

# **OKI** electronic components

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## **OPU860CP, OPU862CP**

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### **Photo capsule**

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#### **GENERAL DESCRIPTION**

The OPU860CP/OPU862 are sensors that are most suited to paper detection. For superior dustproof packaging and easy mounting, a phototransistor can be sealed (encapsulated) into a package with connectors.

The OPU862CP can be mounted with a space (200mm) between the device and the LED capsule because the device has a non-spherical surface lens.

The OPU860CP and OPU862CP assure a high quality because they have been assembled without soldering or using adhesive.

#### **FEATURES**

- The light axis is positioned for efficient insertion into LED capsules and photosensors.
- The sensor unit element is protected from dust.
- The assembly and mount are easy (without soldering).

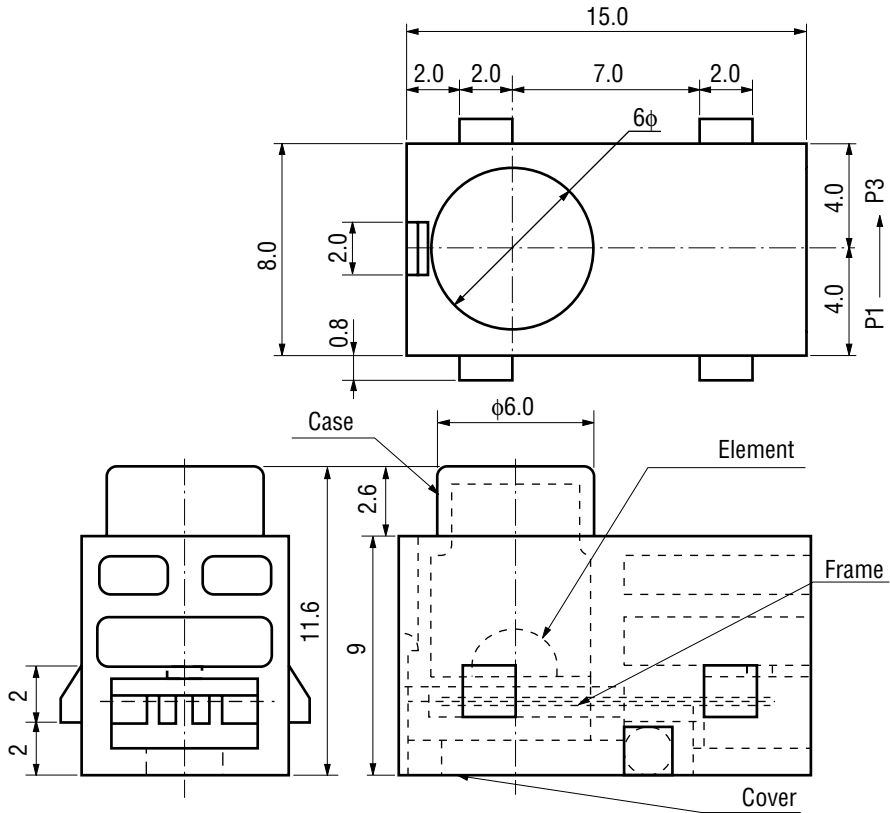
#### **APPLICATIONS**

- Banking terminals (ATM, etc.)
- Printers
- Copying machines
- Communications terminals (FAX, etc.)

**PIN CONFIGURATION**

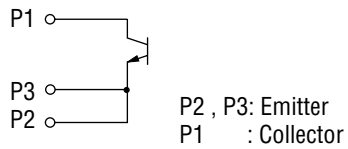
- OPU860CP, OPU862CP

(Unit: mm)



Cover: Black

- Pin Connection Diagram  
(P No. indicates the pin number of connectors.)



## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Test Condition	Rating		Unit
			OPU860CP	OPU862CP	
Temperature Storage	$T_{stg}$	—	-10 to +60		°C
Operating Temperature	$T_{opr}$	—	-10 to +60		°C
Emitter-Collector Voltage	$V_{ECO}$	$T_a=25^{\circ}\text{C}$	5		V
Collector-Emitter Voltage	$V_{CEO}$		20		V
Collector Current	$I_C$		10	30	mA
Power Dissipation	$P_C$		150		mW

## ELECTRICAL CHARACTERISTICS

## • OPU860CP

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Dark Current	$I_D$	$V_{CE}=9\text{ V}$	—	—	100	nA
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=100\ \mu\text{A}$	20	—	—	V
Output Photocurrent **	$I_{P1}$	$I_F=50\text{ mA}$ $V_{CE}=1\text{ V}$ $L^*=10\text{ mm}$	3	—	20	mA
	$I_{P2}$	$I_F=50\text{ mA}$ $V_{CE}=1\text{ V}$ $L^*=100\text{ mm}$	0.1	—	1.5	mA

\* : Distance between sensors

\*\* : Measuring circuit

## • OP862CP

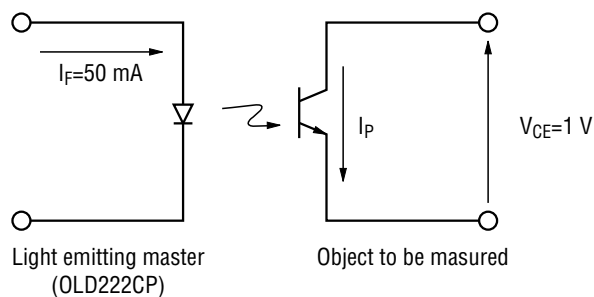
(Ambient Temperature  $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Dark Current	$I_D$	$V_{CE}=9\text{ V}$	—	—	100	nA
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=500\ \mu\text{A}$	20	—	—	V
Output Photocurrent **	$I_{P1}$	$I_F=50\text{ mA}$ $V_{CE}=1\text{ V}$ $L^*=50\text{ mm}$	5.2	—	28	mA
	$I_{P2}$	$I_F=50\text{ mA}$ $V_{CE}=1\text{ V}$ $L^*=200\text{ mm}$	0.4	—	5.0	mA

