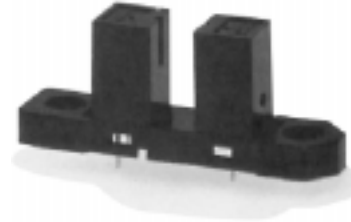



EE-SX2088(-W1)

New Low-cost Photodarlington Transistor Output

- 0.5-mA output min. with only 1-mA forward LED current
- Mounting tabs to secure EE-SX2088 to PCB
- Best suited to drive CMOS IC
- EE-SX2088-W1 version provides easy, reliable solder-free connection



Ordering Information

Appearance	Sensing method	Slot width	Slot depth	Sensing object	Output configuration	Weight	Part number
	Transmissive	3.4 mm	7 mm	Opaque, 0.5 x 2.1 mm min.	Photodarlington transistor	Approx. 0.6 g	EE-SX2088

Specifications

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

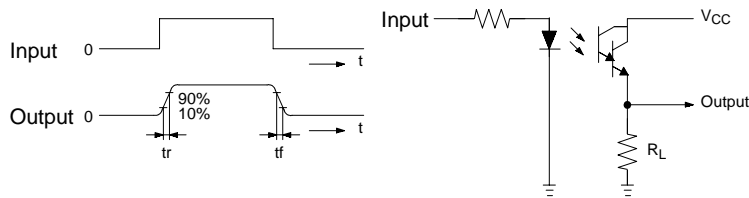
Item		Symbol	Rated value
Input	Forward current	I_F	50 mA*
	Reverse voltage	V_R	4 V
Output	Collector-emitter voltage	V_{CEO}	35 V
	Collector current	I_C	20 mA
	Collector dissipation	P_C	100 mW
Ambient temperature	Operating	T_{opr}	-25°C to 85°C (-13°F to 185°F)
	Storage	T_{stg}	-30°C to 100°C (-22°F to 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))

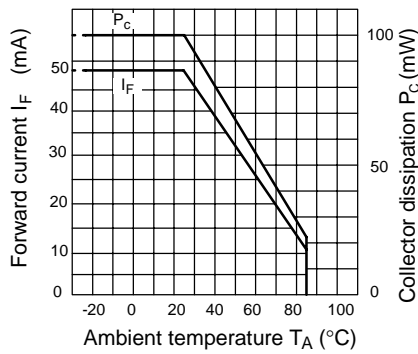
Item	Symbol	Value	Condition
Emitter	Forward voltage	V _F	1.2 V typ.; 1.4 V max.
	Reverse current	I _R	0.01 μA typ.; 10 μA max.
	Peak emission wavelength	λ _{p(L)}	940 nm typ.
Detector	Dark current	I _D	2 nA typ.; 1000 nA max.
	Peak spectral sensitivity wavelength	λ _{p(P)}	850 nm typ.
Combination	Light current (collector current)	I _L	0.5 to 20 mA
	Collector-emitter saturated voltage	V _{CE (sat)}	0.75 V typ.; 1 V max.
	Rising time*	t _r	70 μs typ.
	Falling time*	t _f	70 μs typ.

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

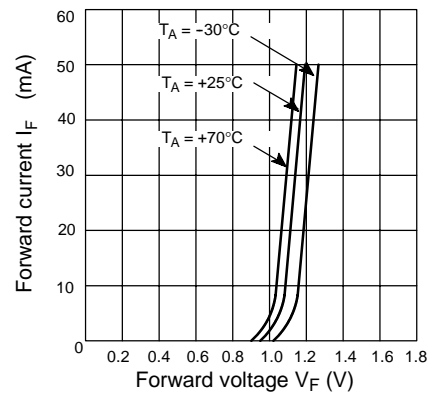


Engineering Data

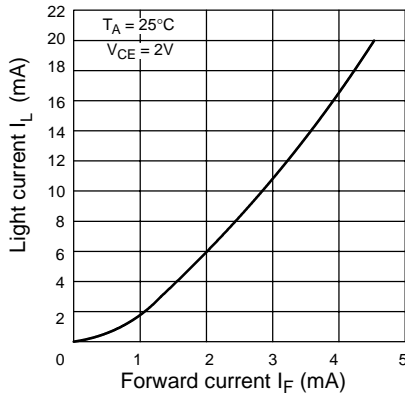
TEMPERATURE CHARACTERISTICS



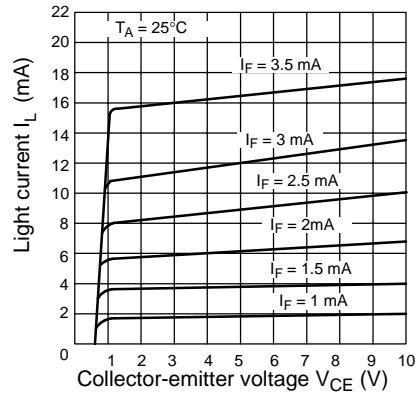
INPUT CHARACTERISTICS (TYPICAL)



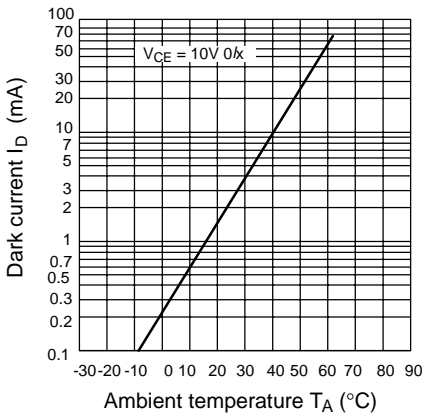
INPUT/OUTPUT CHARACTERISTICS (TYPICAL)



