AUK Semiconductor

ST5811

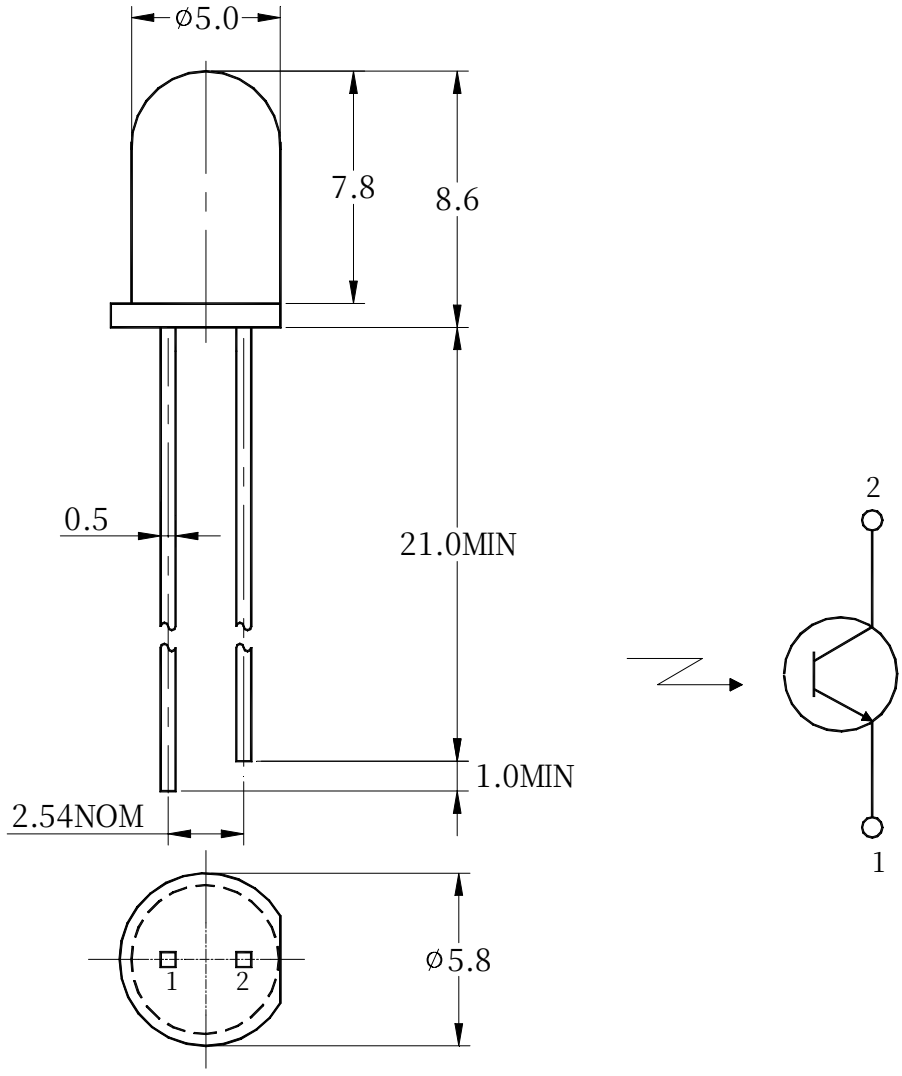
Photo Transistor

Features

- Lensed for high sensitivity
- ϕ5mm(T-1 3/4) all plastic mold type
- High reliability and stable characteristics
- Visible light cut-off type

Outline Dimensions

unit : mm



PIN Connections
1. Emitter
2. Collector

Absolute maximum ratings

Characteristic	Symbol	Ratings	Unit
Collector-Emitter Voltage	V_{CEO}	35	V
Emitter-Collector Voltage	V_{ECO}	6	V
Collector Current	I_C	20	mA
Collector Power Dissipation	P_D	75	mW
Operating Temperature	T_{opr}	-25 85	℃
Storage Temperature	T_{stg}	-30 100	℃
*1Soldering Temperature	T_{sol}	260℃ for 5 seconds	

*1. Keep the distance more than 2.0mm from PCB to the bottom of LED package

Electrical Characteristics

Characteristic		Symbol	Test Condition	Min	Typ	Max	Unit
Current Dark Current		I_{CEO}	V_{CEO}=10V, E_e=0	-	0.05	0.5	uA
*3Light Current		I_{CEL}	V_{CE}=5V, E_e 1mW/㎠	-	4.5	-	mA
Current-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=0.5mA, E_e 1mW/㎠	-	0.2	-	V
Switching Time	Rise Time	t_r	V_{CC}=10V, I_C=1mA R_1=100Ω	-	2.5	-	us
	Fall Time	t_f			3.8		
Spectral Sensitivity		λ	-	700 ~ 1000			nm
Peak Sensitivity Wavelength		$λ_P$	-	-	880	-	nm
Half angle		θ1/2	I_F= 20mA	-	±20	-	deg

