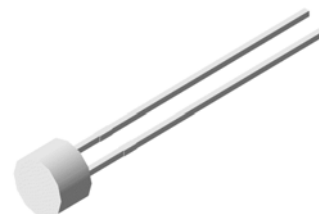


Ambient Light Sensor

OE TC286

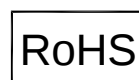
Features

- Low sensitivity variation across various light sources
- Excellent linearity across wide illumination range
- High speed and high sensitive silicon NPN material
- High reliability standard LED package with water clear lens
- Wide supply voltage from 3.0V to 24V
- Remain within RoHS compliant



Applications

- Automatic residential and commercial management
- Automatic contrast enhancement for electronic signboard
- Detection of ambient light to central display backlighting
- Lighting device
- Consumer device –Toys



Absolute Maximum Rating $T(\text{amb}) = 25^{\circ}\text{C}$, unless otherwise specified

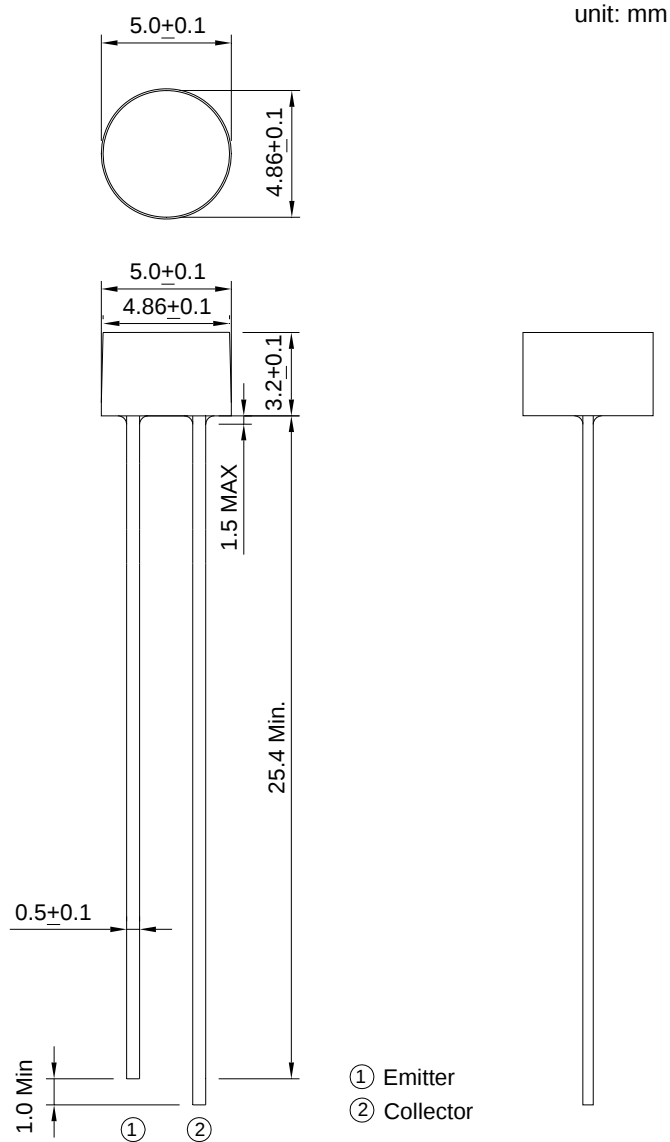
Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	2.0 ~ 24.0	V
Operating Temperature Range	T_{opr}	-30 ~ +85	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-30 to +100	$^{\circ}\text{C}$
Soldering Temperature	T_{sol}	260 $\pm$ 10	$^{\circ}\text{C}$

Note: Please take note the Absolute Maximum Rating values. Any operation beyond the specified ratings in this table will result degradation of LED life-span and may cause LED to fail.

Recommended Operating Conditions

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	3.0 ~ 24.0	V
Operating Temperature	T_{opr}	-30 ~ +85	$^{\circ}\text{C}$

Package Dimension:



Notes:

1. All dimensions are millimeters.
2. Tolerance is ± 0.2 mm unless otherwise specified.
3. Specifications are subject to change without notice.

