

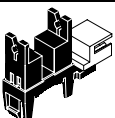
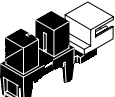
EE-SX1235A-P2/SA107-P2

Phototransistor Output with Snap-in Mounting Tabs

- EE-SA107-P2 accommodates customized actuator that snaps into brackets
- Compact and high-resolution with 0.5-mm aperture
- Compatible with 1.0-mm, 1.2-mm, and 1.6-mm thick PCBs
- Electrical connections using AMP connectors



Ordering Information

Appearance	Sensing method	Slot width	Slot depth	Output configuration	Weight	Applicable mating connector	Part number
	Transmissive, actuator*	3.6 mm	10 mm (from pivot point)	Phototransistor	Approx. 1.7 g	AMP 175778-3 AMP 173977-3	EE-SA107-P2
	Transmissive	5.0 mm	7 mm		Approx. 1.3 g		EE-SX1235A-P2

*Attach the appropriate actuator according to the application.

Specifications

■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ (77°F))

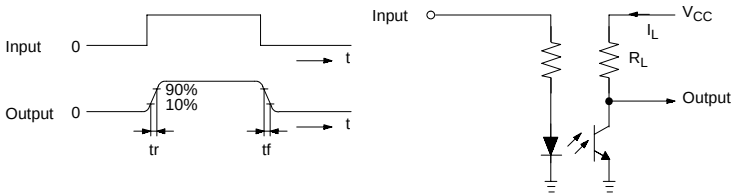
Item		Symbol	Rated value
Emitter	Forward current	I_F	50 mA*
	Reverse voltage	V_R	4 V
Detector	Collector-emitter voltage	V_{CEO}	30 V
	Collector current	I_C	20 mA
	Collector dissipation	P_C	100 mW*
Ambient temperature	Operating	T_{opr}	EE-SA107-P2: -25°C to 85°C (-13°F to 185°F) EE-SX1235A-P2: -25°C to 95°C (-13°F to 203°F)
	Storage	T_{stg}	EE-SA107-P2: -40°C to 85°C (-40°F to 185°F) EE-SX1235A-P2: -40°C to 100°C (-40°F to 212°F)

*Refer to Engineering Data if the ambient temperature is not within the normal room temperature range.

CHARACTERISTICS (T_A = 25°C (77°F))

Item		Symbol	Value	Condition
Emitter	Forward voltage	V _F	1.2 V typ. 1.5 V max.	I _F = 30 mA
	Reverse current	I _R	0.01 μA typ. 10 μA max.	V _R = 4 V
	Peak emission wavelength	λ _p (L)	940 nm typ.	I _F = 30 mA
Detector	Dark current	I _D	2 nA typ.; 200 nA max.	V _{CE} = 10 V 0/x
	Peak spectral sensitivity wavelength	λ _p (P)	850 nm typ.	V _{CE} = 5 V
Combination	Light current (collector current)	I _L	0.6 mA min. 14 mA max.	I _F = 20 mA V _{CE} = 5 V
	Collector-emitter saturated voltage	V _{CE} (sat)	0.1 V typ. 0.4 V max.	I _F = 20 mA I _L = 0.3 mA
	Rising time*	t _r	8 μs typ.	V _{CC} = 5 V R _L = 100 Ω
	Falling time*	t _f	8 μs typ.	I _L = 1 mA

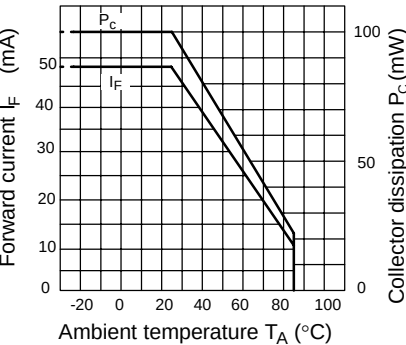
*The following illustrations show the rising time, t_r, and the falling time, t_f.



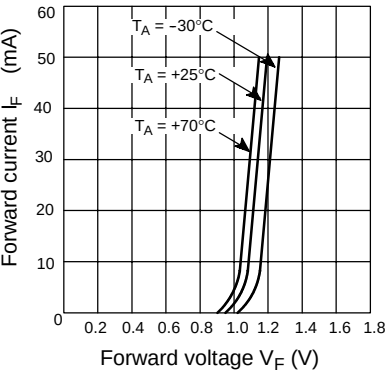
Engineering Data

Note: The operating conditions of the photomicrosensor must be within the absolute maximum rating ranges.

