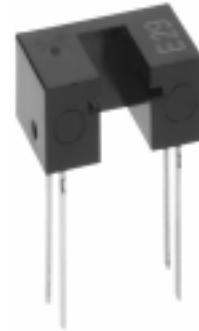


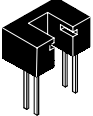
EE-SX1046

Phototransistor Output with Vertical Slot

- High-resolution model detects objects with 0.5-mm (minimum) diameter
- Low profile (5 mm high) ideal for office automation and computer peripheral applications
- Excellent phototransistor output characteristics



Ordering Information

Appearance	Sensing method	Slot width	Slot depth	Sensing object	Output configuration	Part number
	Transmissive	3 mm	5 mm	Opaque, 0.5 x 2.1 mm min.	Phototransistor	EE-SX1046

Specifications

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

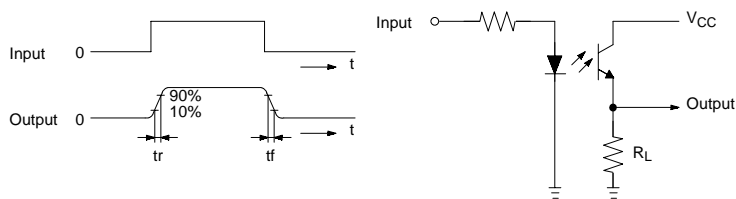
Item		Symbol	Rated value
Emitter	Forward current	I _F	50 mA*
	Reverse voltage	V _R	4 V
Detector	Collector-emitter voltage	V _{CEO}	30 V
	Collector current	I _C	20 mA
	Collector dissipation	P _C	100 mW*
Ambient temperature	Operating	T _{opr}	-25°C to 85°C (-13°F to 185°F)
	Storage	T _{stg}	-30°C to 100°C (-22°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.
	Reverse current	I _R	10 μA max.
	Peak emission wavelength	λ _{p(L)}	920 nm typ.
Detector	Dark current	I _D	2 nA typ.; 200 nA max.
	Peak spectral sensitivity wavelength	λ _{p(P)}	850 nm typ.
Combination	Light current (collector current)	I _L	1.2 mA min. 14 mA max.
	Collector-emitter saturated voltage	V _{CE (sat)}	0.1 V typ. 0.4 V max.
	Rising time*	t _r	4 μs typ.
	Falling time*	t _f	4 μs typ.

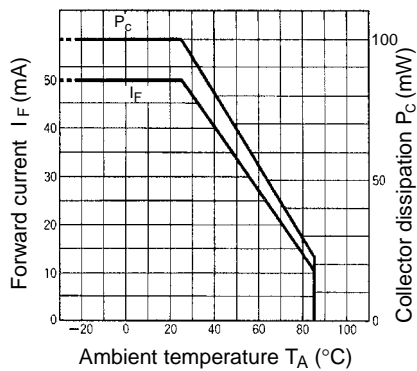
*The following illustrations show the rising time, t_r, and the falling time, t_f.



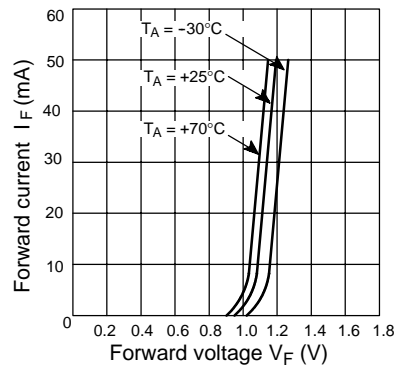
Engineering Data

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

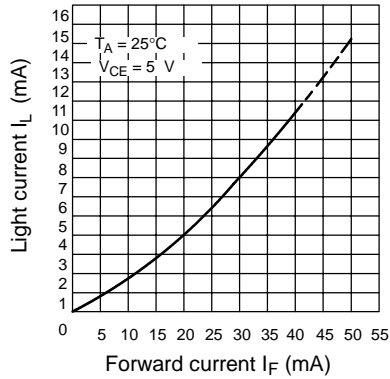
TEMPERATURE CHARACTERISTICS



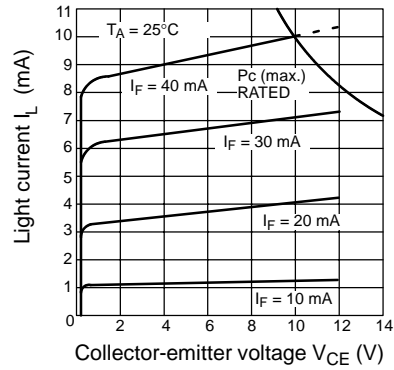
INPUT CHARACTERISTIC (TYPICAL)



