



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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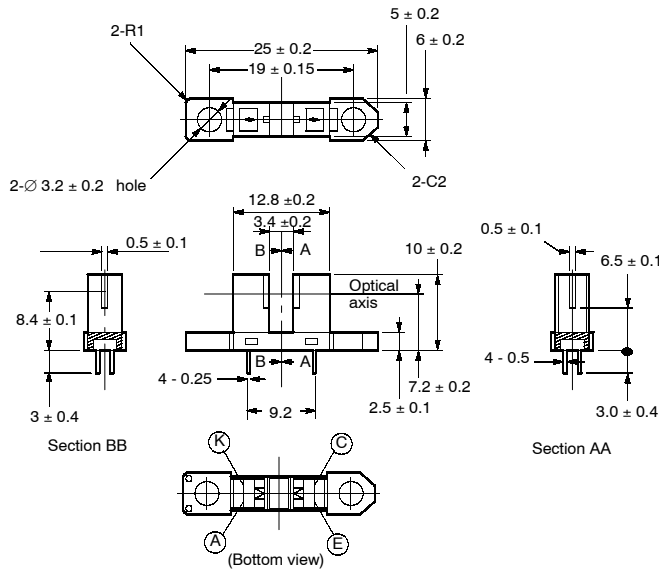
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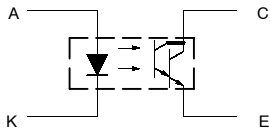


■ Dimensions

Note: All units are in millimeters unless otherwise indicated.



Internal Circuit



Unless otherwise specified, the tolerances are ± 0.2 mm.

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

■ Features

- 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.

■ Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item		Symbol	Rated value
Emitter	Forward current	I_F	50 mA (see note 1)
	Pulse forward current	I_{FP}	1 A (see note 2)
	Reverse voltage	V_R	4 V
Detector	Collector-Emitter voltage	V_{CEO}	35 V
	Emitter-Collector voltage	V_{ECO}	---
	Collector current	I_C	20 mA
	Collector dissipation	P_C	100 mW (see note 1)
Ambient temperature	Operating	T_{opr}	-25°C to 85°C
	Storage	T_{stg}	-30°C to 100°C

- Note:**
1. Refer to the temperature rating chart if the ambient temperature exceeds 25°C .
 2. The pulse width is 10 μs maximum with a frequency of 100 Hz.
 3. Complete soldering within 10 seconds.

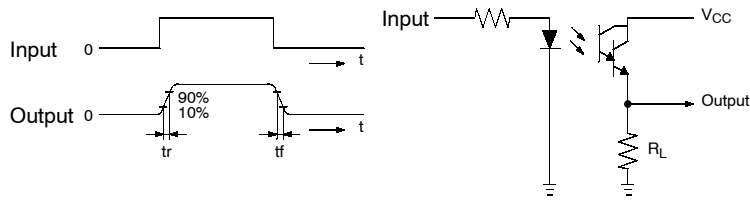
■ Ordering Information

Description	Part number
Photomicrosensor (Transmissive)	EE-SX2088

■ Electrical and Optical Characteristics ($T_a = 25^\circ\text{C}$)

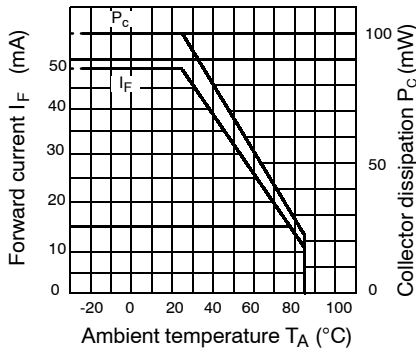
Item		Symbol	Value	Condition
Emitter	Forward voltage	V_F	1.2 V typ.; 1.4 V max.	$I_F = 20\text{mA}$
	Reverse current	I_R	0.01 μA typ.; 10 μA max.	$V_R = 4\text{V}$
	Peak emission wavelength	$\lambda_p(L)$	940 nm typ.	$I_F = 20\text{mA}$
Detector	Dark current	I_D	2 nA typ.; 1000 nA max.	$V_{CE} = 10\text{V } 0\text{/x}$
	Peak spectral sensitivity wavelength	$\lambda_p(P)$	850 nm typ.	$V_{CE} = 5\text{V}$
Combination	Light current (collector current)	I_L	0.5 to 20 mA	$I_F = 1\text{mA}$ $V_{CE} = 2\text{V}$
	Collector-emitter saturated voltage	$V_{CE}(\text{sat})$	0.75 V typ.; 1 V max.	$I_F = 2\text{mA}$ $I_L = 0.5\text{mA}$
	Rising time*	t_r	70 μs typ.	$V_{CC} = 2\text{V}$ $I_L = 2\text{mA}$
	Falling time*	t_f	70 μs typ.	$R_L = 100\ \Omega$