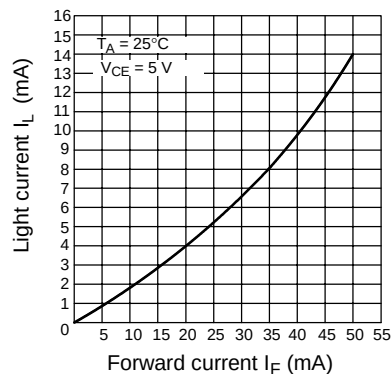
TEMPERATURE CHARACTERISTICS



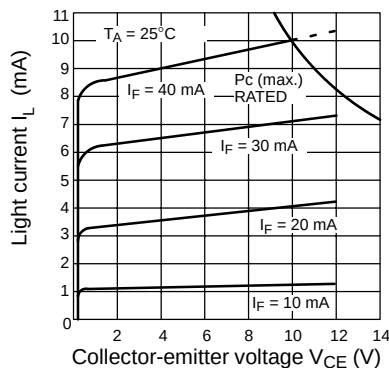
INPUT CHARACTERISTICS (TYPICAL)



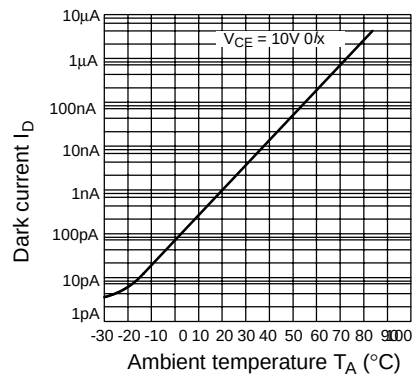
■ INPUT/OUTPUT CHARACTERISTICS (TYPICAL)



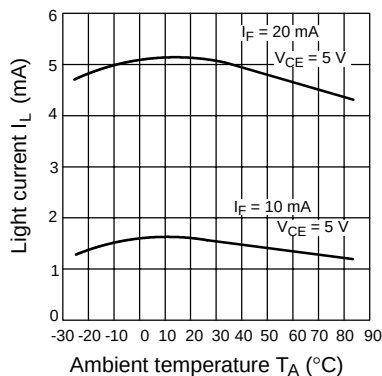
■ OUTPUT CHARACTERISTICS (TYPICAL)



■ DARK CURRENT TEMPERATURE DEPENDENCY (TYPICAL)

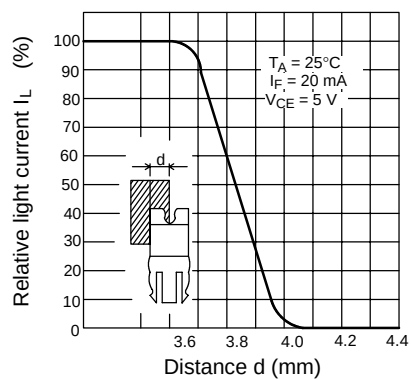


■ LIGHT CURRENT TEMPERATURE DEPENDENCY (TYPICAL)

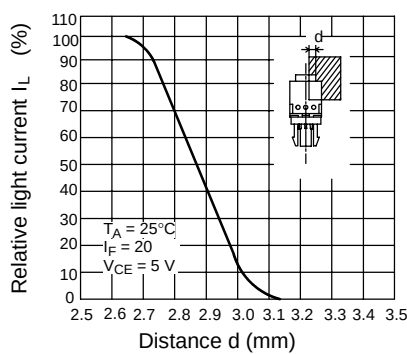


■ SENSING POSITION CHARACTERISTICS (TYPICAL)

