

## **Ambient Light Sensor**

### **Description**

GT475PT-Z3 ambient light sensor plays a key role in power savings strategies by controlling LCD display intensity and keypad backlighting of mobile devices and in commercial on/off-lighting operation.

It is sensitive to visible light much like the human eye and has Peak sensitivity at 520 nm, Is photo -IC daylight sensor with Optical filterless . it has both low drive voltage and output in Proportion to illumination, and it has not sensitivity in a long Wavelength domain.

### **Features**

- High sensitivity, IPCE = 550  $\mu$ A (EV = 100 lx)
- Adapted to human eye responsivity
- Lead (Pb)-free component in accordance with RoHS

### **Applications**

Ambient light sensor for control of display backlight dimming in LCD displays and keypad backlighting of mobile devices and in commercial on/off-lighting operation.

- Notebook computers
- PDA's
- Cameras

**Absolute Maximum Ratings**

(Ta=25°C)

Item	Symbol	Ratings	Unit	Remarks
Supply voltage	Vcc	-0.5~6.0	v	-
Collector-emitter voltage	Vce0	6.0	v	-
Operating temp	Topr	-20~+85	°C	-
Storage temp	Tstg	-30~+100	°C	-
Soldering temp	Tsol	260	°C	-

**Recommendable operating voltage**

(Ta=25°C)

Item	Symbol	Ratings	Unit	Remarks
Supply voltage	Vcc	1.8-5.5	v	-

**Electro-optical characteristics**

(VCC=5V、A light source、Ta=25°C)

Item	Symbol	condition	Min	Typ	Max	Unit
Dark current	Id	E = 0 lx, Vce=5.0v		35	80	nA
Light current	IL	Ev = 100 lx, A, ※1	400	550	700	μA
Light current	IL	Ev = 5.0 lx, A, ※1	20	27.5	35	μA
Light current	IL	Ev = 1.5 lx, A, ※1	6	8.2	10	μA
Peak wavelength	$\lambda_p$			520		nm
Spectral sensitivity	$\lambda$		400		750	nm
Half angle	$\Delta \theta$			$\pm 65^\circ$		deg
Saturation output voltage	Vo max	VCC = 5 V Rss=300K		4.2		V

※1 The inspection process shall substitute for LED( 2856k)

