# PNA4K01F

## 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 $T_a = 25^{\circ}C$

Parameter	Symbol	Rating	Unit	
Operating supply voltage	V <sub>CC</sub>	-0.5 to +7.0	V	
Power dissipation	P <sub>D</sub>	35	mW	
Operating ambient temperature	T <sub>opr</sub>	-30 to +85	°C	
Storage temperature	T <sub>stg</sub>	-40 to +100	°C	

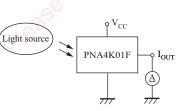
### Electro-Optical Characteristics $T_a = 25^{\circ}C \pm 3^{\circ}C$ , $V_{CC} = 3 V$

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Operating supply voltage	V <sub>CC</sub>	illes id.	1.4		5.5	V
Saturation voltage *3	V <sub>O(sat)</sub>	$E_V = 100 \text{ lx}, R_L = 100 \text{ k}\Omega$	2.60	2.94	3.00	V
Supply current *1	I <sub>CC</sub>	$E_V = 1000 lx, R_L = 1 k\Omega$	X	480	920	μΑ
Output current 1 *1, *3	I <sub>01</sub>	$E_V = 100 lx$	29	48	90	μΑ
Output current 2 *2, *3	I <sub>O2</sub>	$E_V = 10 lx$	2.5	4.3	7.9	μΑ
Output current 3 *2, *3	I <sub>O3</sub>	$E_V = 100 lx$	25	43	79	μΑ
Output current ratio	I <sub>O1</sub> / I <sub>O3</sub>		م کر	1.10	1.65	
Drain current	ID	$E_V = 0 lx$	· C·	10	100	nA
Peak sensitivity wavelength	$\lambda_{PD}$		<u>,                                     </u>	560		nm
Rise time *4	t <sub>r</sub>	10 10 N		30	1000	μs
Fall time *4	t <sub>f</sub>			230	1000	μs
Delay time *4	t <sub>d</sub>	$R_L = 5.1 \text{ k}\Omega$		110		μs
Storage time *4	t <sub>s</sub>			8		μs

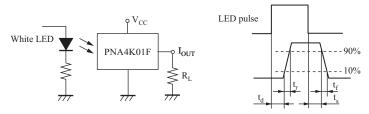
Note) \*1: Light source is CIE standard A light source. (Incandescent lamp)

\*2: Light source is fluorescence light.

\*3: Output current measurement circuit

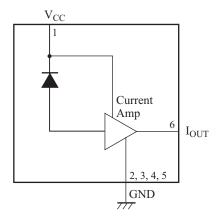


\*4: Switching time measurement method



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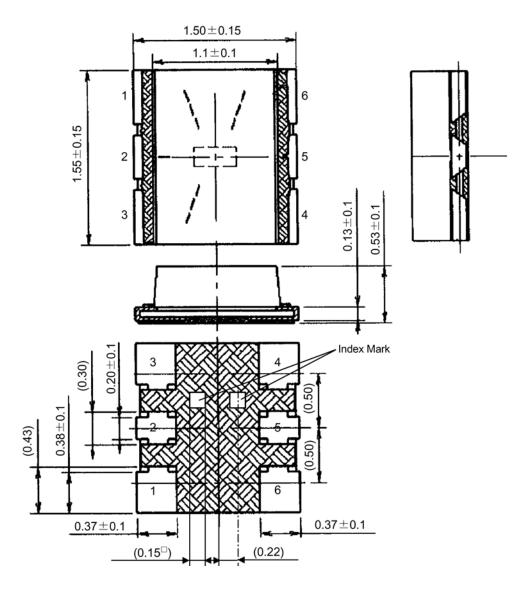
### Block Diagram



# **Panasonic**

Package (Unit: mm)

# KPTFTN6K0001



• Pin name

1: V<sub>CC</sub>

2: GND

3: GND

4: GND

5: GND

6: I<sub>OUT</sub>

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