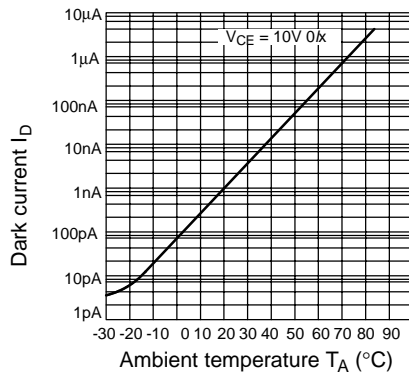
INPUT/OUTPUT CHARACTERISTICS (TYPICAL)



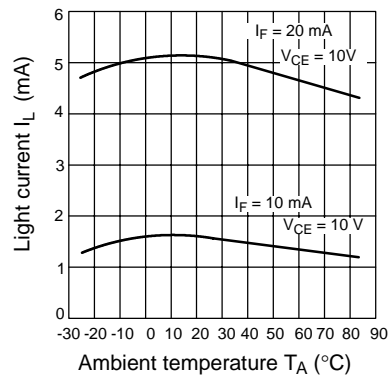
OUTPUT CHARACTERISTIC (TYPICAL)



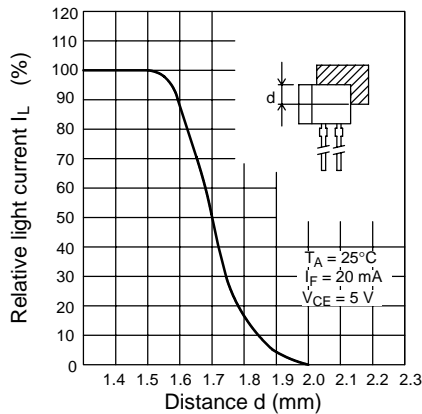
DARK CURRENT TEMPERATURE DEPENDENCY (TYPICAL)



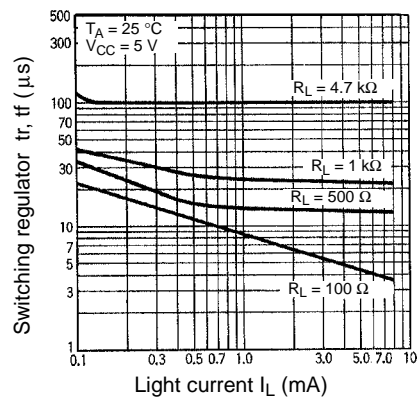
LIGHT CURRENT TEMPERATURE DEPENDENCY (TYPICAL)



SENSING POSITION CHARACTERISTICS (TYPICAL)



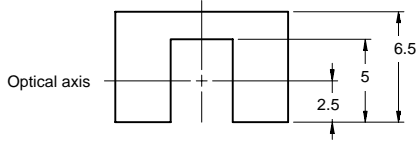
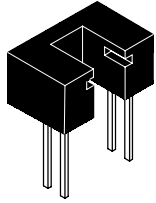
SWITCHING CHARACTERISTICS (TYPICAL)



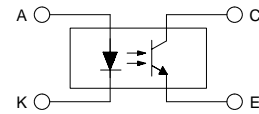
Dimensions

Unit: mm (inch)

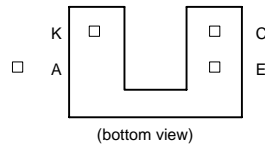
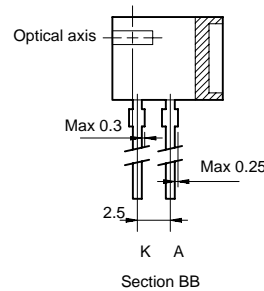
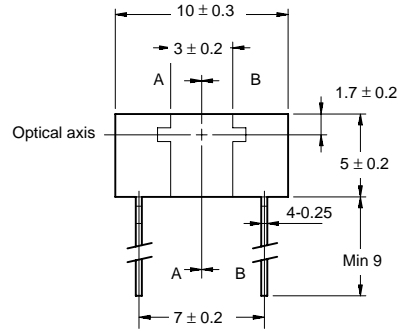
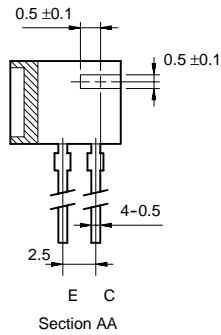
EE-SX1046



Internal Circuit (All Models)



Terminal No.	Name
A	Anode
K	Cathode
C	Collector
E	Emitter



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.

OMRON[®]
OMRON ELECTRONICS, INC.
 One East Commerce Drive
 Schaumburg, IL 60173
1-800-55-OMRON

OMRON CANADA, INC.
 885 Milner Avenue
 Scarborough, Ontario M1B 5V8
416-286-6465