Typical Characteristics

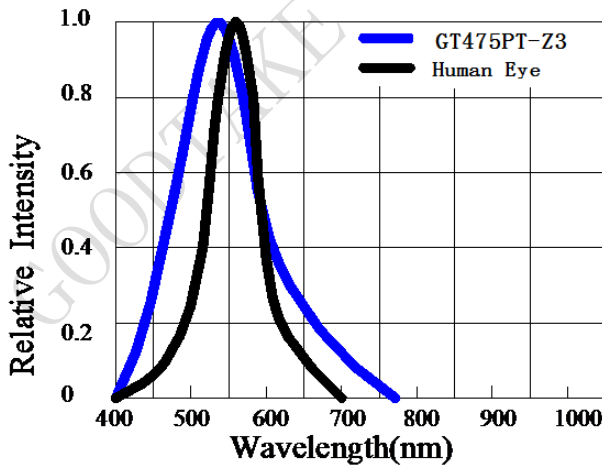


Fig.1 Spectrum sensitivity

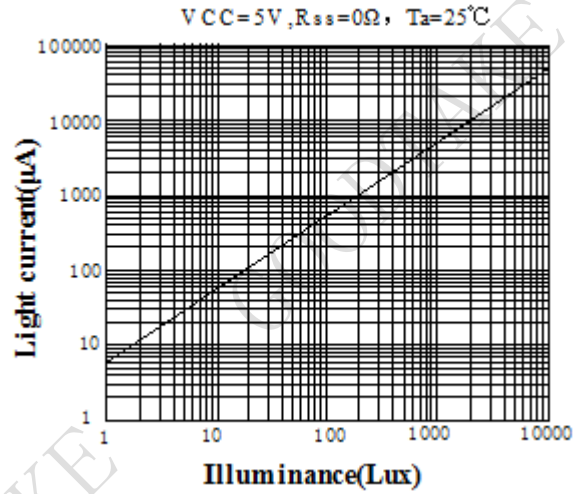


Fig.2 Light current & illuminance  
condition: RL=300K, Vcc=5v, Ta=25°C

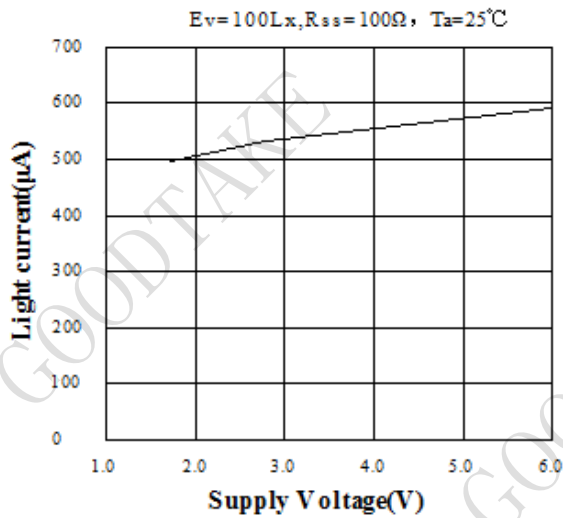


Fig.3 Light current & supply voltage

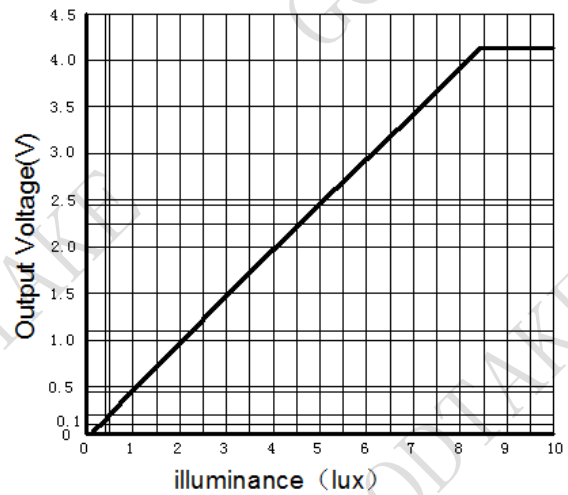


Fig.4 output voltage & illuminance

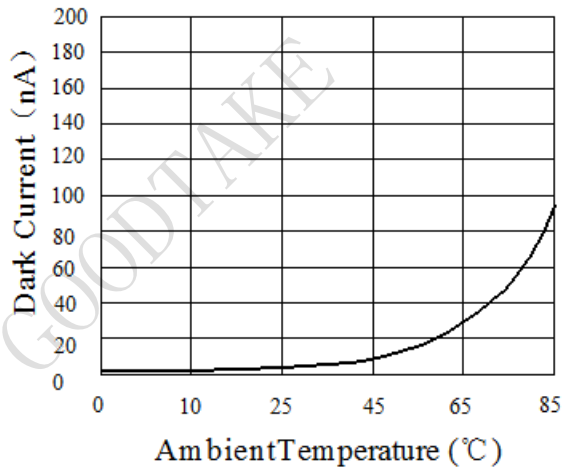
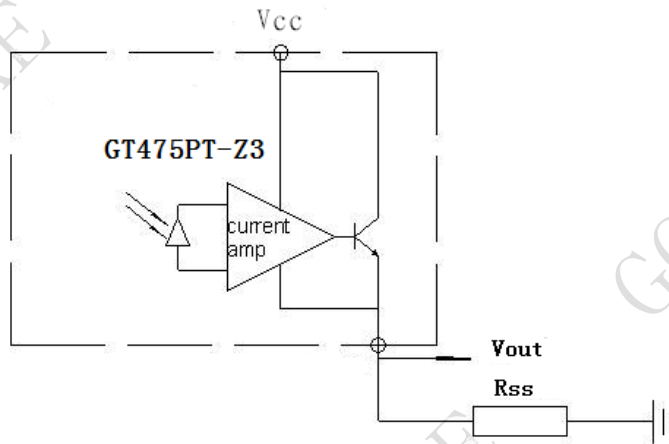
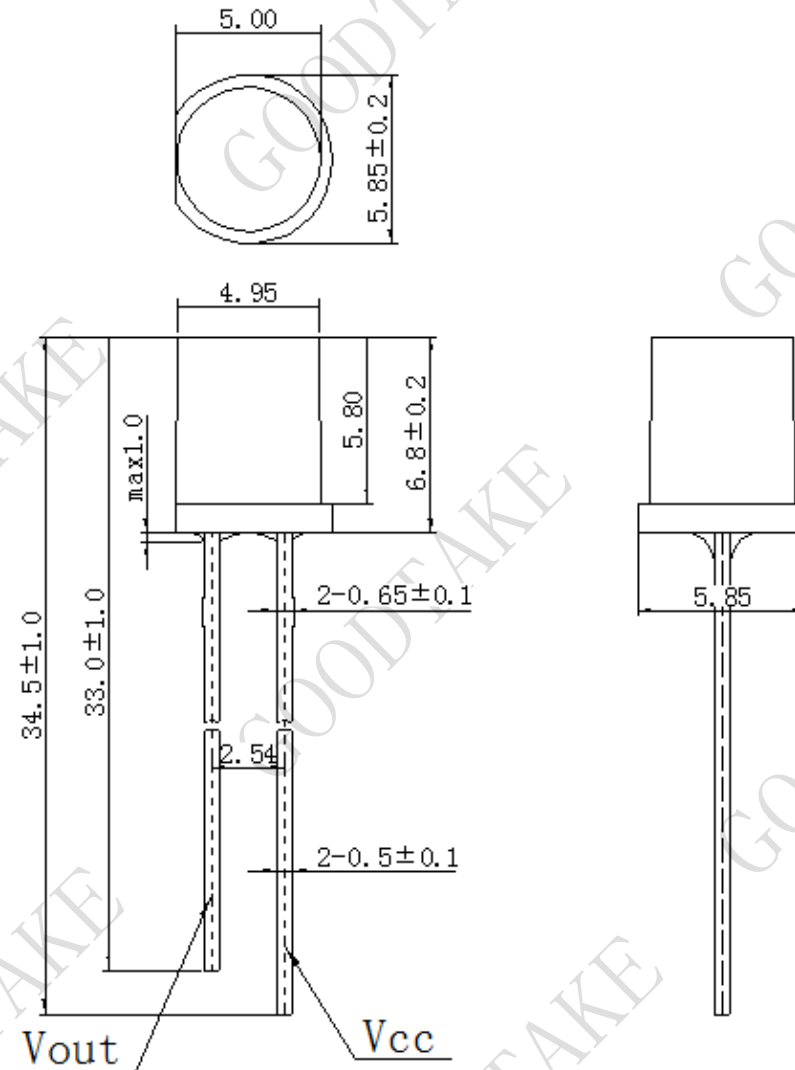


Fig.5 Dark Current& temperature

**Application circuit**



**Package Outline**



**NOTE:** All dimensions are in millimeter, tolerance is  $\pm 0.3$  unless otherwise noted.