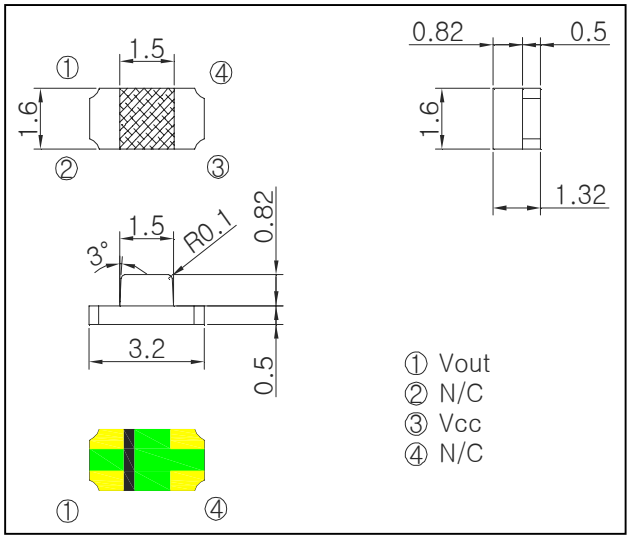
Visible Light Sensor

KOE1007

The KOE1007 is an advance ambient light sensor which incorporates photo diode and current amplifier in a single chip.

DIMENSIONS (Unit : mm)



FEATURES

- Miniature Surface Mounted Package.
  - 1.6mm(L) X 3.2mm(W) X 1.32mm(H)
- RoHS compliant and Lead-Free Packsge.
- Excellent output Linearity of illumination.

APPLICATIONS

- Mobile phone, PDA, Smart Phone
- Notebooks, Web pads, LCD monitors.
- TVs, Video Cameras, Digital Cameras
- Automotive

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	Min	Max	Unit
Supply Voltage	V_{cc}	-0.5	6.5	V
Output Voltage	V_{out}	-	≤Vcc	V
Light Current	I_L	-	8	mA
Supply Voltage	V_{cc}	2.4	5.5	V
Load Resistance	R_{LOAD}	0	100K	Ω
Operating Temperature	Topr.	-30	85	℃
Operating Temperature	Topr.	-30	85	°C
Storage Temperature	Tstg.	-40	100	°C
Soldering Temperature*1	Tsol	260		°C

Notes *1 : Vcc=5V, RL=100Ω

KOE1007

ELECTRO-OPTICAL CHARACTERISTICS (Ta=25°C)

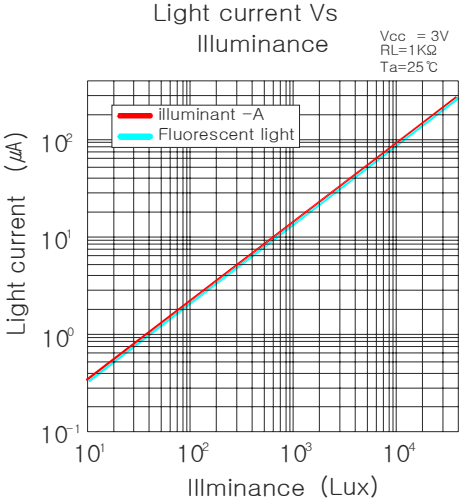
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Light Current		I_L1	Vcc=3V, Ev=10Lx [2][4]	-	22	-	μA
Light Current		I_L2	Vcc=3V, Ev=100Lx [2][4]	-	220	-	μA
Light Current		I_L3	Vcc=3V, Ev=100Lx [1][4]	-	220	-	μA
Dark Current		I_D	Vcc=3V, Ev=0Lx	-	0.1	0.4	μA
Light Current Ratio		I_L3 / IL2	-	-	1	1.5	
Saturation Output Voltage		V_{OUT}	Vcc=3V, Ev=1000Lx R_{LOAD}=7.5K [2][4]	-	2.1	-	V
Swiching speeds	Rise time	tr	Vcc=3V, Ev=100Lx R_{LOAD}=1K [4]	-	2	-	mS
	Fall time	tf		-	3	-	mS
Peak wavelengh		λp	I_F=20㎃	-	520	-	nm
Half angle		Δθ		-	±70	-	degrees

NOTE :

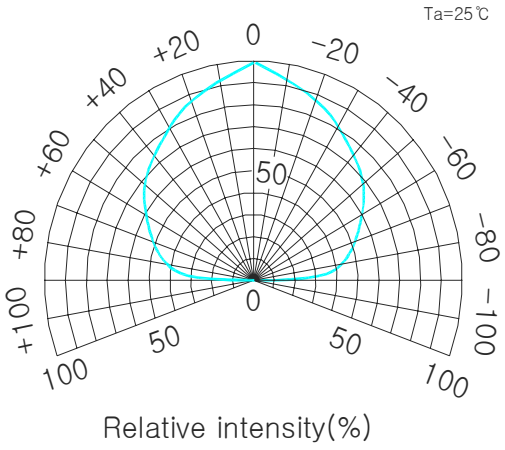
1. Illuimianace by CIE standard light source, illuminant-A / 2856K standard Tungsten Lamp.
2. Fluorescent light is used as light source.
3. 520nm LED is substituted in mass production.
4. Light current measurment circuit.

KOE1007

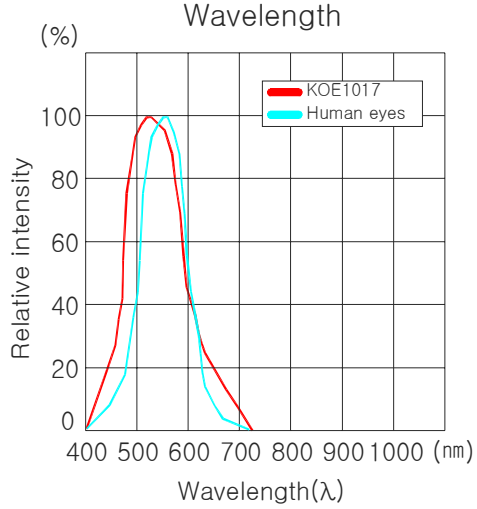
Light current Vs
Illuminance



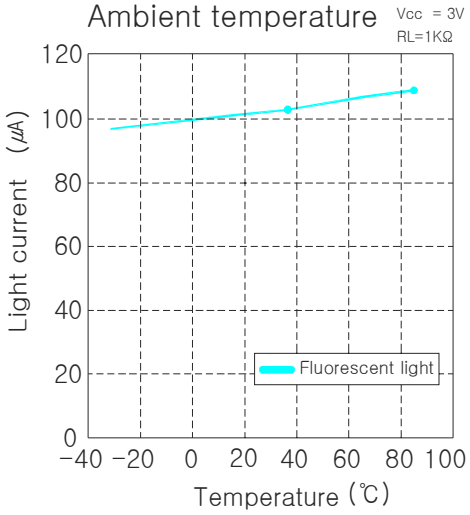
Radiant Pattern
Angle(deg.)



Relative intensity Vs.
Wavelength



Light current Vs.
Ambient temperature



Dark current Vs.
Ambient temperature

