1. Scope :

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

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 : 20 mils × 20 mils (0.508 mm × 0.508 mm).
3-2. Real chip size : 19 mils × 19 mils ± 1 mils (0.483 mm × 0.483 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. Bonding pad radius : 2 mils ± 0.3 mils (0.06 mm ± 0.01 mm).
3-6. 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