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

GB/T 5095.2506-2020

**Electromechanical components for electronic equipment -
Basic testing procedures and measuring methods - Part 25-6:
Test 25f: Eye pattern and jitter**

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Foreword

GB/T 5095 "Basic Test Regulations and Measurement Methods of Electromechanical Components for Electronic Equipment" is divided into several parts according to the test methods.

Part 25 of GB/T 5095 is the signal integrity test. The parts that have been released or are 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. Decay of rise time;

--- 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 25-6 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 60512-25-6..2004 "Connector Test and Measurement for Electronic Equipment Part 25-6

Points. Test 25f. Eye Diagram and Jitter. "

The following editorial changes have been made in this section.

--- The standard name was changed from "Testing and Measurement of Connectors for Electronic Equipment Part 25-6. Test 25f. Eye Diagram and Jitter" to

"Basic test procedures and measurement methods of electromechanical components for electronic equipment Part 25-6. Test 25f. Eye diagram and jitter".

Please note that some content of this document may involve patents. The issuer of this document does not assume responsibility for identifying these patents.

This part is proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This part is under the jurisdiction of the National Technical Committee for Standardization of Electromechanical Components for Electronic Equipment (SAC/TC166).

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1.1 Scope and purpose

This part of GB/T 5095 is applicable to electrical connectors, cable assemblies or interconnecting systems within the scope of IEC TC48.

This section describes methods for measuring eye diagram response and jitter in the time domain.

1.2 Terms and definitions

The following terms and definitions apply to this document.

1.2.1

Eyepattern

The oscilloscope display of synchronous pseudo-random digital data (signal amplitude-time) indicates the superposition of the cumulative output waveform.

1.2.2

Jitter

The difference between the first and last time when a signal crosses a specified reference voltage level.

1.2.3

Bit period

The time interval between consecutive identical edges of a clock signal (rising to rising or

falling to falling). This is the reciprocal of the clock frequency.

1.2.4

Skew

The difference in propagation delay between the two signal channels.

1.2.5

Measurement system risetime

Rise time measured by a device with no sample in place and filtering (or normalization). Usually, 10% ~ 90% electricity is measured

Flat rise time.

2.1 Equipment

2.1.1 High-speed pattern generator with clock output, capable of generating specified rise and fall times and data pattern signals.

2.1.2 Signal analyzer with external clock input and infinite afterglow display. Usually a digital sampling oscilloscope with a sampling head

(DSO). Digital sampling oscilloscope with template function is preferred.

Note. To ensure that the maximum input rating allowed by the oscilloscope input port is not exceeded, to prevent costly losses and to ensure reliable measurements. Even though

The signal offset may also produce an unstable eye diagram response within the scope of the oscilloscope's maximum allowable signal level.

2.2 Device

2.2.1 The test device should be equipped with suitable signal and grounding modes. If required, suitable adjacent signal line terminals should also be prepared. sample