## 1. Scope :

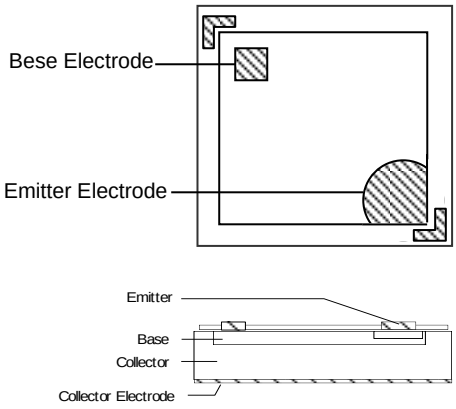
This specification applies to NPN silicon phototransistor chips,
Device No. ST-0121-B

## 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(including scribe lane) : 20 mils × 20 mils ( 0.508 mm × 0.508 mm ).
3-2. Real chip size : 19.21 mils × 19.21 mils ± 1 mils ( 0.488 mm × 0.488 mm ± 0.025 mm ).
3-3. Chip thickness : 7.0 ± 1.5 mils ( 0.178 ± 0.038 mm ).
3-4. Active area : 15 mils × 15 mils ( 0.381 mm × 0.381 mm ).
3-5. Pattern drawing : refer to the attached drawing.

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

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Collector-emitter Breakdown Voltage | $BV_{CEO}$ | IC=100uA IB=0 | 30 | | | V |
| Emitter-collector Breakdown Voltage | $BV_{ECO}$ | IE=100uA IB=0 | 5 | | | V |
| Collector dark Current | $I_{CEO}$ | VCE=20V H=0mw/cm$^2$ | | | 100 | nA |
| Collector-emitter Saturation Voltage | $V_{CE(S)}$ | Ic=2mA IB=100uA | | | 0.3 | V |
| Rise/fall time | $t_R/t_F$ | $V_{CE}$=5V $I_C$=1mA $R_L$=1000Ω | | 15/15 | | uS |
| Current gain | $h_{FE}$ | $V_{CE}$=5V $I_C$=2mA | 200 | | | |