

**1. Scope :**

This specification applies to NPN silicon phototransistor chips,  
Device No. ST-2118-A.

**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 : 18 mils x 18 mils ( 0.458 mm x 0.458 mm ).

3-2. Chip thickness :  $7.5 \pm 1.5$  mils (  $0.191 \pm 0.038$  mm ).

3-3. Active area : 11.80 mils x 11.80 mils ( 0.300 mm x 0.300 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	$BV_{CEO}$	$I_C=100\mu A$ $I_B=0$	70			V
Emitter-collector Breakdown Voltage	$BV_{ECO}$	$I_E=10\mu A$ $I_B=0$	7.3			V
Collector dark current	$I_{CEO}$	$V_{CE}=20V$ $H=0mw/cm^2$			60	nA
Collector-emitter Saturation Voltage	$V_{CE(S)}$	$I_C=2mA$ $I_B=100\mu A$			0.2	V
Current gain	$h_{FE}$	$V_{CE}=5V$ $I_C=2mA$	200			