\* : Distance between sensors

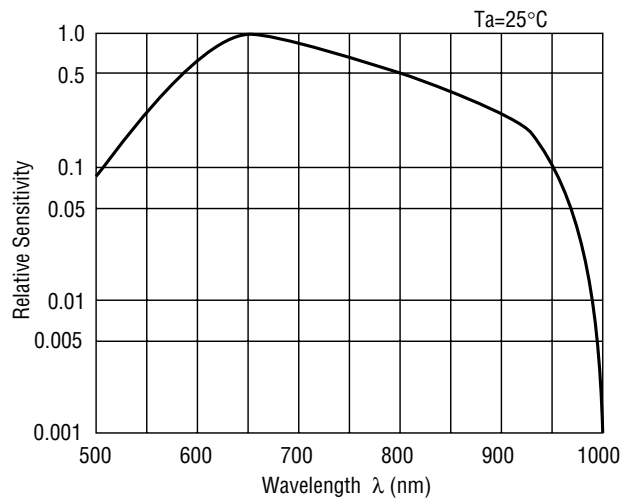
\*\* : Measuring circuit

Measuring circuit

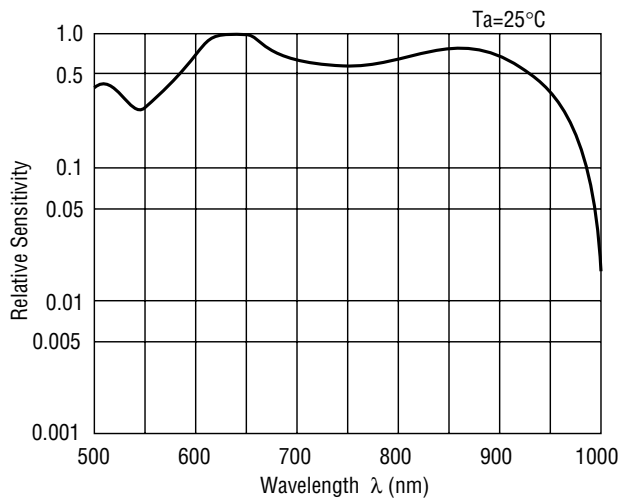


## TYPICAL CHARACTERISTICS

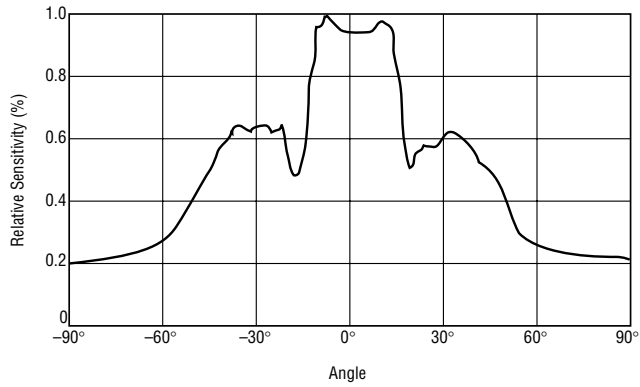
## • OPU860CP Spectral Sensitivity



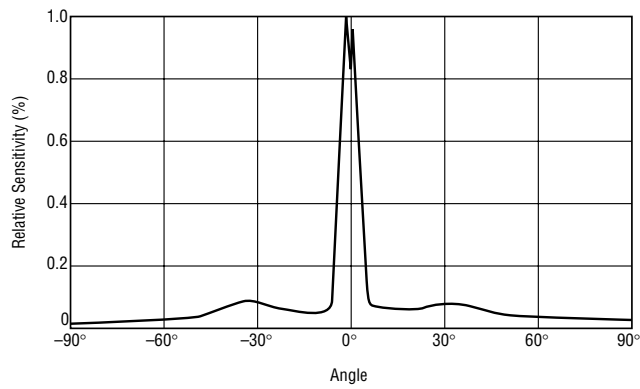
## • OPU862CP Spectral Sensitivity



- **OPU860CP Directional Characteristic**



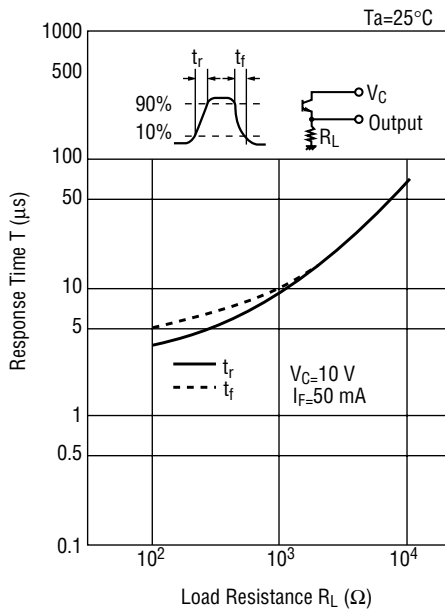
- **OPU862CP Directional Characteristic**



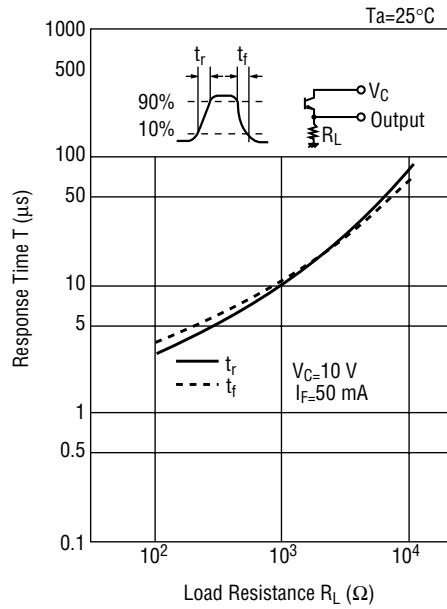
CAPSULE SENSOR

OPU860CP, OPU862CP

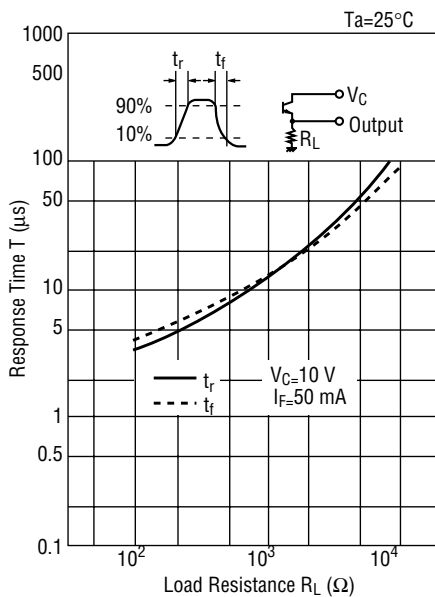
- OPU860CP, OPU850 Switching Time vs. Load Resistance



