

Module No.: WPT-430F

1. General Description:

The WPT-430F is a high sensitivity NPN silicon phototransistor mounted in a clear epoxy side looking package. It is compact, low profile and easy to mount.

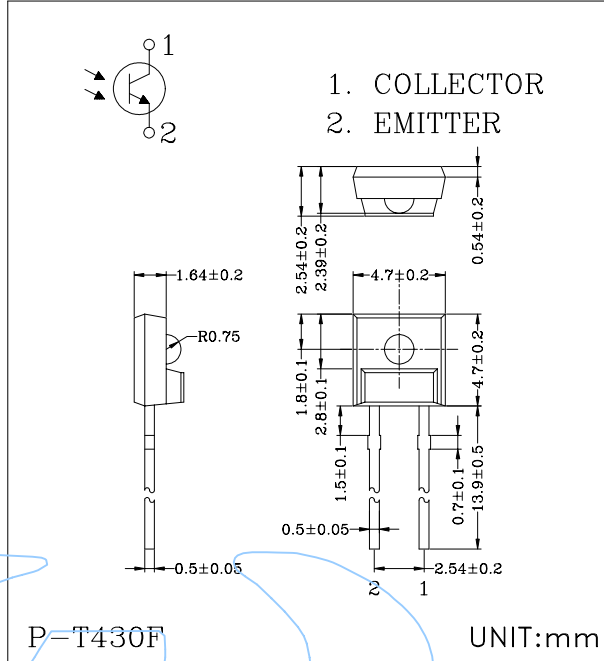
2. Features

- Compact
- Wide beam angle ($\pm 30^\circ$)
- Side looking package
- Capable of pulse operation
- Low profile
- Low cost

3. Applications

- ☐ Optical counters
- ☐ Optical detectors
- ☐ Flywheel counters

Dimensions



4. Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector-Emitter Voltage	V _{CEO}	30	V
Emitter-Collector Voltage	V _{ECO}	5	V
Collector Current	I _C	40	mA
Collector Power Dissipation	P _D	100	mW
Operating Temperature	T _{opr}	-20 ~ +75	°C
Storage Temperature	T _{stg}	-30 ~ +85	°C
Soldering Temperature *1	T _{sol}	240	°C

*1 At the position of 2mm from the bottom of the package within 5 seconds.

5. Electro-optical Characteristics

(Ta=25°C)

Parameter	Symbol	Testing Conditions	Min.	Typ.	Max.	Unit
Collector Light Current	I _C	V _{CE} =5V, E _v =1000Lux, (E _e =5mW/cm ²) *2	1.0	5.0	15	mA
Collector Dark Current	I _{CEO}	V _{CE} =10V, E _e =0 *2		1	100	nA
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =0.5mA, E _v =2000Lux, E _e =10mW/cm ² *2		0.2	0.4	V
Peak Sensitivity Wavelength	λ _p			880		nm
Spectral Sensitivity	Δλ			500 ~ 1050		nm
Angular Response	Δθ			±30		deg.
Rising Response Time	t _r	V _{CC} =10V, I _C =5mA,		3.2		μs
Falling Response Time	t _f	R _L =100Ω		4.8		μs

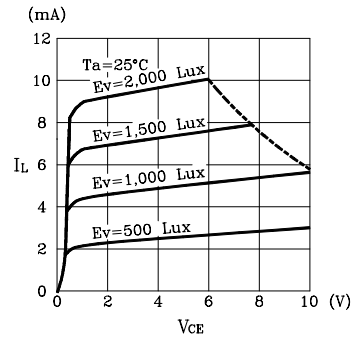
*2 E_v, E_e are illuminance irradiant by CIE standard light source A (tungsten lamp) at 2856K



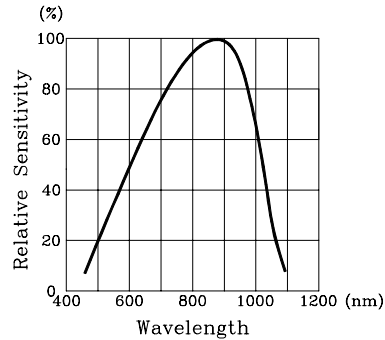
Photo Transistor

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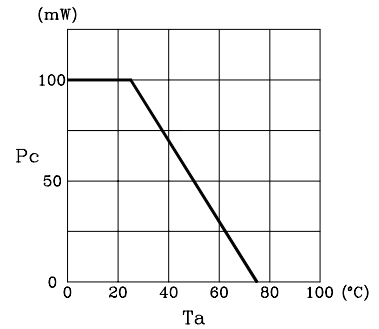
Light Current vs
Collector-Emitter Voltage



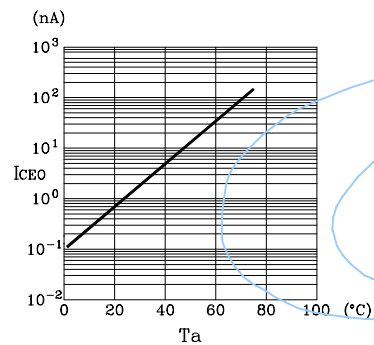
Spectral Sensitivity



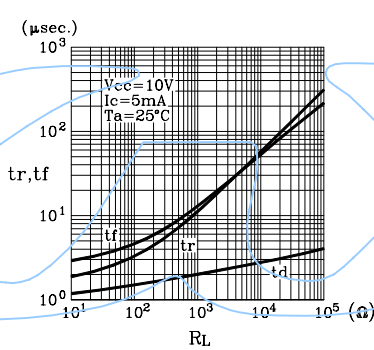
Power Dissipation vs
Ambient Temperature



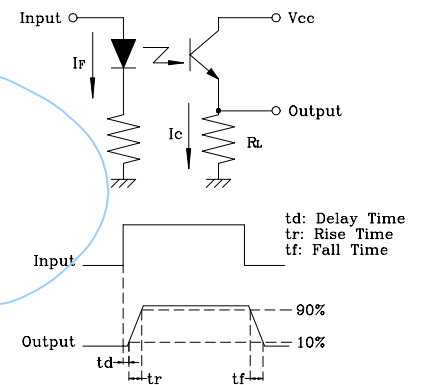
Dark Current vs
Ambient Temperature



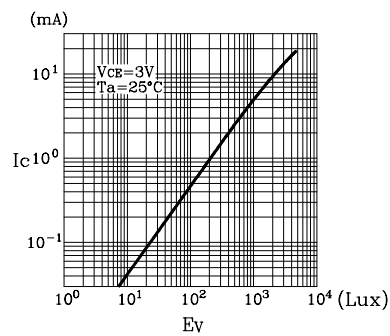
Response Time vs
Load Resistance



Response Time Test Conditions



Collector Current vs
Luminous Incidence



Sensitivity Diagram

