

Photo Transistor --ORT-PT3124H1

1. Scope:

- This specification applies to NPN Photo Transistor.

2. Structure:

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

3. Size:

- Die Size : $610\mu\text{m} \times 610\mu\text{m}$ (include scribe line)
- 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.

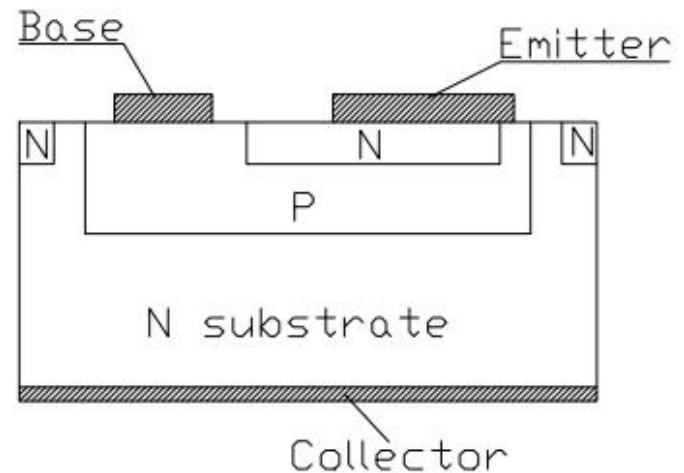
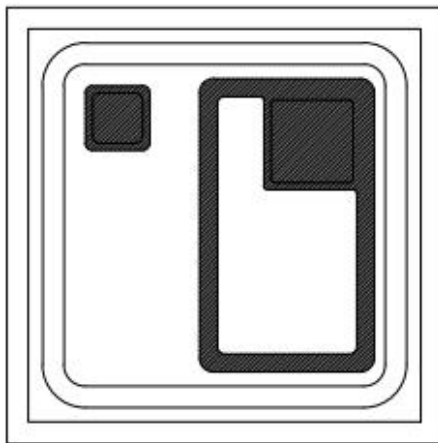


fig.1

4. Electro-Optical Characteristics:

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
C-E Leakage Current	I_{CEO}	$V_{CE}=20\text{V}$			100	nA
C-E Saturation Voltage	V_{CES}	$I_C=1\text{mA}, I_B=0.2\text{mA}$			200	mV
C-E Broken Voltage	BV_{CEO}	$I_{CE}=100\mu\text{A}$	70			V
C-B Broken Voltage	BV_{CBO}	$I_{CB}=50\mu\text{A}$	70			V
E-B Broken Voltage	BV_{EBO}	$I_{EB}=50\mu\text{A}$	6			V
E-C Broken Voltage	BV_{ECO}	$I_{EC}=10\mu\text{A}$	5			V
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}, I_C=1\text{mA}$	200		3000	-

***Note** : BV_{ECO} : h_{FE} : 1500~ (BV_{ECO} = Min. 3V)



5. hfe Classification:

PT3124H1 3 series(1:1.3)

Classification	PT3124H1-3O	PT3124H1-3P	PT3124H1-3Q	PT3124H1-3R	PT3124H1-3S
hfe	200~260	260~340	320~420	380~500	440~580

Classification	PT3124H1-3T	PT3124H1-3U	PT3124H1-3A	PT3124H1-3B	PT3124H1-3C
hfe	500~650	550~720	600~780	660~860	720~940

Classification	PT3124H1-3D	PT3124H1-3E	PT3124H1-3F	PT3124H1-3G	PT3124H1-3H
hfe	780~1020	840~1100	900~1180	960~1260	1020~1340

Classification	PT3124H1-3I	PT3124H1-3J	PT3124H1-3K	PT3124H1-3L	PT3124H1-3M
hfe	1080~1420	1140~1500	1200~1580	1500~2000	2000~2600

Classification	PT3124H1-3N	PT3124H1-3V	PT3124H1-3W
hfe	2400~3000	1300~1690	1330~1800

PT3124H1 5 series(1:1.5)

Classification	PT3124H1-5J	PT3124H1-5K	PT3124H1-5L	PT3124H1-5A	PT3124H1-5B
hfe	300~450	400~600	500~750	600~900	700~1050

Classification	PT3124H1-5C	PT3124H1-5D	PT3124H1-5E	PT3124H1-5F	PT3124H1-5G
hfe	800~1300	900~1400	1100~1700	1300~2000	1500~2300

Classification	PT3124H1-5H
hfe	2000~3000

PT3124H1 7 series(1:1.7)

Classification	PT3124H1-7I	PT3124H1-7J	PT3124H1-7K	PT3124H1-7L	PT3124H1-7M
hfe	200~340	280~480	360~620	440~750	520~880

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

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.