

Si Photo-transistor Chip – TKCS18PTN

1. Scope

- The specification applies to NPN silicon photo-transistor chip.
- Type : TKCS18PTN.

2. Structure

- NPN planar type.
- Electrode N (collector) side : Gold.
P (base) side : Aluminum.
N (emitter) side : Aluminum.

3. Size

- Chip size : 18.11mil × 18.11mil ± 1.5mil (0.46mm × 0.46mm ± 0.038mm)
- Thickness : 7mil ± 1mil (0.175mm ± 0.025mm)
- Active area : 13.18mil × 13.18mil ± 0.5mil (0.335mm × 0.335mm ± 0.013mm)
- Base pad size : diameter 3.15mil ± 0.4mil (0.08mm ± 0.01mm)
- Emitter pad size : 5.31mil × 5.31mil ± 0.4mil (0.135mm × 0.0135mm ± 0.01mm)
- Pattern drawing : per fig. 1

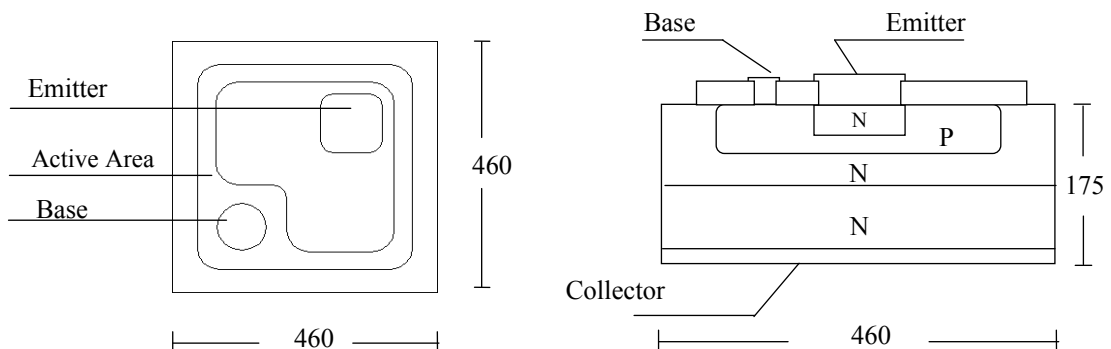
4. Electro-Optical Characteristics

(Ta = +25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max	Unit
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_{CEO} = 100\mu A$	85			V
Emitter-collector Breakdown Voltage	BV_{ECO}	$I_{ECO} = 10\mu A$ *Note	8.2			V
Collector-base Breakdown Voltage	BV_{CBO}	$I_{CBO} = 100\mu A$	85			V
Collector Dark Current	I_{CEO}	$V_{CE} = 20V$			50	nA
Collector Dark Current	I_{CEO}	$V_{CE} = 70V$			150	nA
Collector-Emitter Saturation Voltage	$V_{CE(Sat)}$	$I_C = 2mA, I_B = 100\mu A$			0.3	V
Peak Sensing Wavelength	λ_P			880		nm
DC Current Amplification Factor	HFE	$V_{CE} = 5V, I_b = 3\mu A$				
		Rank D	820		1180	
		Rank D1	870		1280	
		Rank E	1020		1480	
		Rank F	1220		1780	
		Rank F1	1220	<1500	1780	
		Rank F2	1220	≥ 1500	1780	
		Rank H	1520		2280	
		Rank H1	1520		1880	
		Rank H2	1920		2280	
		Rank I	2020		2980	

Note : $BV_{ECO} > 8.2$ 限BIN (D, D1, E, F, F1, F2, H, H1, H2)

$BV_{ECO} > 6$ 限BIN (I)



Unit : mil

fig. 1

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