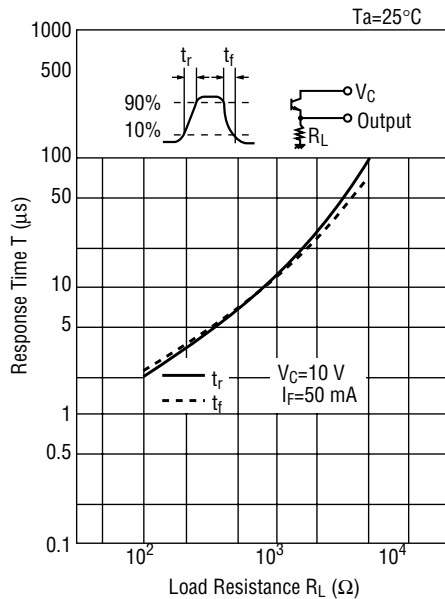
- OPU860CP, OPU852CP Switching Time vs. Load Resistance



- OPU862CP, OPU850 Switching Time vs. Load Resistance



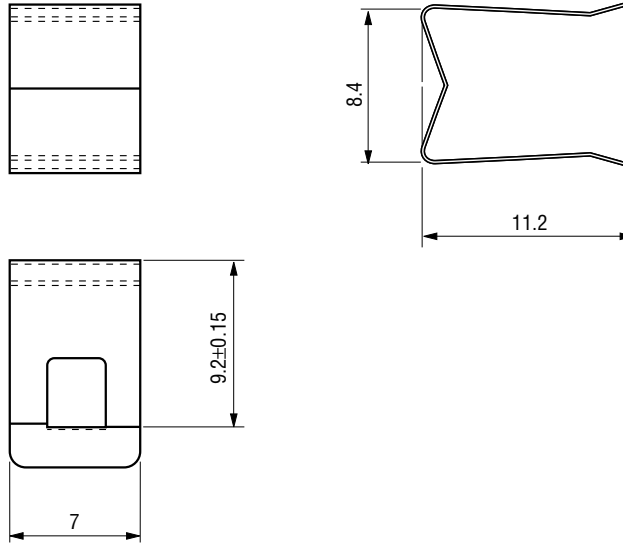
- OPU862CP, OPU852CP Switching Time vs. Load Resistance



**OPTION PARTS**

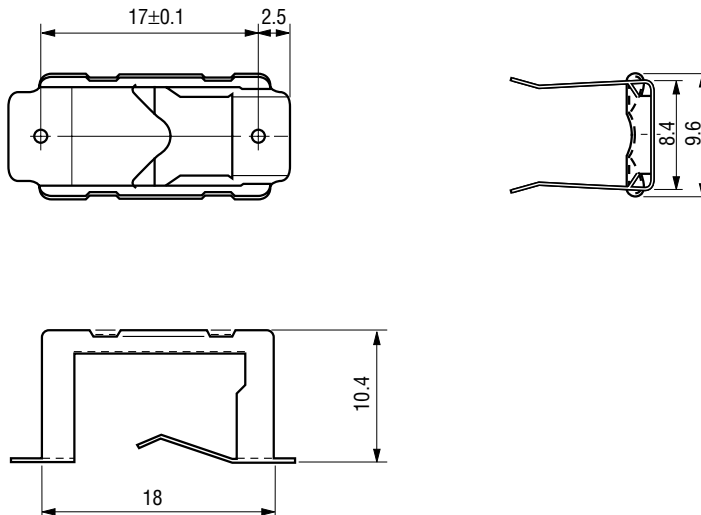
• **Sensor Holder A Type Dimension**

(Unit: mm)



• **Sensor Holder B Type Dimension**

(Unit: mm)



**Recommended Connector for Capsule Sensor (female connector)**

Product Name	Type	Maker
Connector	IL—Y—3S—S15C3	Japan Aviation Electronics Ind., Ltd.