-end

The ratio of the signal amplitude of the excitation line.

1.2.5

Measurement system rise time measurement system rise time

Rise time measured by a device with no sample installed and with filtering (or normalization) effect. Usually, the measurement is 10%~90%

The rise time within the level range.

1.2.6

Sample environment impedance

The impedance caused by the device on the sample signal wire. The impedance is determined by the transmission line, terminal resistance, attached receiver or signal source

And the parasitic effects of the device.

1.2.7

Step amplitude

The voltage difference between 0% and 100% level, the overshoot and undershoot can be ignored, as shown in Figure 1.