*1. Tolerance = ±30%

Characteristic Diagrams

Fig. 1 I_{CEL} - E_e

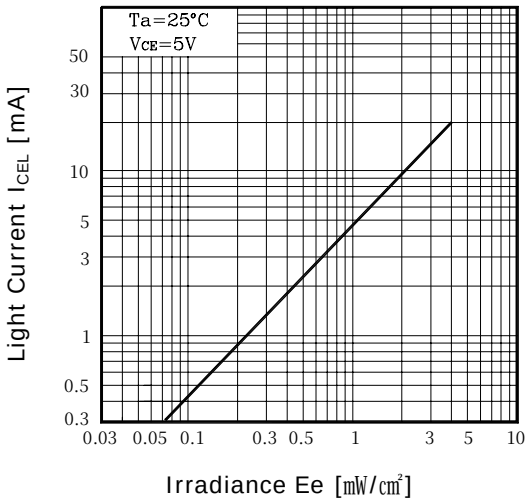


Fig. 2 I_{CEL} - V_{CE}

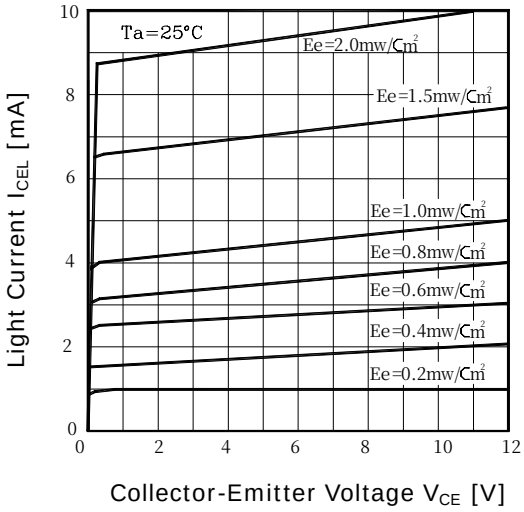


Fig. 3 P_D – Ta

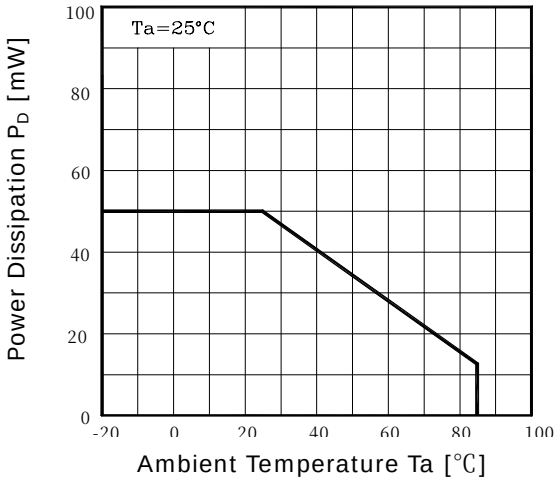


Fig.4 I_{CEO} – Ta

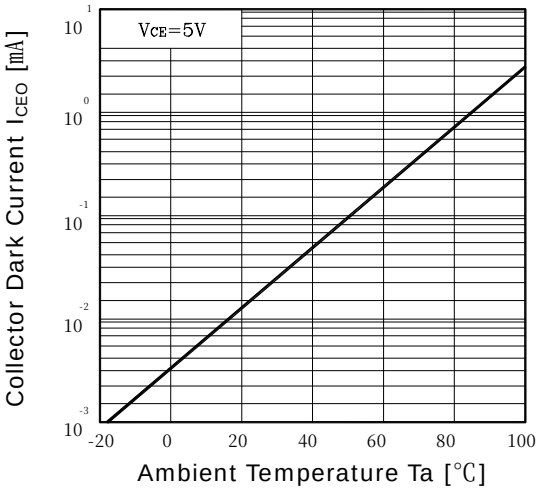


Fig. 5 Spectrum Sensitivity

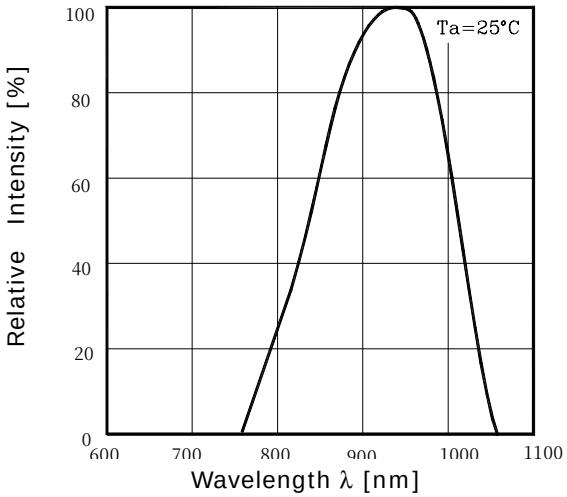


Fig. 5 Sensitivity Diagram