

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. Chip thickness : 7.0 ± 1.5 mils (0.178 ± 0.038 mm).
- 3-3. Active area : 15 mils × 15 mils (0.381 mm × 0.381 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			V
Emitter-collector Breakdown Voltage	BV_{ECO}	$I_E=100\mu A$ $I_B=0$	5			V
Collector dark Current	I_{CEO}	$V_{CE}=20V$ $H=0mw/cm^2$			100	nA
Collector-emitter Saturation Voltage	$V_{CE(S)}$	$I_C=2mA$ $I_B=100\mu A$			0.3	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			

