

1. Scope :

This specification applies to NPN silicon photodarlington chips,
Device No. ST-0128.

2. Structure :

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

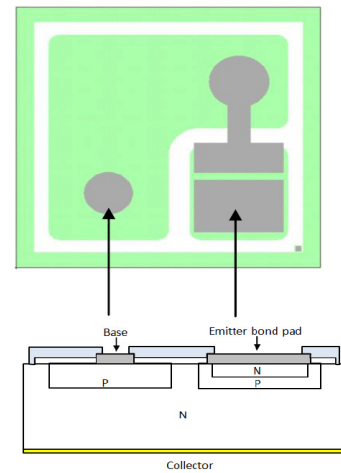
3. Size :

- 3-1. Chip size : 27.5 mils × 27.5 mils (0.700 mm × 0.700 mm).
- 3-2. Chip thickness : 7.5 ± 1.5 mils (0.191 ± 0.038 mm).
- 3-3. Pattern drawing : refer to the attached drawing.

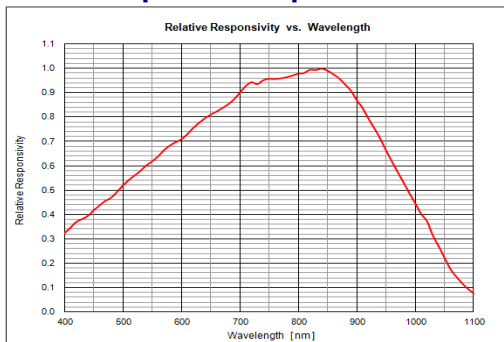
4. Electrical characteristics (Ta = 25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_C=100\mu A$ $I_B=0$	60			V
Emitter-collector Breakdown Voltage	BV_{ECO}	$I_E=10\mu A$ $I_B=0$	7			V
Collector dark current	I_{CEO}	$V_{CE}=10V$ $H=0mw/cm^2$			1000	nA
Collector-emitter Saturation Voltage	$V_{CE(S)}$	$I_C=15mA$ $I_B=100\mu A$			1.0	V
Emitter-base Saturation Voltage	$V_{BE(S)}$	$I_C=15mA$ $I_B=100\mu A$			1.45	V
Rise/Fall time	t_R/t_F	$V_{CE}=5V$ $I_C=10mA$ $R_L=100\Omega$		40/60		μS
Current gain	h_{FE}	$V_{CE}=5V$ $I_C=10mA$	5K			

h_{FE} Rank A : 5K - 20K
 Rank B : 10K - 40K
 Rank C : 20K - 80K



5. Relative spectral response vs. wavelength :



*Bare chip measured, for reference only.