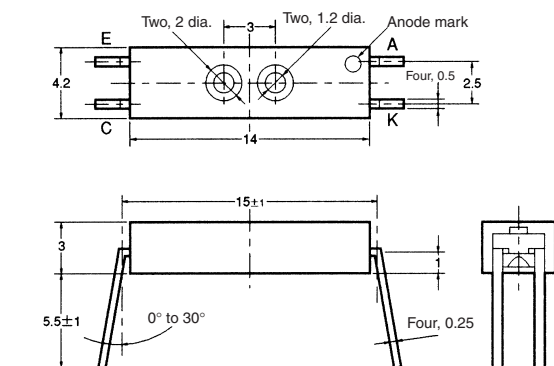


Photomicrosensor (Reflective)

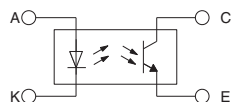
EE-SY171

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.



Internal Circuit



Unless otherwise specified, the tolerances are as shown below.

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

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

- 3-mm-tall, thin model
- RoHS Compliant.

■ Absolute Maximum Ratings (Ta = 25°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}	30 V
	Emitter–Collector voltage	V_{ECO}	---
	Collector current	I_C	20 mA
	Collector dissipation	P_C	100 mW (see note 1)
	Ambient temperature	T_{opr}	–40°C to 85°C
Storage	Operating	T_{opr}	–40°C to 85°C
	Storage	T_{stg}	–40°C to 85°C
Soldering temperature		T_{sol}	260°C (see note 3)

Note: 1. Refer to the temperature rating chart if the ambient temperature exceeds 25°C.

2. The pulse width is 10 μ s maximum with a frequency of 100 Hz.

3. Complete soldering within 10 seconds.

■ Ordering Information

Description	Model
Photomicrosensor (reflective)	EE-SY171

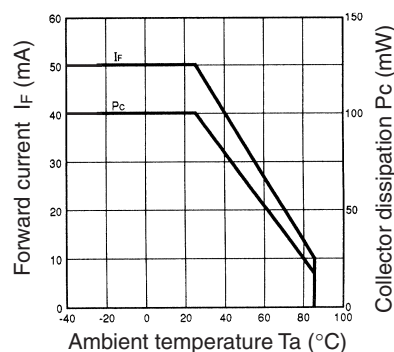
■ Electrical and Optical Characteristics (Ta = 25°C)

Item		Symbol	Value	Condition
Emitter	Forward voltage	V_F	1.2 V typ., 1.5 V max.	$I_F = 30$ mA
	Reverse current	I_R	0.01 μ A typ., 10 μ A max.	$V_R = 4$ V
	Peak emission wavelength	λ_P	940 nm typ.	$I_F = 20$ mA
Detector	Light current	I_L	50 μ A min., 500 μ A max.	$I_F = 20$ mA, $V_{CE} = 10$ V White paper with a reflection ratio of 90%, d = 3.5 mm (see note)
	Dark current	I_D	2 nA typ., 200 nA max.	$V_{CE} = 10$ V, 0 lx
	Leakage current	I_{LEAK}	2 μ A max.	$I_F = 20$ mA, $V_{CE} = 10$ V with no reflection
	Collector–Emitter saturated voltage	$V_{CE(sat)}$	---	---
	Peak spectral sensitivity wavelength	λ_P	850 nm typ.	$V_{CE} = 10$ V
Rising time		t_r	30 μ s typ.	$V_{CC} = 5$ V, $R_L = 1$ k Ω , $I_L = 1$ mA
Falling time		t_f	30 μ s typ.	$V_{CC} = 5$ V, $R_L = 1$ k Ω , $I_L = 1$ mA

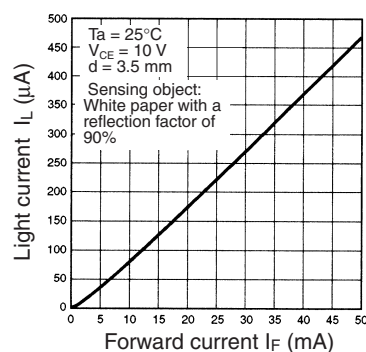
Note: The letter “d” indicates the distance between the top surface of the sensor and the sensing object.

