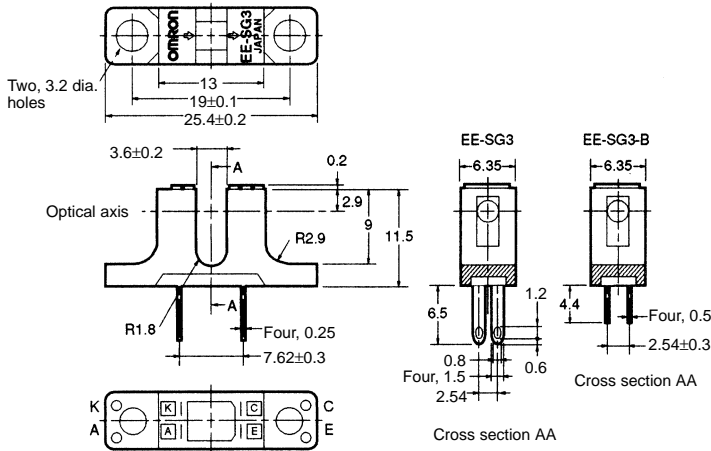


EE-SG3/EE-SG3-B

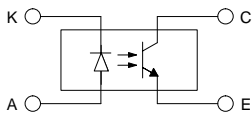
Photomicrosensor (Transmissive)

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.



Internal Circuit



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

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

■ Features

- Dust-proof model.
- Solder terminal model (EE-SG3).
- PCB terminal model (EE-SG3-B).

■ 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	Operating	T_{opr} -25°C to 85°C
	Storage	T_{stg} -30°C to 100°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 μs maximum with a frequency of 100 Hz.
 3. Complete soldering within 10 seconds.

■ 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 μA typ., 10 μA max.	$V_R = 4$ V
	Peak emission wavelength	λ_P 940 nm typ.	$I_F = 20$ mA
Detector	Light current	I_L 2 mA min., 40 mA max.	$I_F = 15$ mA, $V_{CE} = 10$ V
	Dark current	I_D 2 nA typ., 200 nA max.	$V_{CE} = 10$ V, 0 lx
	Leakage current	I_{LEAK} ---	---
	Collector-Emitter saturated voltage	$V_{CE(sat)}$ 0.1 V typ., 0.4 V max.	$I_F = 30$ mA, $I_L = 1$ mA
	Peak spectral sensitivity wavelength	λ_P 850 nm typ.	$V_{CE} = 10$ V
Rising time	t_r 4 μs typ.	$V_{CC} = 5$ V, $R_L = 100 \Omega$, $I_L = 5$ mA	
Falling time	t_f 4 μs typ.	$V_{CC} = 5$ V, $R_L = 100 \Omega$, $I_L = 5$ mA	