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!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
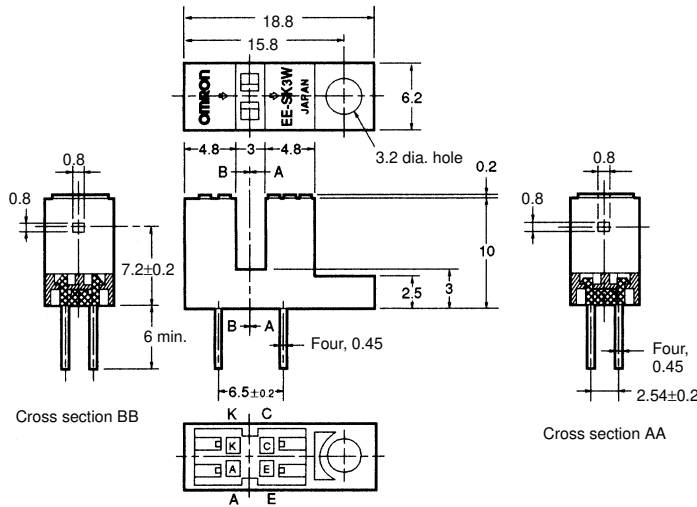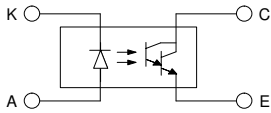Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

OMRON
EE-SK3W-B

Photomicrosensor
(Transmissive)

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.

18.8
15.8
EE-SK3W JAPAN
6.2
4.8 3 4.8
B A
3.2 dia. hole
0.8
0.2
0.8
0.8
0.8
10
7.2±0.2
2.5 3
6 min.
B A
Four, 0.45
Four, 0.45
6.5±0.2
2.54±0.2
Cross section BB
Cross section AA

K C
K C
A E
A E

Internal Circuit

K ○——▷|——○ C

A ○————————○ E

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

Unless otherwise specified, the tolerances are as shown below.

Dimensions	Tolerance
3 mm max.	±0.3
3 < mm ≤ 6	±0.375
6 < mm ≤ 10	±0.45
10 < mm ≤ 18	±0.55
18 < mm ≤ 30	±0.65

■ Features

- General-purpose model with a 3-mm-wide slot.
- PCB mounting type.
- With a red LED as an emitter element and a Photo-Darlington transistor as a detector element.

■ Absolute Maximum Ratings (Ta = 25°C)

| Item		Symbol	Rated value
Emitter	Forward current	I_F	15 mA (see note 1)
	Pulse forward current	I_{FP}	---
	Reverse voltage	V_R	4 V
Detector	Collector–Emitter voltage	V_{CEO}	24 V
	Emitter–Collector voltage	V_{ECO}	---
	Collector current	I_C	20 mA
	Collector dissipation	P_C	75 mW (see note 1)
Ambient temperature	Operating	Topr	−20°C to 60°C
	Storage	Tstg	−20°C to 80°C
Soldering temperature		Tsol	260°C (see note 2)

Note: 1. Refer to the temperature rating chart if the ambient temperature exceeds 25°C.
2. Complete soldering within 10 seconds.

### ■ Electrical and Optical Characteristics (Ta = 25°C)

| Item		Symbol	Value	Condition
Emitter	Forward voltage	V_F	2.0 V typ., 2.6 V max.	I_F = 15 mA
	Reverse current	I_R	0.01 μA typ., 5 μA max.	V_R = 4 V
	Peak emission wavelength	λ_P	700 nm typ.	I_F = 3 mA
Detector	Light current	I_L	1.5 mA min., 120 mA max.	I_F = 3 mA, V_{CE} = 10 V
	Dark current	I_D	2 nA typ., 250 nA max.	V_{CE} = 10 V, 0 ℓx
	Leakage current	I_{LEAK}	---	---
	Collector–Emitter saturated voltage	V_{CE} (sat)	0.9 V typ.	I_F = 3 mA, I_L = 0.5 mA
	Peak spectral sensitivity wavelength	λ_P	800 nm typ.	V_{CE} = 10 V
Rising time		tr	180 μs typ.	V_{CC} = 5 V, R_L = 100 Ω, I_L = 10 mA
Falling time		tf	60 μs typ.	V_{CC} = 5 V, R_L = 100 Ω, I_L = 10 mA

