Waitrony

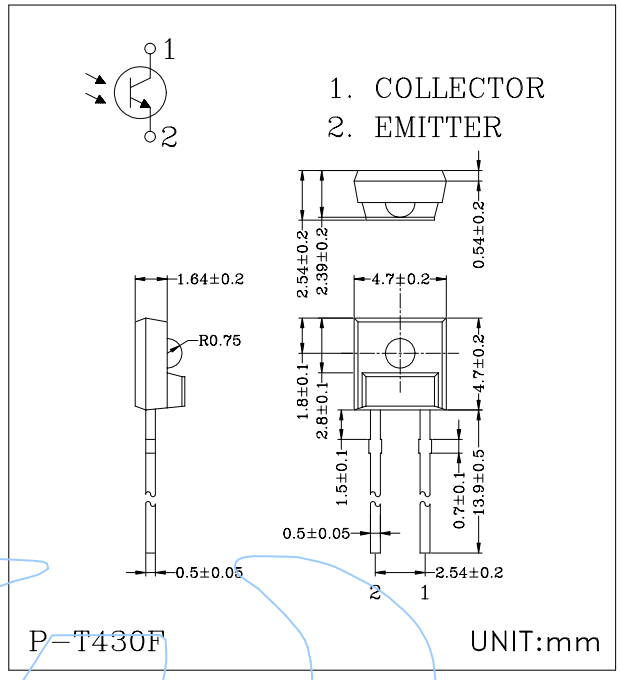
Photo Transistor

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.

Dimensions



2. Features

- Compact
- Wide beam angle (±30°)
- Side looking package
- Capable of pulse operation
- Low profile
- Low cost

3. Applications

- Optical counters
- Optical detectors
- Flywheel counters

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	Topr	-20 ~ +75	°C
Storage Temperature	Tstg	-30 ~ +85	°C
Soldering Temperature *1	Tsol	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	Ic	V_{CE}=5V, Ev=1000Lux, (Ee=5mW/cm^2) *2	1.0	5.0	15	mA
Collector Dark Current	I_{CEO}	V_{CE}=10V, Ee=0 *2		1	100	nA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	Ic=0.5mA, Ev=2000Lux Ee=10mW/cm^2 *2		0.2	0.4	V
Peak Sensitivity Wavelength	λp			880		nm
Spectral Sensitivity	Δλ		500 ~ 1050			nm
Angular Response	Δθ			±30		deg.
Rising Response Time	tr	Vcc=10V, I_C=5mA, R_L=100Ω		3.2		μs
Falling Response Time	tf			4.8		μs

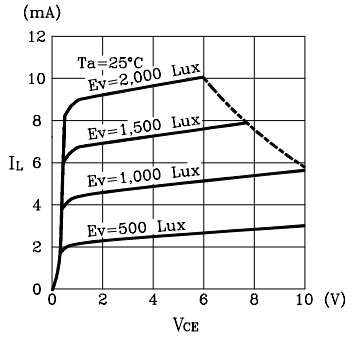
*2 Ev, Ee are illuminance irradiant by CIE standard light source A (tungsten lamp) at 2856K

Waitrony

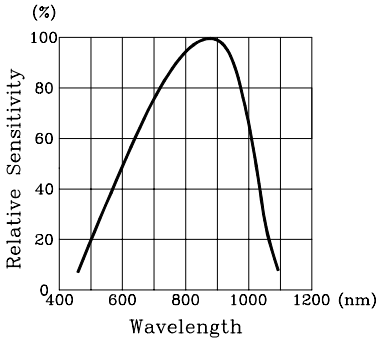
Photo Transistor

Module No.: WPT-430F

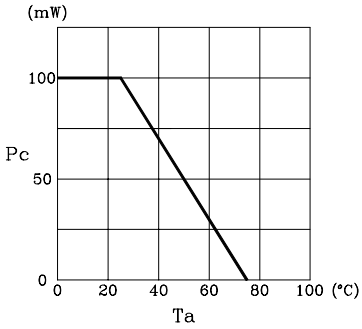
Light Current vs
Collector−Emitter Voltage



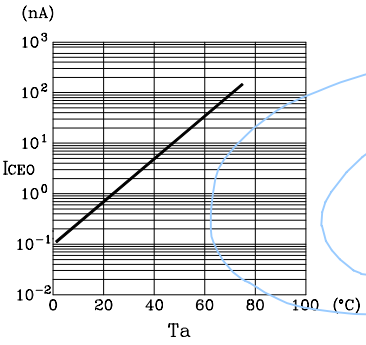
Spectral Sensitivity



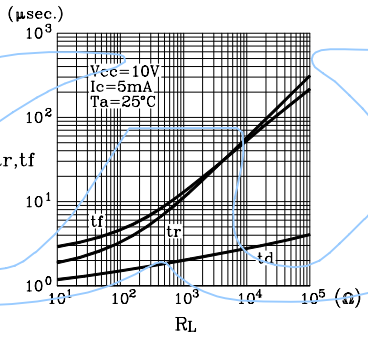
Power Dissipation vs
Ambient Temperature



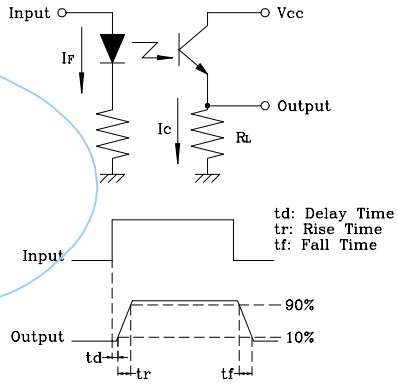
Dark Current vs
Ambient Temperature



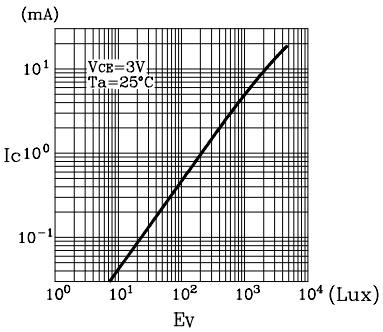
Response Time vs
Load Resistance



Response Time Test Conditions



Collector Current vs
Luminous Incidence



Sensitivity Diagram