



EE-SY124/125

Ultra-Compact Reflective Sensor
(4 L x 3 W x 1.7 H mm)

- Phototransistor output ideal for paper detection
- Models available with through-hole and surface-mount terminals
- Miniature size is ideal for office automation and computer peripheral products



Ordering Information

Appearance	Sensing method	Sensing distance	Sensing object	Output configuration	Weight	Part number
PCB terminals 	Reflective	1 mm	Object with aluminum deposited surface	Phototransistor	Approx. 0.4 g	EE-SY124
Surface mount 						EE-SY125

Specifications

■ ABSOLUTE MAXIMUM RATINGS (T_A = 25°C (77°F))

Item		Symbol	Rated value
Input	Forward current	I _F	50 mA*
	Pulse forward current	I _{FP}	1 A**
	Reverse voltage	V _R	4 V
Output	Collector-emitter voltage	V _{CEO}	30 V
	Emitter-collector voltage	V _{ECO}	5 V
	Collector current	I _C	20 mA
	Collector dissipation	P _C	75 mW
Ambient temperature	Operating	T _{opr}	-25°C to 85°C (-13°F to 185°F)
	Storage	T _{stg}	-40°C to 100°C (-40°F to 212°F)

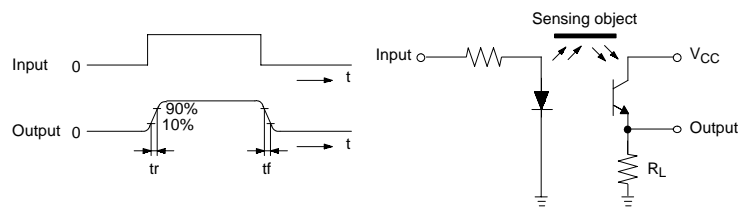
*Refer to Engineering Data if the ambient temperature is not within the normal room temperature range.

**This value was measured with a pulse width of 10 μs and a repeating frequency of 100 Hz.

CHARACTERISTICS (T_A = 25°C (77°F))

Item	Symbol	Value	Condition
Input	Forward voltage	V _F	1.2 V typical
	Reverse current	I _R	10 μA max.
	Peak emission wavelength	λ _p (L)	950 nm typ.
Output	Dark current	I _D	200 nA max.
	Peak spectral sensitivity wavelength	λ _p (P)	850 nm typ.
Combination	Light current	I _L	50 to 300 μA
	Leakage current	I _{LEAK}	200 nA
	Rising time*	t _r	35 μs typ.
	Falling time*	t _f	25 μs typ.

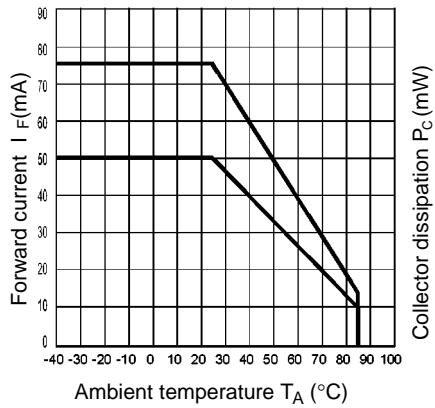
*The following illustrations show the rising time, t_r, and the falling time, t_f.



