

# Photo Transistor --ORT-PT3124H1

## 1. Scope:

- This specification applies to NPN Photo Transistor.

## 2. Structure:

- Top Side : aluminium alloy
- Bottom Side : silver alloy
- Passivation : Silicon Nitride

## 3. Size:

- Die Size :  $(610\mu\text{m}\times 610\mu\text{m})\pm 40\mu\text{m}$
- Thickness :  $220\mu\text{m}\pm 30\mu\text{m}$
- Pad Size :
- Base :  $70\mu\text{m}\times 70\mu\text{m}\pm 20\mu\text{m}$
- Emitter :  $155\mu\text{m}\times 155\mu\text{m}\pm 20\mu\text{m}$
- Active Area :  $450\mu\text{m}\times 450\mu\text{m}\pm 20\mu\text{m}$
- Pattern Drawing: fig.1.

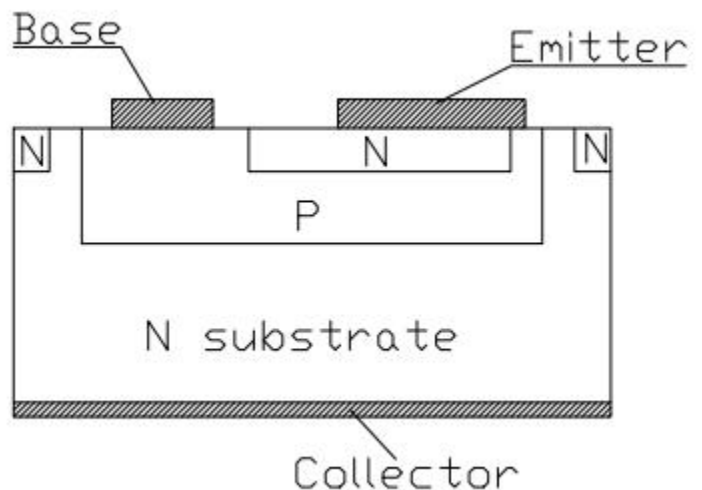
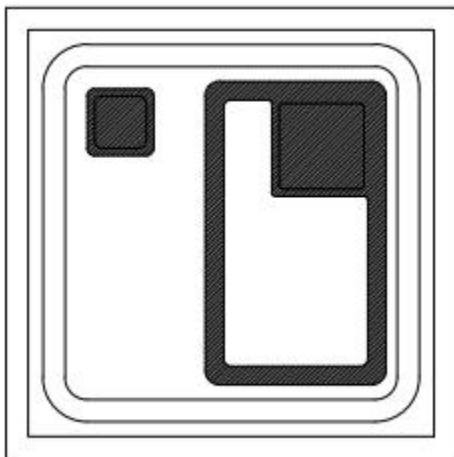


fig.1

## 4. Electro-Optical Characteristics:

( $T_a=+25^\circ\text{C}$ )

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
C-E Leakage Current	$I_{CEO}$	$V_{CE}=20\text{V}$ $H=0\text{mw/cm}^2$			100	nA
C-E Saturation Voltage	$V_{CES}$	$I_C=5\text{mA}$ , $I_B=1\text{mA}$			250	mV
C-E Voltage	$BV_{CEO}$	$I_{CE}=500\mu\text{A}$	70			V
E-C Voltage	$BV_{ECO}$	$I_{EC}=50\mu\text{A}$	6			V
DC Current Gain	$h_{FE}$	$V_{CE}=10\text{V}$ , $I_C=1\text{mA}$	300			-

\***Note** :  $BV_{ECO}$  :  $h_{FE}$ : 1000~ ( $BV_{ECO}$  = Min. 3V)



## 5. hfe Classification:

### PT3124H13 series(1:1.3)

Classification	PT3124H1-3A	PT3124H1-3B	PT3124H1-3C	PT3124H1-3D	PT3124H1-3E
hfe	600~780	660~860	720~940	780~1020	840~1100

Classification	PT3124H1-3F	PT3124H1-3G	PT3124H1-3H	PT3124H1-3I	PT3124H1-3J
hfe	900~1180	960~1260	1020~1340	1080~1420	1140~1500

Classification	PT3124H1-3K	PT3124H1-3L	PT3124H1-3M	PT3124H1-3N
hfe	1200~1580	1500~2000	2000~2600	2400~3000

### PT3124H15 series(1:1.5)

Classification	PT3124H1-5A	PT3124H1-5B	PT3124H1-5C	PT3124H1-5D	PT3124H1-5E
hfe	600-900	700-1050	800-1300	900-1400	1100-1700

Classification	PT3124H1-5F	PT3124H1-5G	PT3124H1-5H
hfe	1300-2000	1500-2300	2000-3000

### PT3124H17 series(1:1.7)

Classification	PT3124H1-7A	PT3124H1-7B	PT3124H1-7C	PT3124H1-7D	PT3124H1-7E
hfe	600~1020	680~1160	760-1300	840-1440	920-1580

Classification	PT3124H1-7F	PT3124H1-7G	PT3124H1-7H
hfe	1000-1700	1200-2000	1800-3000

### PT3124H1A series(1:2)

Classification	PT3124H1-AA	PT3124H1-AB	PT3124H1-AC	PT3124H1-AD	PT3124H1-AE	PT3124H1-AO
hfe	600~1200	800~1600	1000~2000	1200~2400	2000~3000	600~3000

## 6. Packing :

- Packing: Sheet Type

## 7. Application Notes:

- All data are measured by Orient' s tester on bare chips within 98% of the nominal value.