■ Engineering Data

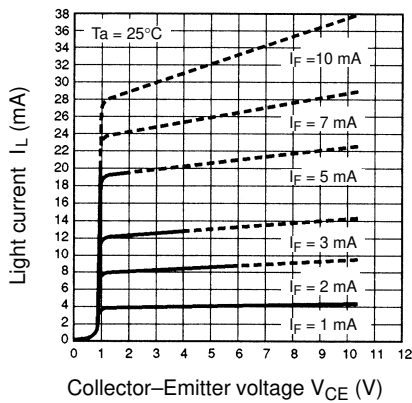**Forward Current vs. Collector Dissipation Temperature Rating**
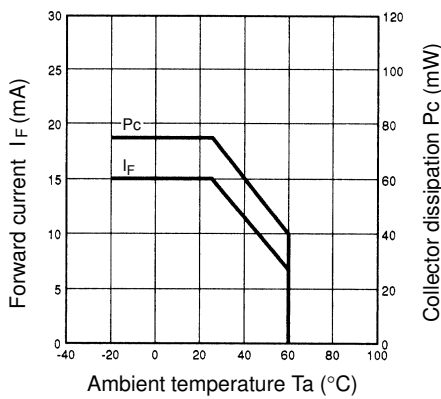
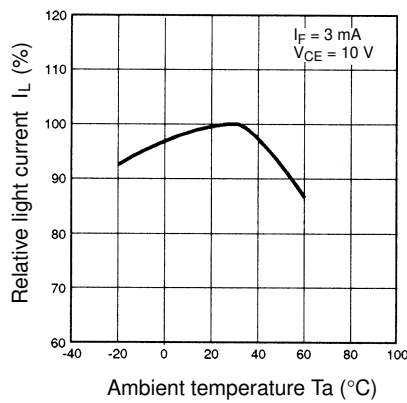**Forward Current vs. Forward Voltage Characteristics (Typical)**
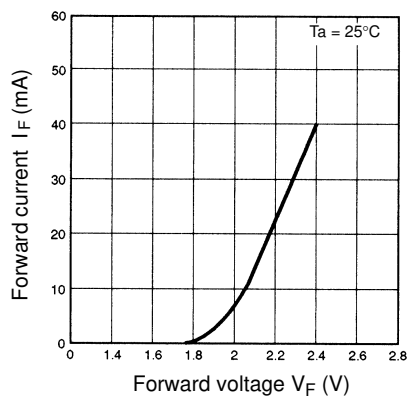
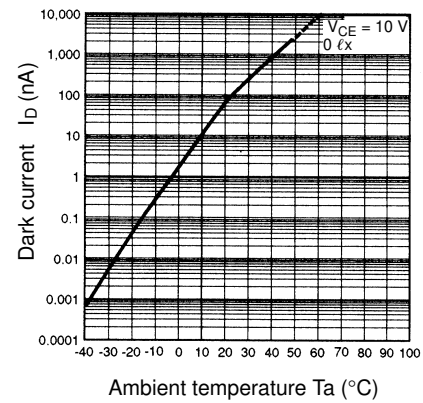**Light Current vs. Forward Current Characteristics (Typical)**
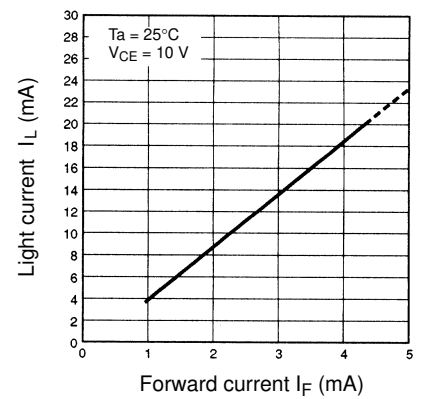
Light Current vs. Collector–Emitter Voltage Characteristics (Typical)
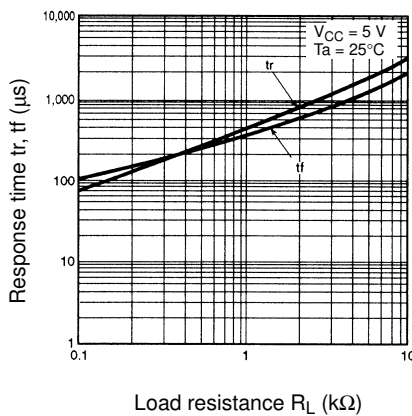
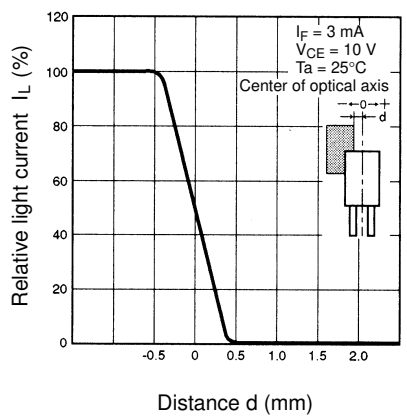**Relative Light Current vs. Ambient Temperature Characteristics (Typical)**

Dark Current vs. Ambient Temperature Characteristics (Typical)

Response Time vs. Load Resistance Characteristics (Typical)

Sensing Position Characteristics (Typical)

Response Time Measurement Circuit