

1. Scope :

This specification applies to NPN silicon phototransistor chips,
Device No. ST-0124.

2. Structure :

- 2-1. Planar type.
- 2-2. Electrodes :
 - N (Collector) side : Gold alloy.
 - P (Base) side : Aluminum alloy.
 - N (Emitter) side : Aluminum alloy.

3. Size :

- 3-1. Chip size : 24 mils × 24 mils (0.610 mm × 0.610 mm).
- 3-2. Chip thickness : 7.0 ± 1.5 mils (0.178 ± 0.038 mm).
- 3-3. Active area : 17 mils × 17 mils (0.432 mm × 0.432 mm).
- 3-4. Pattern drawing : refer to the attached drawing.

4. Electrical characteristics (Ta = 25 °C)

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|--------------------------------------|-------------|--|------|-------|------|---------|
| Collector-emitter Breakdown Voltage | BV_{CEO} | $I_C=100\mu A$ $I_B=0$ | 30 | | 100 | V |
| Emitter-collector Breakdown Voltage | BV_{ECO} | $I_E=100\mu A$ $I_B=0$ | 6.5 | | | V |
| Collector dark current | I_{CEO} | $V_{CE}=20V$ $H=0mw/cm^2$ | | | 100 | nA |
| Collector-emitter Saturation Voltage | $V_{CE(S)}$ | $I_C=2mA$ $I_B=100\mu A$ | | | 0.2 | V |
| Rise/fall time | t_R/t_F | $V_{CE}=5V$ $I_C=1mA$ $R_L=1000\Omega$ | | 15/15 | | μS |
| Current gain | h_{FE} | $V_{CE}=5V$ $I_C=2mA$ | 200 | | | |
| Collector-base Capacitance | C_{CB} | $f=1MHZ$ $V_{CB}=3V$ | 5.4 | 6.4 | 7.4 | PF |

- hFE RANK A : 200 - 400
- RANK B : 350 - 700
- RANK C : 500 - 1000
- RANK D : 800 - 1800
- *RANK E : 1000 - (BVECO : MIN.=3V)
- *RANK F : 1250 - (BVECO : MIN.=3V)
- *RANK G : 2000 - 3000 (BVECO : MIN.=3V)