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

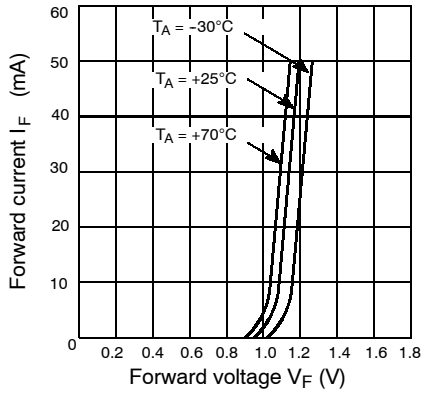


Engineering Data

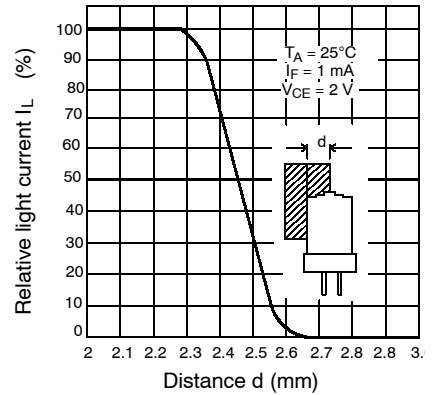
Temperature Characteristics



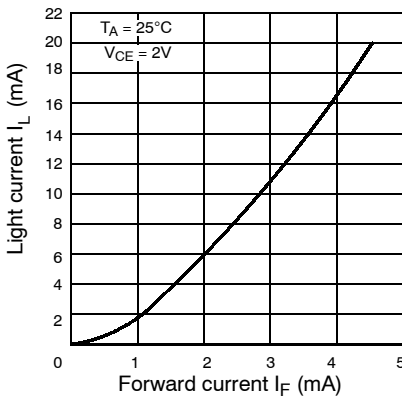
Input Characteristics (Typical)



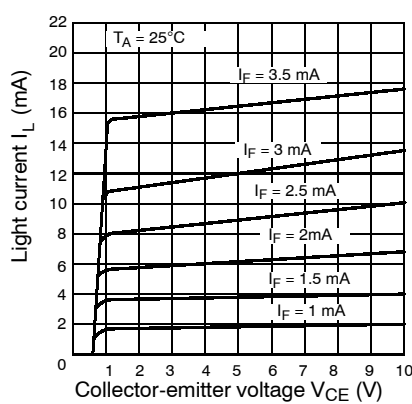
Sensing Position Characteristics (Typical)



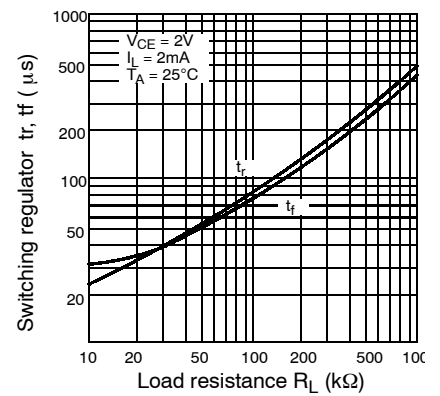
Input/output Characteristics (Typical)



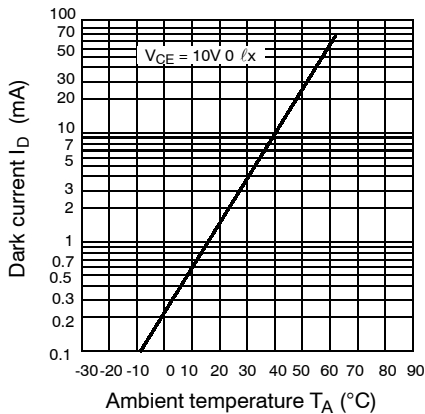
Output Characteristics (Typical)



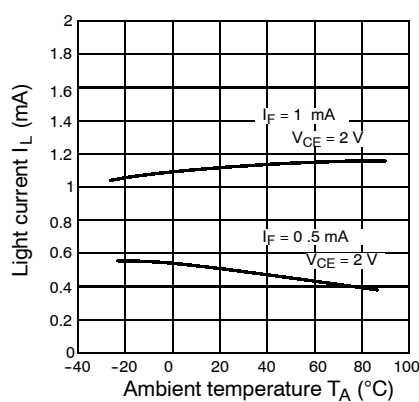
Response Time vs Load Resistance Characteristics (Typical)



Dark Current Temperature Dependency (Typical)



Light Current Temperature Dependency (Typical)



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

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