

**1. Scope :**

This specification applies to NPN silicon phototransistor chips,  
Device No. ST-0137.

**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 : 0.7 mm × 0.7 mm
- 3-2. Chip thickness : 0.22 ± 0.04 mm
- 3-3. Active area : 0.52 mm × 0.52 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		100	V
Emitter-collector Breakdown Voltage	$BV_{ECO}$	$I_E=10\mu A$ $I_B=0$	6			V
Collector dark current	$I_{CEO}$	$V_{CE}=20V$ $H=0mw/cm^2$			100	nA
Collector-emitter Saturation Voltage	$V_{CE(S)}$	$I_C=10mA$ $I_B=1mA$			0.4	V
Rise/fall time	$t_R/t_F$	$V_{CE}=5V$ $I_C=1mA$ $R_L=1000\Omega$		15/15		$\mu S$
Current gain	$h_{FE}$	$V_{CE}=5V$ $I_C=2mA$	200			

