## 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. Chip thickness : 8.7 ± 1.2 mils ( 0.220 ± 0.03 mm ).
3-3. Active area : 31 mils × 31 mils ± 1.2 mils ( 0.787 mm × 0.787 mm ± 0.03 mm ).
3-4. Bonding pad : 4.7 mils × 4.7 mils ± 0.8 mils (0.12 mm × 0.12 mm ± 0.02 mm).
3-5. Pattern drawing : refer to the attached drawing.

*Including scribing line .The chip size is about (1.148±0.025)×(1.148 ± 0.025)mm$^{2}$ after dicing.

## 4. Electrical characteristics (Ta = 25 ℃)

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Collector Dark Current | $I_{CEO}$ | VCE=200V | | | 50 | nA |
| Collector-Emitter Breakdown Voltage | $BV_{CEO}$ | IC=0.1mA | 350 | | | V |
| Emitter-Collector Breakdown Voltage | $BV_{ECO}$ | IE=10μA | 7 | | | V |
| Collector-Emitter Saturation Voltage | $V_{CE(S)}$ | Ic=1mA<br>IB =15μA | | | 0.3 | V |
| Current Gain | $h_{FE}$ | IC=2mA VCE=5V | 120 | | 240 | |

PATTERN DRAWING
UNIT:mm