

1. Scope :

This specification applies to NPN silicon phototransistor chips,
Device No. ST-0131.

2. Structure :

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

3. Size :

- 3-1. Chip size(including scribe lane) : 46 mils × 46 mils (1.168 mm × 1.168 mm).
- 3-2. Real chip size : 45.19 mils × 45.19 mils ± 1 mils (1.148 mm × 1.148 mm ± 0.025 mm).
- 3-3. Chip thickness : 8.7 ± 1.5 mils (0.220 ± 0.038 mm).
- 3-4. Active area : 31 mils × 31 mils (0.787 mm × 0.787 mm).
- 3-5. Pattern drawing : refer to the attached drawing.

4. Electrical characteristics (Ta = 25 °C)

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|--------------------------------------|-------------|----------------------------|------|------|------|------|
| Collector Dark Current | I_{CEO} | $V_{CE}=200V$ | | | 100 | nA |
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C=0.1mA$ | 350 | | | V |
| Emitter-Collector Breakdown Voltage | BV_{ECO} | $I_E=10\mu A$ | 7 | | | V |
| Collector-Emitter Saturation Voltage | $V_{CE(S)}$ | $I_C=1mA$ $I_B=15\mu A$ | | | 0.3 | V |
| Current Gain | h_{FE} | $I_C=2mA$ $V_{CE}=5V$ | 120 | | 240 | |