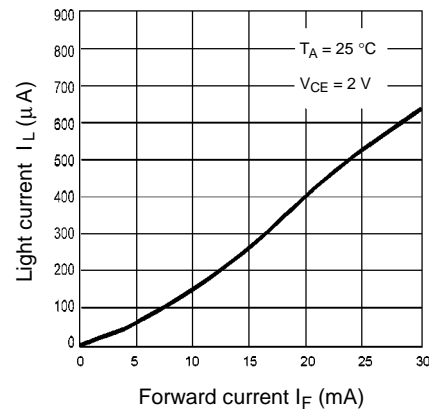
Engineering Data

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

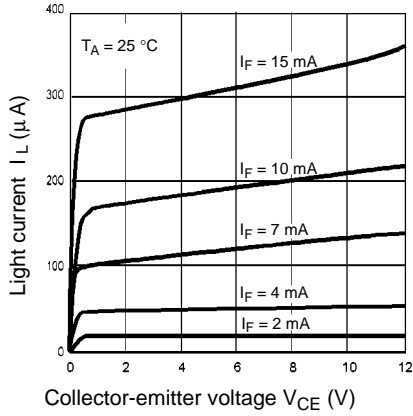
TEMPERATURE CHARACTERISTICS



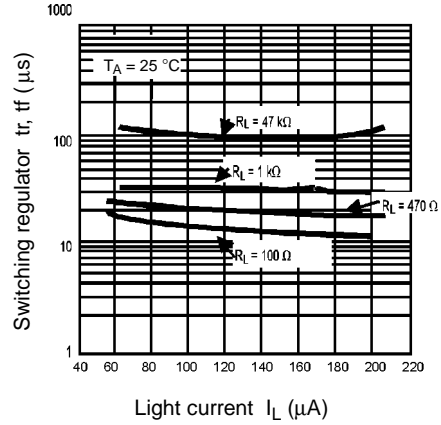
INPUT/OUTPUT CHARACTERISTICS



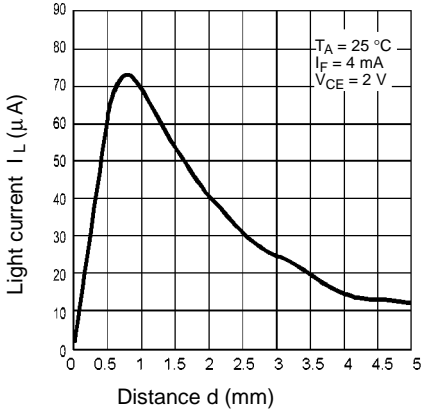
OUTPUT CHARACTERISTICS (TYPICAL)



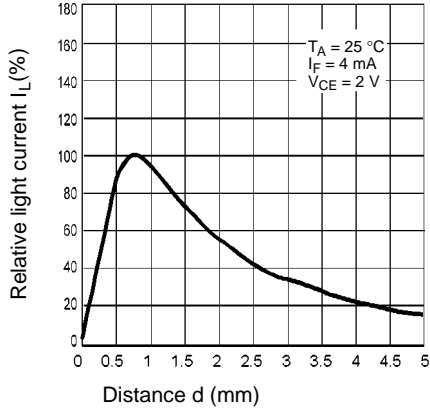
SWITCHING CHARACTERISTICS (TYPICAL) RISE TIME



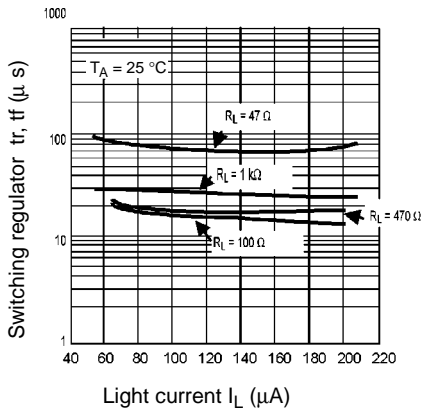
SENSING DISTANCE CHARACTERISTICS (TYPICAL 1)



SENSING DISTANCE CHARACTERISTICS (TYPICAL 2)



