

1. Scope :

This specification applies to NPN silicon photodarlington chips,
Device No. ST-0111A.

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 : 40 mils × 60 mils (1.016 mm × 1.524 mm).
- 3-2. Chip thickness : 12.0 ± 1.5 mils (0.305 ± 0.038 mm).
- 3-3. 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 =100μA	300			V
Collector dark current	I _{CEO}	V _{CE} =200V H=0mw/cm ²			100	nA
Collector-emitter Saturation Voltage	V _{CE(S)}	I _c =100mA I _B =5mA			1.5	V
Rise/fall time	t _R /t _F	V _{CE} =5V I _c =10mA R _L =100Ω		100/100		μS
Current gain	h _{FE}	V _{CE} =5V I _c =20mA	2500		100000	

- h_{FE} RANK A : 2500 - 10000
- RANK B : 5000 - 20000
- RANK C : 10000 - 30000
- RANK D : 25000 - 100000