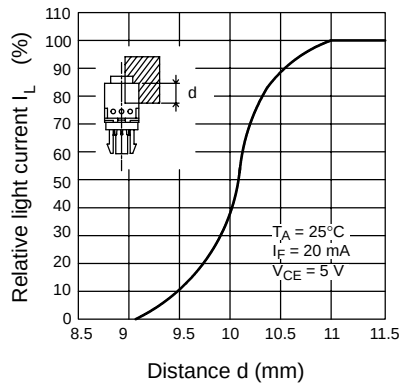
EE-SA107-P2



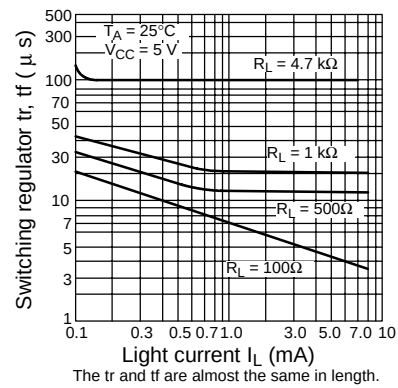
EE-SX1235A-P2



EE-SX1235A-P2



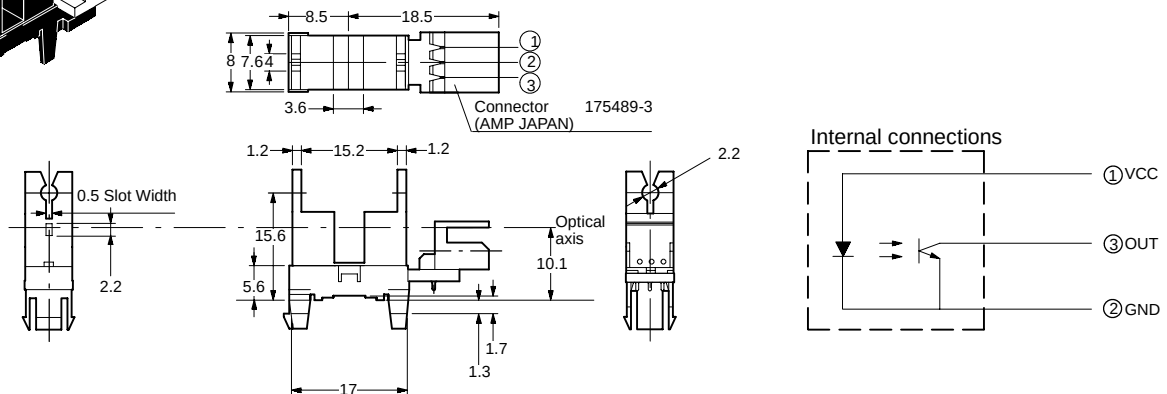
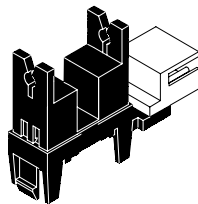
SWITCHING CHARACTERISTICS (TYPICAL)



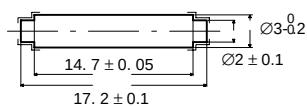
Dimensions

Unit: mm (inch)

EE-SA107-P2

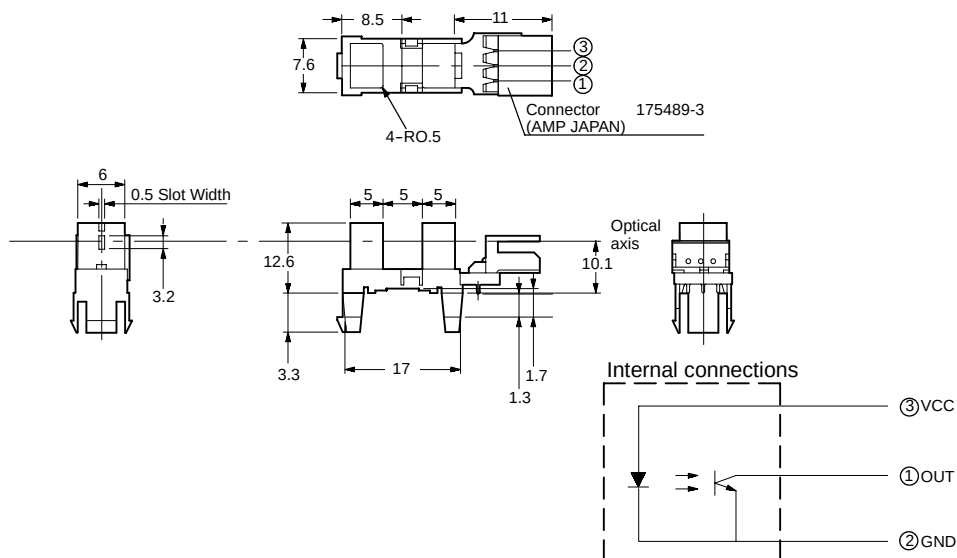
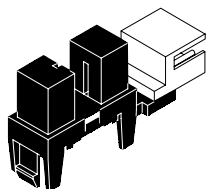


Recommended Actuator Design



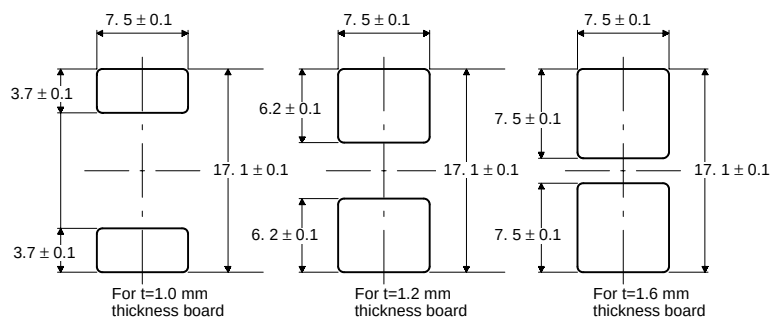
- Note: 1. No flash is located at the sections indicated by dotted lines.
 2. Material must be opaque in infrared light range (900 to 950 nm).

■ EE-SX1235A-P2



■ RECOMMENDED MOUNTING HOLES

Note: Refer to the Technical Information section for snap-in mounting procedure.
Each corner must be R0.5 max.



Precautions

Refer to the Technical Information Section for general precautions.

NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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