

Photo Transistor --ORTPT3041

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: $415\mu\text{m} \times 415\mu\text{m} \pm 20\mu\text{m}$
- Thickness: $200\mu\text{m} \pm 20\mu\text{m}$
- Pad Size:
- Base : $70\mu\text{m} \times 70\mu\text{m} \pm 10\mu\text{m}$
- Emitter : $138\mu\text{m} \times 138\mu\text{m} \pm 10\mu\text{m}$
- Active Area : $320\mu\text{m} \times 320\mu\text{m} \pm 20\mu\text{m}$
- Pattern Drawing: fig.1.

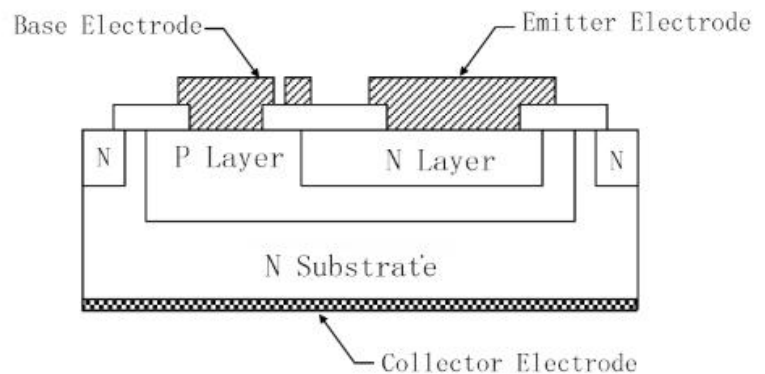
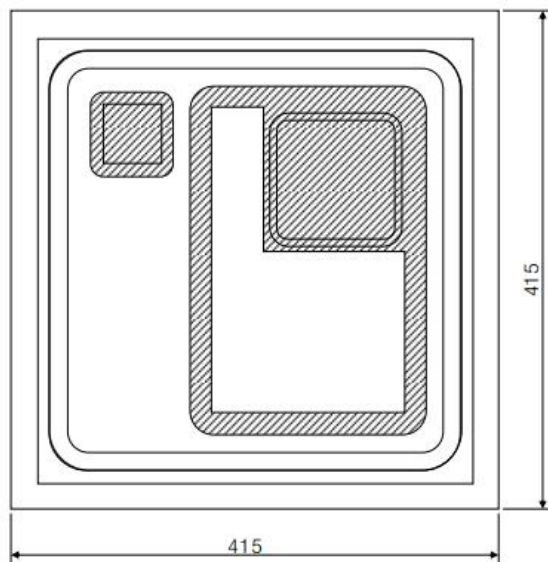


fig.1

4. Absolute Maximum Ratings:

(Ta=+25℃)

Parameter	Symbol	Maximun rating	Unit
Collector-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}	$I_{CE}=500\mu A$	70			V
C-B Voltage	BV_{CBO}	$I_{CB}=50\mu A$	100			V
E-B Voltage	BV_{EBO}	$I_{EB}=50\mu A$	7			V
E-C Voltage	BV_{ECO}	$I_{EC}=50\mu A$	7			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: *hFE RANK : A(300-450), B(400-600), C(600-900), D(700-1050) E(800-1200),

F(900-1400), G(1100-1700), H(1300-2000)

6. Spectral Response

