Photo Transistor --ORTPT3046

1. Scope：

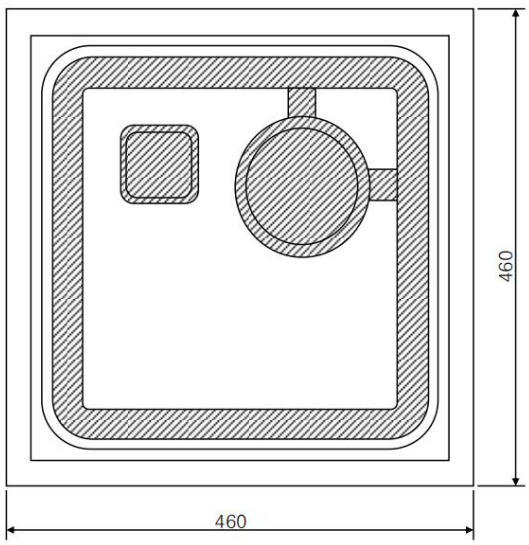
- This specification applies to Low Saturation NPN Photo Transistor.

2. Structure：

- Top Side： alumnium alloy
- Bottom Side： gold alloy
- Passivation ： Silicon Nitride

3. Size：

- Die Size：460μm×460μm±20μm
- Thickness：200μm±20μm
- Pad Size：
- Base ：75μm×75μm±10μm
- Emitter ：Φ 135μm±10μm
- Active Area ：350μm×350μm±20μm
- Pattern Drawing：fig.1.



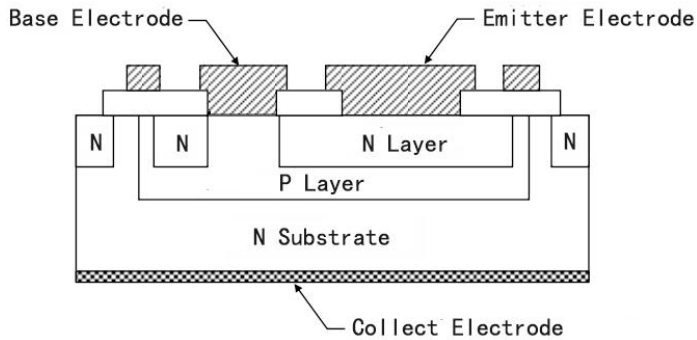


fig.1

4. Absolute Maximum Ratings：

(Ta=+25℃)

Parameter	Symbol	Maximun rating	Unit
Collecctor-Emitter Voltage	V_{CEO}	60	V
Emitter-Collector Voltage	V_{ECO}	6	V
Junction Temperature	T_J	150	℃

5. Electro-Optical Characteristics：

(Ta=+25℃)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
C-E Leakage Current	I_{CEO}	V_{CE}=20V			50	nA
Spectrum Sensitivity	λ		450		1100	nm
Peak Sensing Wavelength	λ_P			880		nm
C-E Saturation Voltage	V_{CES}	I_C=5mA, I_B=1mA			250	mV
C-E Voltage	BV_{CEO}	I_{CE}=500μA	70			V
C-B Voltage	BV_{CBO}	I_{CB}=50μA	100			V
E-B Voltage	BV_{EBO}	I_{EB}=50μA	6			V
E-C Voltage	BV_{ECO}	I_{EC}=50μA	6			V
DC Current Gain 1	h_{FE1}	V_{CE}=10V, I_C=1mA	300			-
DC Current Gain 2	h_{FE2}	V_{CE}=10V, I_C=0.1mA	150			-
Lineality		h_{FE1}/h_{FE2}			1.3	-

Note : * BV_{ECO} : hFE 1800~ (BV_{ECO} = Min. 4V)
** hFE RANK : A(300-450), B(400-600), C(600-900), D(700-1050)
E(800-1300), F(900-1400), G(1100-1700), H(1300-2000)
I(1400-2500)

6. Spectral Response