1

■ TERMS TO BE USED FOR THE OPTOELECTRONIC DEVICE

There are 2 types of measuring method, such as Radiometry and Photometry in the operating area, and each methood has applied different term in the measuring system.

The radiometry system is the way measuring the radiation of the entire wavelength, such as, ultra violet ray, visible light ray, and infrared ray. The photometry is to measure the wave range of visible light (380-750nm). The basic unit to be called of the power when measuring the radiometry is Watt (W), while the photometry, it is the Lumen (lm).

While observing the specification of the optoelectronic device, there are different of terms to be used for the display device and the sensor one, and it is why that there are 2 types of measuring methods. Here is the explanation of the terms to be used for the sensor device in the radiometry.

- ○ Radiant Energy (Qe: Unit J)
  The energy to be propagated in the form of electro-magnetic wave.
- ○ Radiant Power (Φe: Unit W or J/s)
  It is called as radiant flux, and it indicates the radiant energy per unit time.
- ○ Aperture Radiant Incidence (Ee: Unit W/m^2)
  The density of power incident on the surface.
- ○ Radiant Intensity (Ie: Unit W/sterad.)
  Radiant power per unit solid angle, propagated in a given direction.
- ○ Radiance (Le: Unit $W/sterad.\cdot m^2$)
  It's the radiant power propagated on the designated unit area, in a given direction, to be separated, passing through, or arriving at the very surface, and so on.
  The term designated unit area means the projected unit area on vertical surface in a given direction.

■ OTHER TERMS TO BE USED FOR THE ELECTRO-OPTICAL SPPLICATION

Following are the explanation of the terms often to be applied in regard to the optical device.

- ○ Half-viewing angle (intensity angle) (Q: Unit deg)
  Under the designated input current, and the radiant expansion angle when coming to the point of the relative radiant power at around 50%.
- ○ Halfdetective angle (Detectivity angle) (ϕ : Unit deg)
  Under the bias condition of desiganated voltage, the detectivility expansion angle at the point when the relative sensitivity at around 50%.
- ○ Peak emission (Detectivity) wavelength (λp: Unit nm)
  Under the designated input (the designated bias condition) the wavelength at the point when relative radiance (relative detectivity) becoming its maximum in value.
- ○ Light current (Output current) (I_L : Unit A)
  Its the collector current or the diode current at the designated input Radiant Power, under the designated input radiant ray and the disignated bias voltage.
- ○ Dark current (I_D or Iceo: Unit A)
  Its the leak current at the condition when the radiant ray is not emitted under the designated bias voltage condition.
- ○ Current transfer ratio (CTR: Unit %)
  Under the designated LED forward current I_F and the designated photo transistor bias voltage V_{CE}, when measuring the light current I_L to be flown on photo transistor, the calculated value by $I_L/I_F \times 100$.