

Si Photo-transistor Chip — TK0124PTA

1. Scope

- The specification applies to NPN silicon photo-transistor chips.
- Type : TK0124PTA.

2. Structure

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

3. Size

- Chip size : $24\text{mil} \times 24\text{mil} \pm 1.5\text{mil}$ ($0.60\text{mm} \times 0.60\text{mm} \pm 0.038\text{mm}$)
- Thickness : $6\text{mil} \pm 1\text{mil}$ ($0.15\text{mm} \pm 0.0254\text{mm}$)
- Emission area : $17\text{mil} \times 17\text{mil} \pm 0.5\text{mil}$ ($0.43\text{mm} \times 0.43\text{mm} \pm 0.0127\text{mm}$)
- Pattern drawing : per fig. 1

4. Electro-Optical Characteristics

($T_a = +25^\circ\text{C}$)

Parameter	Symbol	Condition	Min.	Typ.	Max	Unit
Dark Current	ICEO	$V_{CE} = 10\text{V}$			0.1	μA
Collector-Emitter Saturation Voltage	$V_{CE}(\text{Sat})$	$I_B = 100\mu\text{A}, I_C = 2\text{mA}$		0.03	0.2	V
Collector-Emitter Breakdown Voltage	BVCEO	$I_{CEO} = 100\mu\text{A}$	60			V
Emitter-Collector Breakdown Voltage	BVECO	$I_{ECO} = 100\mu\text{A}$	5.2			V
Collector-Base Breakdown Voltage	BVCBO	$I_{CBO} = 100\mu\text{A}$	60			V
DC Current Amplification Factor	hFE	$V_{CE} = 5\text{V}, I_b = 3\mu\text{A}$	200		3000	
Rise/Fall Time	T_r / T_f	$V_R = 5\text{V}, R_L = 50\Omega$		10/10		μs

Note1 : hFE Spec : B(200-350) ; C(400-600) ; D(500-700) ; E(600-1100) ; F(900-1400)

F1(800-1200) ; H(1200-1800) ; G(1600-2500) ; G2(2000-3000)

Note2 : G(1600-2500) 、G2(2000-3000)

- (1) BVCEO Min. 40 、BVCEO Min. 30
- (2) BVECO Min. 5.2 、BVECO Min. 3.5
- (3) BVCBO Min. 40 、BVCBO Min. 40
- (4) IL @ 560nm LED Tyntek Standard 300uA~440uA

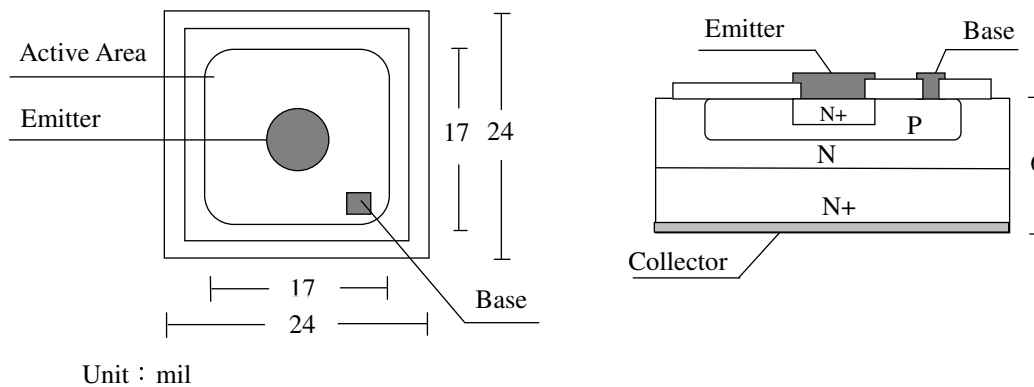


fig. 1

2016.Jun



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