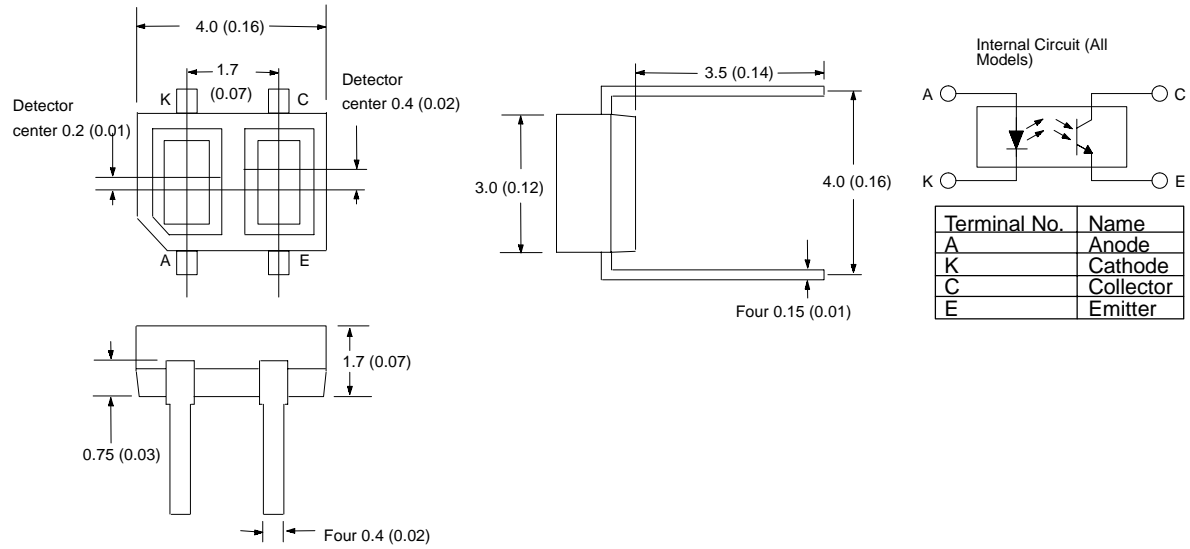
SWITCHING CHARACTERISTICS (TYPICAL) FALL TIME



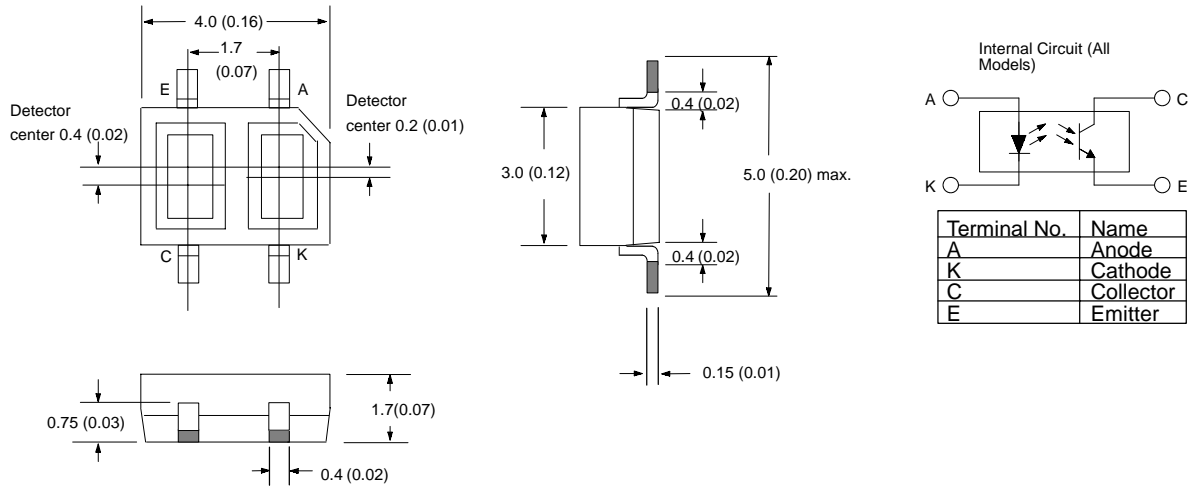
Dimensions

Unit: mm (inch)

EE-SY124



EE-SY125



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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