PNJ4K01F

Bipolar Integrated Circuit with Photodetection Function

For brightness control systems

■ Features

- Peak sensitivity wavelength: 560 nm
- Output ratio of incandescent light and fluorescent light: 1.1 (typ.)
- Small, thin type package: 1.55 mm × 1.5 mm × 0.53 mm
- Surface-mouting type for reflow soldering

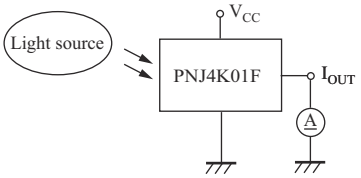
■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Operating supply voltage	V_{CC}	– 0.5 to +7.0	V
Power dissipation	P_D	35	mW
Operating ambient temperature	T_{opr}	–30 to +85	°C
Storage temperature	T_{stg}	–40 to +100	°C

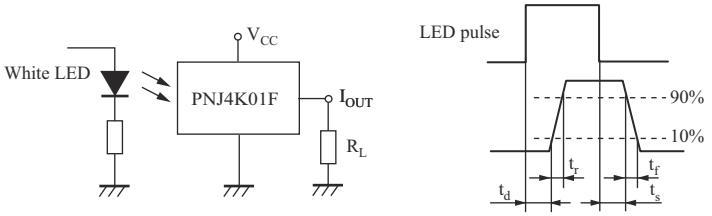
■ Electro-Optical Characteristics T_a = 25°C±3°C, V_{CC} = 3 V

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Operating supply voltage	V_{CC}		1.4		5.5	V
Saturation voltage *3	$V_{O(sat)}$	E_V = 100 lx, R_L = 100 kΩ	2.60	2.94	3.00	V
Supply current *1	I_{CC}	E_V = 1 000 lx, R_L = 1 kΩ		480	920	µA
Output current 1 *1, *3	I_{O1}	E_V = 100 lx	29.0	48.0	90.0	µA
Output current 2 *2, *3	I_{O2}	E_V = 10 lx	2.5	4.3	7.9	µA
Output current 3 *2, *3	I_{O3}	E_V = 100 lx	25.0	43.0	79.0	µA
Output current ratio	I_{O1} / I_{O3}			1.1	1.65	—
Drain current	I_D	E_V = 0 lx		10	100	nA
Peak sensitivity wavelength	λ_{PD}			560		nm
Rise time *4	t_r	R_L = 5.1 kΩ		100	1 000	µs
Fall time *4	t_f			300	1 000	µs
Delay time *4	t_d			50		µs
Storage time *4	t_s			5		µs

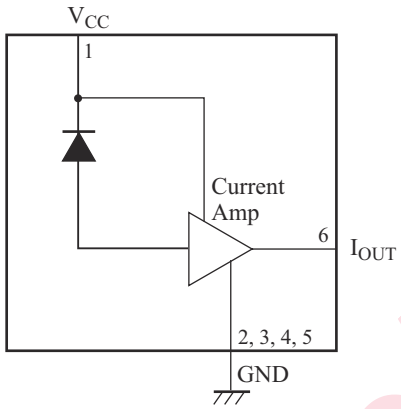
Note) ∗1: Light source is CIE standard A light source. (Incandescent lamp)
∗2: Light source is fluorescence light.
∗3: Output current measurement circuit



∗4: Switching time measurement method

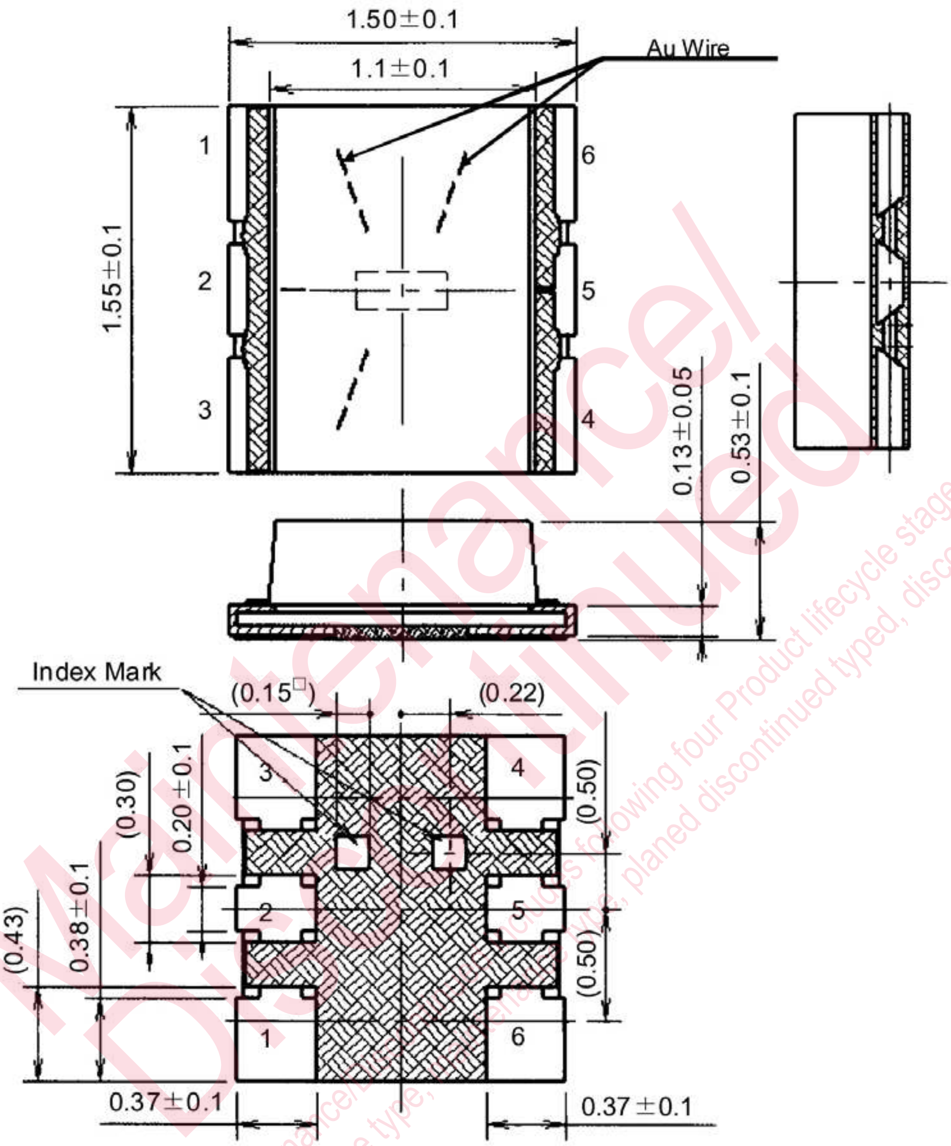


■ Block Diagram



■ Package (Unit: mm)

KPTFTN6K0001



- Pin name

1: V_{CC}
2: GND
3: GND
4: GND
5: GND
6: I_{OUT}

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