■ Engineering Data

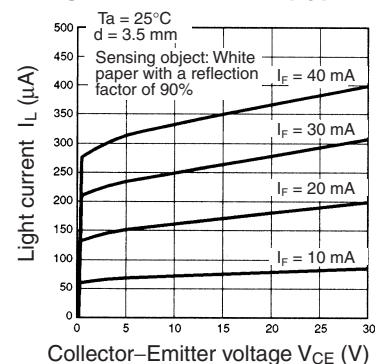
Forward Current vs. Collector Dissipation Temperature Rating



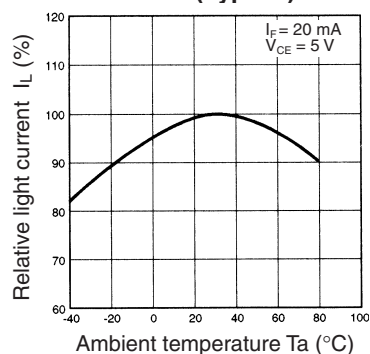
Light Current vs. Forward Current Characteristics (Typical)



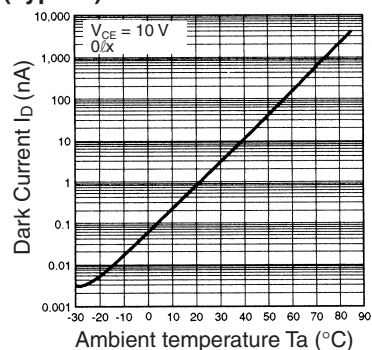
Light Current vs. Collector-Emitter Voltage Characteristics (Typical)



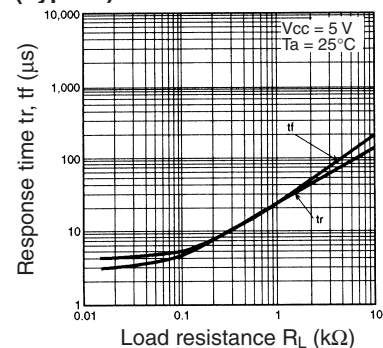
Relative Light Current vs. Ambient Temperature Characteristics (Typical)



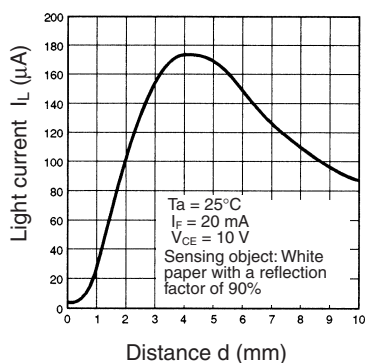
Dark Current vs. Ambient Temperature Characteristics (Typical)



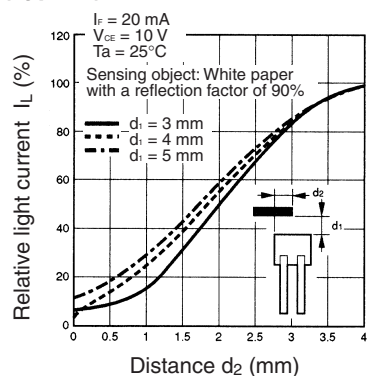
Response Time vs. Load Resistance Characteristics (Typical)



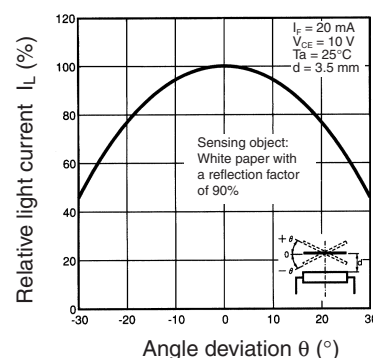
Sensing Distance Characteristics (Typical)



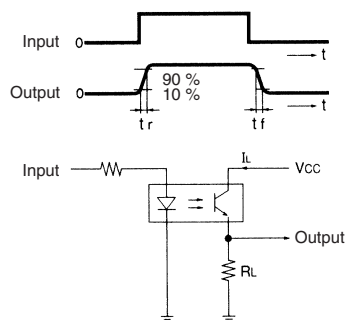
Sensing Position Characteristics (Typical)



Sensing Angle Characteristics (Typical)



Response Time Measurement Circuit



A large grid of small, faint, repeating geometric patterns, likely a decorative background or a placeholder for a complex image. The patterns are arranged in a regular, repeating fashion across the entire page, creating a textured, woven appearance. The colors are very light, blending into the white background, which gives it a subtle, watermark-like quality. The patterns themselves are composed of simple lines and shapes, possibly representing a stylized textile or a digital mosaic.

All sales are subject to Omron Electronic Components LLC standard terms and conditions of sale, which can be found at http://www.components.omron.com/components/web/webfiles.nsf/sales_terms.html

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

OMRON[®]

**OMRON ELECTRONIC
COMPONENTS LLC**

55 E. Commerce Drive, Suite B
Schaumburg, IL 60173

847-882-2288

OMRON ON-LINE

Global - <http://www.omron.com>

USA - <http://www.components.omron.com>

AMEYA360

Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit www.ameya360.com

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com