

1. Scope :

This specification applies to NPN silicon photo darlington chips,
Device No. ST-0130.

2. Structure :

- 2-1. Planar type.
- 2-2. Electrodes :
 - N (Emitter) side : Aluminum alloy.
 - P (Base) side : Aluminum alloy.
 - N (Collector) side : Gold alloy.

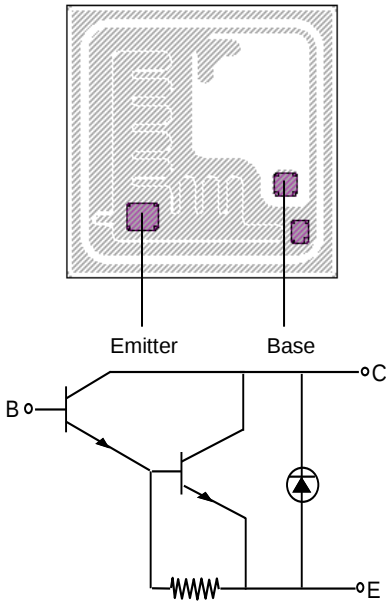
3. Size :

- 3-1. Chip size : 60 mils × 60 mils ± 2.0 mils (1.524 mm × 1.524 mm ± 0.05mm).
- 3-2. Chip thickness : 8.7 ± 1.2 mils (0.220 ± 0.03 mm).
- 3-3. Active area : 847 ± 3.874 mils² (0.557 mm² ± 0.0025 mm²).
- 3-4. Bonding pad (Emitter) : 6.9 mils × 6.0 mils ± 0.8 mils (0.175 mm × 0.152 mm ± 0.02mm).
- 3-5. Pattern drawing : Refer to the attached drawing.

*Including scribing line .The chip size is about (1.499±0.025)×(1.499± 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 =100μA	350			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 =150μA			1.2	V
Rise/Fall Time	t _r /t _f	I _C =20mA V _{CE} =2V R _L =100Ω		100/20	300/100	μs
Current Gain	h _{FE}	I _C =40mA V _{CE} =2V	2500		40000	



*1 hFE rank table.

Rank	Chip Spec. hFE range	
	MIN	MAX
A	10K	30K
B	12K	30K
C	15K	30K