

Photo Transistor --ORT-PT3116H3

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 : $406\mu\text{m} \times 406\mu\text{m}$ (include scribe line)
- Thickness : $220\mu\text{m} \pm 20\mu\text{m}$
- Pad Size:
 - Base : $(90\mu\text{m} \times 90\mu\text{m}) \pm 10\mu\text{m}$
 - Emitter : $\Phi 120\mu\text{m} \pm 10\mu\text{m}$
- Active Area : $(240\mu\text{m} \times 240\mu\text{m}) \pm 20\mu\text{m}$
- Pattern Drawing: fig.1.

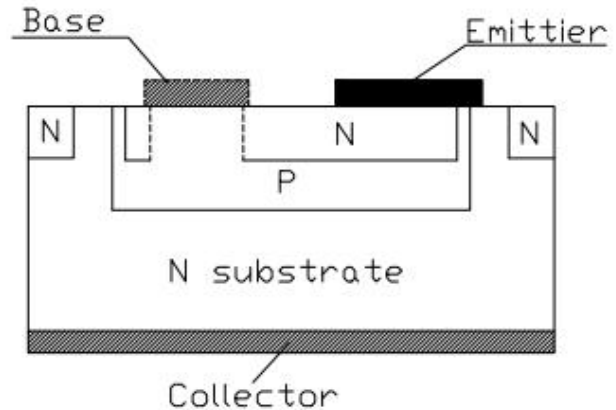
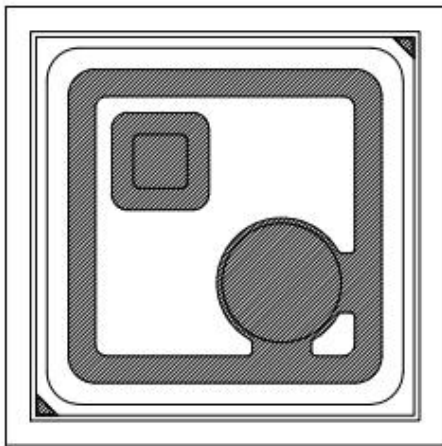


fig.1

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}	$I_C=1\text{mA}, I_B=0.2\text{mA}$			180	mV
C-E Broken Voltage	BV_{CEO}	$I_{CE}=100\mu\text{A}$	80			V
C-B Broken Voltage	BV_{CBO}	$I_{CB}=50\mu\text{A}$	80			V
E-B Broken Voltage	BV_{EBO}	$I_{EB}=50\mu\text{A}$	7.5			V
E-C Broken Voltage	BV_{ECO}	$I_{EC}=10\mu\text{A}$	7.2			V
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}, I_C=1\text{mA}$	600		3000	-
Rise/fall time	tr/tf	$V_{CE}=5\text{V}, I_C=2\text{mA}, R_L=100\Omega$		6/6		μs

***Note** : BV_{ECO} : h_{FE} : 1500~ (BV_{ECO} = Min. 4V)



5. hfe Classification:

PT3116H3 3 series(1:1.3)

Classification	PT3116H3-3A	PT3116H3-3B	PT3116H3-3C	PT3116H3-3D	PT3116H3-3E
hfe	600~780	660~860	720~940	780~1020	840~1100

Classification	PT3116H3-3F	PT3116H3-3G	PT3116H3-3H	PT3116H3-3I	PT3116H3-3J
hfe	900~1180	960~1260	1020~1340	1080~1420	1140~1500

Classification	PT3116H3-3K	PT3116H3-3L	PT3116H3-3M	PT3116H3-3N
hfe	1200~1580	1500~2000	2000~2600	2400~3000

PT3116H3 5 series(1:1.5)

Classification	PT3116H3-5A	PT3116H3-5B	PT3116H3-5C	PT3116H3-5D	PT3116H3-5E
hfe	600-900	700-1050	800-1300	900-1400	1100-1700

Classification	PT3116H3-5F	PT3116H3-5G	PT3116H3-5H
hfe	1300-2000	1500-2300	2000-3000

PT3116H3 7 series(1:1.7)

Classification	PT3116H3-7A	PT3116H3-7B	PT3116H3-7C	PT3116H3-7D	PT3116H3-7E
hfe	600~1020	680~1160	760-1300	840-1440	920-1580

Classification	PT3116H3-7F	PT3116H3-7G	PT3116H3-7H
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.