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

GB/T 5838-1986

Replacing GB/T 5838-1986

Phosphors -- Part 1: Terminology
(English Translation)

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Foreword

GB/T 5838 "phosphor" series of national standards include the following.

- Part 1. Terminology;
- Part 2. grades;
- Part 3. Performance test methods;
- Part 4-1. Black and white phosphor display tubes;
- Part 4-2. Indicates useful phosphors;
- Part 4-3. CRT display tubes and phosphors;
- Part 4-4. color picture tube phosphors;
- Part 4-5. color display tubes phosphor.

This part of GB/T 5838 Part 1.

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

This Part replaces GB/T 5838-1986 "phosphor terminology." Section compared with GB/T 5838-1986 The main changes are as follows.

- The half-width and linewidth two terms combined into one term, and have said (see 2.68 with prior term, 1986 edition of 1.67 and 1.66);
- Increasing the excitation wavelength, emission peak and relative brightness of terms and definitions (see 2.60,2.64,2.74);
- Increasing the cold cathode fluorescent lamp (CCFL) phosphors, plasma display panel (PDP) with a phosphor, a light emitting diode (LED) with Phosphor, a field emission display

(FED) phosphors, a vacuum fluorescent display (VFD) with a phosphor, temperature characteristics and terminology Defined (see 3.7 to 3.9,3.22,3.27,3.71);

--- Increase the dispersion of the particle size distribution, surface area than the terms and definitions, pH, conductivity, flowability, spectral reflectance (see 4.52, 4.53,4.56 ~ 4.58,4.63);

--- Increase the cold cathode fluorescent lamp (CCFL), plasma display panel (PDP), a light emitting diode (LED), Field Emission Display (FED), a vacuum fluorescent display (VFD) terms and definitions (see 5.50 - 5.54);

--- Modified trichromatic lamp phosphors, and an increase in manganese europium barium magnesium aluminate phosphor (see Table 1, Table 1 of the 1986 edition);

--- Modify the color lamp phosphors (see Table 2, 1986 edition of the Table 2);

--- Modified blacklight phosphors (see Table 3, 1986 edition Table 3);

--- Remove the electroluminescence test kit, dielectric, constant and dielectric loss, secondary electron emission, secondary electron emission coefficient, e Penetration depth definitions of terms (see the 1986 edition of 3.101 ~ 3.107);

--- According to GB/T 20001.1-2001 requirements, will appear in the definition of allowable terms, terminology and symbols to adjust priorities to place term Set, definition of illustration and description with examples and note that the deleted and unrelated narrative;

--- Removed all names phosphor colon.

Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents.

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

This part of the National Standardization Technical Committee device and semiconductor material (SAC/TC203) centralized.

This section is drafted. the Rainbow Group, China Electronics Standardization Institute.

1 Scope

GB/T 5838 provisions of this part of the phosphor material commonly used terminology and definitions.

This section applies to the understanding and use of common terminology of the phosphor.

2 Basic Concepts

Emitting radioluminescence EL coldluminescence Objects outside of a radiation-thermal radiation.

NOTE: The duration of this radiation to light than the oscillation period.

Fluorescence After excitation stop, duration less than 10^{-8} s luminous.

Example.

Steam, gas or liquid at room temperature, emitting a typical fluorescence.

Note: Sometimes not to emit light is defined as the duration of the fluorescence, but the spontaneous emission of molecules called fluorescence.

Phosphorescence After excitation stop, duration greater than 10^{-8} s luminous.

Example.

Emitting heavy metal activated alkaline earth metal light-emitting substance is typical of phosphorescence.

Note: Sometimes the recombination luminescence of crystals called phosphorescence. But now fluorescence and phosphorescence are not critical distinction.

Photoluminescence UV, visible or infrared radiation generated by excitation light-emitting material to emit light.

Example.

Fluorescent light.

EL electroluminescence Cause luminescence in the solid field or current role.

Note: The current common electroluminescent material, there are three forms. junction, film and powder, wherein the powder electroluminescent another DC and AC points.

AC electroluminescent AC electroluminescence Alternating electric field caused by the light emission.

NOTE: It is excited by an alternating electric field, even if the conduction current through the small, still give light.