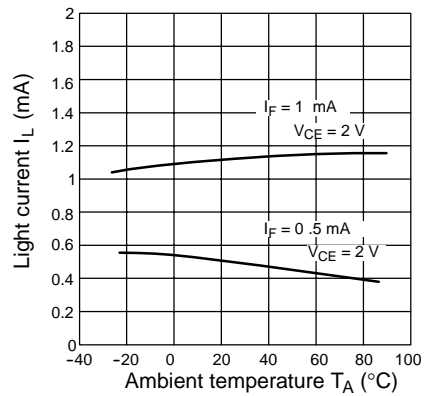
OUTPUT CHARACTERISTICS (TYPICAL)



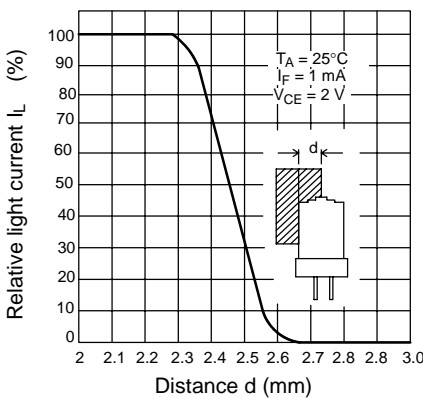
DARK CURRENT TEMPERATURE DEPENDENCY (TYPICAL)



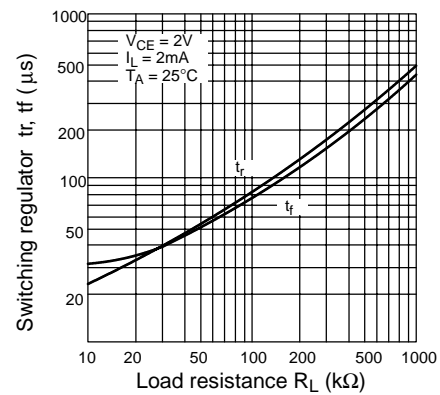
LIGHT CURRENT TEMPERATURE DEPENDENCY (TYPICAL)



SENSING POSITION CHARACTERISTICS (TYPICAL)



RESPONSE TIME VS. LOAD RESISTANCE CHARACTERISTICS (TYPICAL)

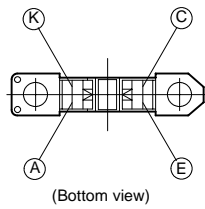
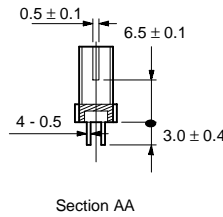
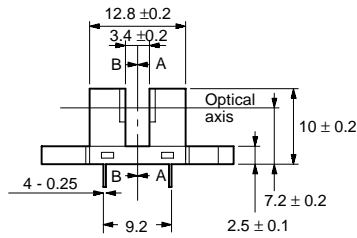
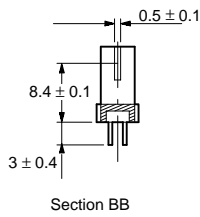
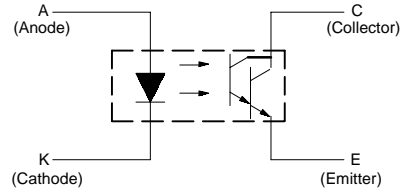
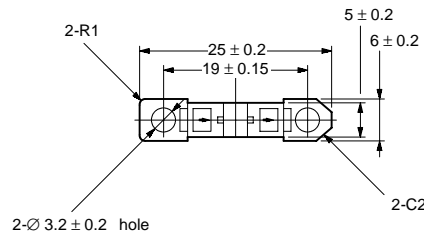
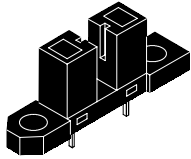


Note: The operating conditions of the photomicrosensor must be within the absolute maximum rating ranges.

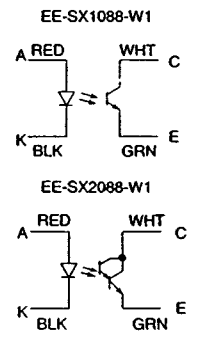
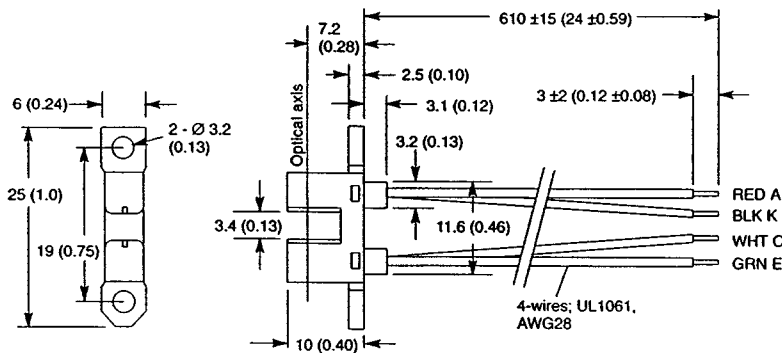
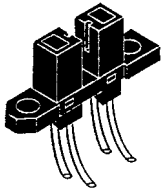
Dimensions

Unit: mm (inch)

EE-SX2088



EE-SX2088-W1



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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