

1. Scope :

This specification applies to NPN silicon phototransistor chips,
Device No. ST-0120B.

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 : 31.5 mils × 31.5 mils (0.800 mm × 0.800 mm).

3-2. Chip thickness : 7.0 ± 1.5 mils (0.178 ± 0.038 mm).

3-3. Active area : 25 mils × 25 mils ± 1.2 mils (0.640 mm × 0.640 mm ± 0.03 mm).

3-4. Bonding pad diameter: 5.5 mils ± 0.8 mils (0.140 mm ± 0.02 mm).

3-5. Pattern drawing : refer to the attached drawing.

*Including scribing line .The chip size is about $(0.775 \pm 0.025) \times (0.775 \pm 0.025)$ mm² after dicing.

4. Electrical characteristics (Ta = 25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_C=100\mu A$ $I_B=0$	25			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	$V_{CE}=5V$ $I_C=1mA$ $R_L=1000\Omega$		20/20		μS
Current gain	h_{FE}	$V_{CE}=5V$ $I_C=1mA$	200			