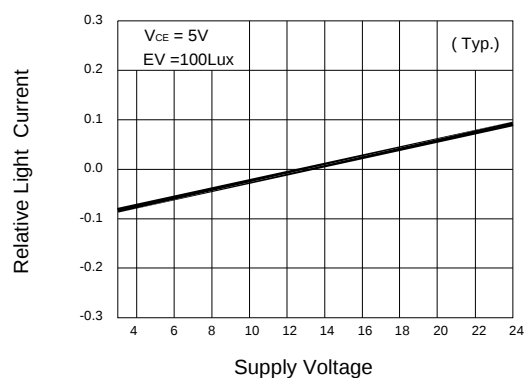
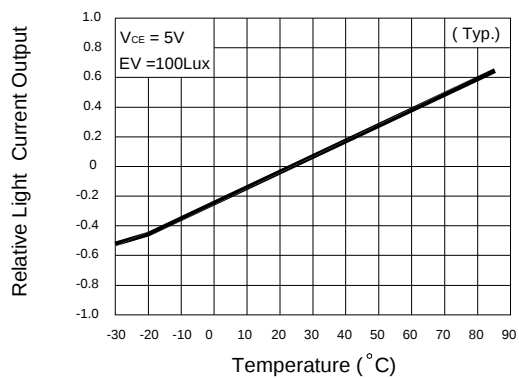
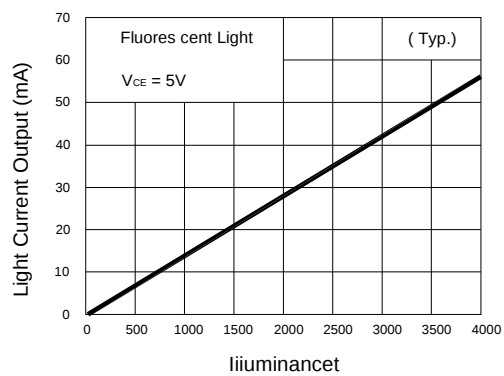
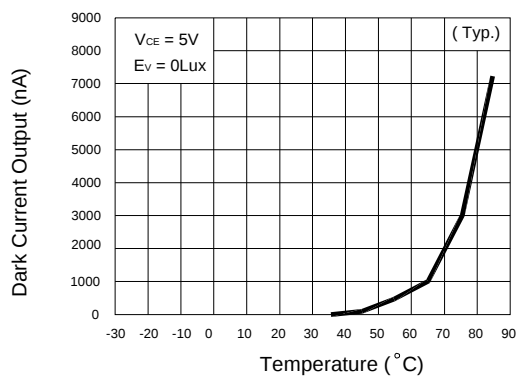
Optical Characteristics Tamb=25°C, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Dark Current	$V_{CC} = 3V$ $E_v = 0Lx$	I_{CEO}	--	---	0.1	μA
Collector-Emitter Breakdown Voltage	$I_{CEO} = 500\mu A$	BV_{CEO}	---	60	--	V
Collector-Emitter Saturation Voltage	$I_C = 50mA$ $E_v = 1000Lx$	$V_{CE(SAT)}$	---	---	1.0	V
Light Current	$V_{CE} = 5V$ $E_v = 10Lx$ (note1)	I_{PH1}	20	--	55	μA
	$V_{CE} = 5V$ $E_v = 100Lx$ (note1)	I_{PH2}	285	--	720	μA
	$V_{CE} = 5V$ $E_v = 100Lx$ (note2)	I_{PH3}	--	13.0	---	mA
Saturation Out put Voltage	$V_{CC} = 3V$ $E_v = 1000Lx$ (note2)	V_O	--	4.7	---	V
Peak Wavelength	λ_p	--	--	790	--	nm
Wavelength Range	λ_R	---	400	---	1020	nm
Angle of Half Sensitivity	---	$2\theta_{1/2}$	--	110	--	Deg

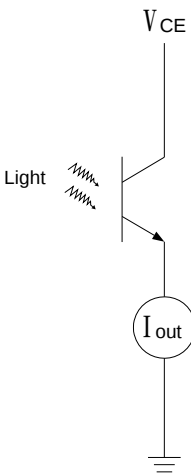
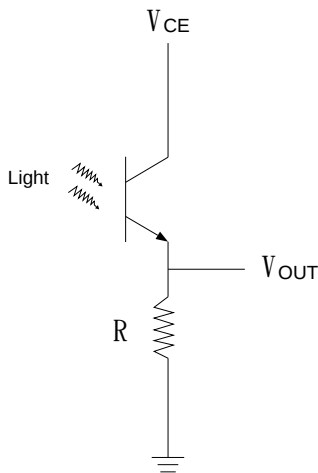
Notes:

- (1) White Fluorescent light is used as light source (Color Temperature @ 6500k)
- (2) Illuminati by CIE stand illuminant-A / 2856k. incandescent lamp.

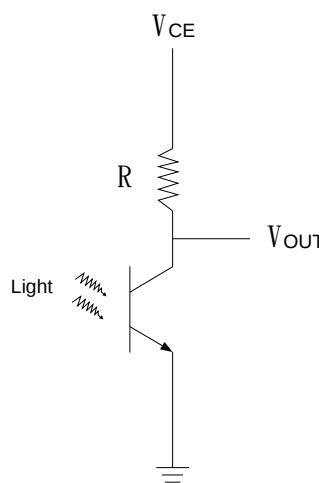
Typical Electro-optical Characteristics Curves



Recommend Application Circuit

Measurement Light Current	Measurement Voltage Output
	

Recommend Application Circuit

For CDS Circuit


Note:

1. The out put voltage is the product of photo current(I_{PH}) and loading resistor(R_L)
2. A right loading resistor shall be chosen to meet the requirement of maximum ambient light.