

# Photo Transistor --ORT-PT3118H1

## 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 :  $(455\mu\text{m}\times 455\mu\text{m})\pm 40\mu\text{m}$
- Thickness :  $220\mu\text{m}\pm 20\mu\text{m}$
- Pad Size:
- Base :  $80\mu\text{m}\times 80\mu\text{m}\pm 10\mu\text{m}$
- Emitter :  $\Phi 120\mu\text{m}\pm 10\mu\text{m}$
- Active Area :  $300\mu\text{m}\times 300\mu\text{m}\pm 20\mu\text{m}$
- Pattern Drawing: fig.1.

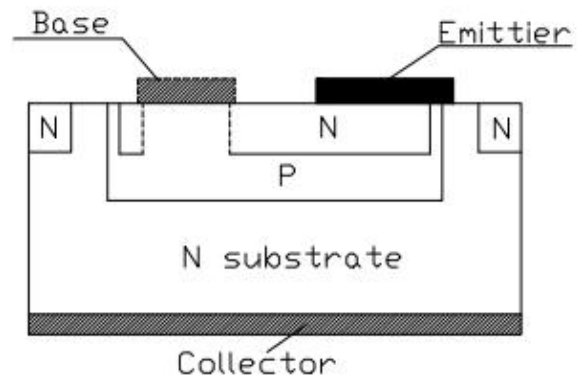
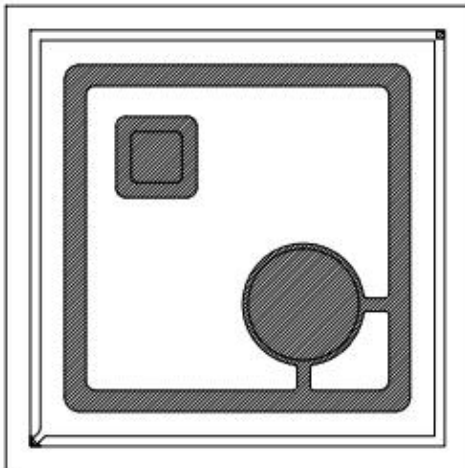


fig.1

## 4. Electro-Optical Characteristics:

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
C-E Leakage Current	$I_{CEO}$	$V_{CE}=20\text{V}$			50	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
C-B Voltage	$BV_{CBO}$	$I_{CB}=50\mu\text{A}$	70			V
E-B Voltage	$BV_{EBO}$	$I_{EB}=50\mu\text{A}$	7			V
E-C Voltage	$BV_{ECO}$	$I_{EC}=50\mu\text{A}$	7			V
DC Current Gain	$h_{FE}$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	300			-



## 5. hfe Classification:

### PT3118H1 3 series(1:1.3)

Classification	PT3118H1-3O	PT3118H1-3P	PT3118H1-3Q	PT3118H1-3R	PT3118H1-3S
hfe	200-260	260-340	320-420	380-500	440-580

Classification	PT3118H1-3T	PT3118H1-3U	PT3118H1-3A	PT3118H1-3B	PT3118H1-3C
hfe	500-650	550-720	600-780	660-860	720-940

Classification	PT3118H1-3D	PT3118H1-3E	PT3118H1-3F	PT3118H1-3G	PT3118H1-3H
hfe	780-1020	840-1100	900-1180	960-1260	1020-1340

Classification	PT3118H1-3I	PT3118H1-3J	PT3118H1-3K	PT3118H1-3L	PT3118H1-3M
hfe	1080-1420	1140-1500	1200-1580	1500-2000	2000-2600

Classification	PT3118H1-3N
hfe	2400-3000

### PT3118H1 5 series(1:1.5)

Classification	PT3118H1-5I	PT3118H1-5J	PT3118H1-5K	PT3118H1-5L	PT3118H1-5A
hfe	200-300	300-450	400-600	500-750	600-900

Classification	PT3118H1-5B	PT3118H1-5C	PT3118H1-5D	PT3118H1-5E	PT3118H1-5F
hfe	700-1050	800-1300	900-1400	1100-1700	1300-2000

Classification	PT3118H1-5G	PT3118H1-5H
hfe	1500-2300	2000-3000

### PT3118H1 7 series(1:1.7)

Classification	PT3118H1-7I	PT3118H1-7J	PT3118H1-7K	PT3118H1-7L	PT3118H1-7M
hfe	200-340	280-480	360-620	440-750	520-880

Classification	PT3118H1-7A	PT3118H1-7B	PT3118H1-7C	PT3118H1-7D	PT3118H1-7E
hfe	600-1020	680-1160	760-1300	840-1440	920-1580

Classification	PT3118H1-7F	PT3118H1-7G	PT3118H1-7H
hfe	1000-1700	1200-2000	1800-3000

### PT3118H1 A series(1:2)

Classification	PT3118H1-AF	PT3118H1-AG	PT3118H1-AA	PT3118H1-AB	PT3118H1-AC
hfe	200-400	400-600	600-1200	800-1600	1000-2000

Classification	PT3118H1-AD	PT3118H1-AE	T3118H1-AO
hfe	1200-2400	1500-3000	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.