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

GB/T 13584-2011

Replacing GB/T 13584-1992

Measuring methods for paramaters of infrared detectors

红外探测器参数测试方法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 13584-1992 "infrared detectors parameter test method." The major changes compared with the standard GB/T 13584-1992 "infrared detectors Parameter Test Method" as follows:

- Increase the use of FTIR spectral response test method (see 6.3.3);
- Modify some parameters of the testing methods, such as. blackbody responsivity, noise, spectral response, in response to cell area and the like. The standard proposed by the Ministry of Information Industry and the People's Republic of China. The standard by the China Institute of Science and Technology Corporation eleventh. This standard was drafted. 11th Institute of China Science and Technology Corporation. The main drafters of this standard. Zhao Jianzhong, Liu Jianwei, Lijin Wu, Zhang Jianwei, Luo Hong, Shen Xiaoping. This standard replaces the previous version of the release of case.
- GB/T 13584-1992. Infrared detectors Parameter Test Method

1 Scope

GB/T 13584-2011 is the Chinese national standard on measuring methods for paramaters of infrared detectors, in the field of electronics. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 30 December 2011 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 July 2012. Classification: ICS 31.260, CCS L52. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the infrared detector (hereinafter referred to as probe) parametric test method and testing equipment and instruments. This standard applies to all types of unit infrared detector test parameters, but also for infrared detectors corresponding parameters multivariate testing.

2 Normative references

No provision of this chapter.

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Multiple infrared detector multi-elementinfrareddetector Sensitive to infrared radiation, the number of not less than 2 yuan yuan and has no detector readout circuit.

3.2 Blackbody responsivity blackbodyresponsivity The electrical detector output rms value of the fundamental frequency of the voltage (open circuit) or the rms value of the fundamental frequency current (short-circuit) the power of the incident radiation The fundamental component ratio of the rms value. Represented by R_{bb} .

3.3 Detector noise noise In the infinite load, after deducting noise preamplifier, the noise detector at both ends of the probe. Represented by V_n .

3.4 Detector spectral response spectralresponse As a function of the relative response of the detector and the wavelength of the incident radiation, represented by R_{λ} .

3.5 Detection rate detectivity Response rate divided by the rms noise, converted to the amplifier unit bandwidth, and press the square root of the area relationship converted to the detector unit area Value. Blackbody radiation measured by the detection rate is called blackbody detectivity, D^*_{bb} to represent. Monochromatic radiation measured by the rate called optical probe Spectrum detection rate, denoted as D .

3.6 Response Rate unevenness responsivitynon-uniformity Multiple detector for each effective pixel response rate difference between the yuan. With each pixel response rate and average response rate and the difference between the rms level Average response rate ratio to characterize. Represented by UR .

3.7 Effective pixel rate operablepixelfactor For multivariate detector, when the pixel response rate falls below a certain predetermined value and the noise is greater than a predetermined value and the number of pixels total pixel detector The ratio of the number. He expressed N_{ef} .