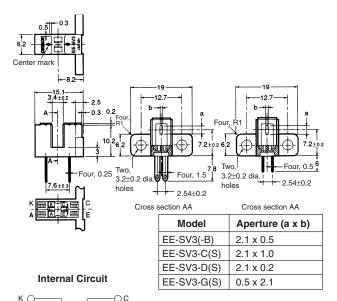
Photomicrosensor (Transmissive)

Dimensions

Note: All units are in millimeters unless otherwise indicated.



A ()	OE
Terminal No.	Name
Α	Anode
V	Cathaala

Terminal No.	Name		
Α	Anode		
K	Cathode		
С	Collector		
E	Emitter		

Unless otherwise specified, the tolerances are as shown below.

Dimensions	Tolerance		
3 mm max.	±0.2		
3 < mm ≤ 6	±0.24		
6 < mm ≤ 10	±0.29		
10 < mm ≤ 18	±0.35		
18 < mm ≤ 30	±0.42		

■ Features

- High-resolution model with a 0.2-mm-wide or 0.5-mm-wide sensing aperture, high-sensitivity model with a 1-mm-wide sensing aperture, and model with a horizontal sensing aperture are available.
- Solder terminal models EE-SV3/-SV3-CS/-SV3-DS/-SV3-GS
- PCB terminal models EE-SV3-B/-SV3-C/-SV3-D/-SV3-G
- · 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	Operating	T _{opr}	–25°C to 85°C	
temperature	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.

Ordering Information

Description	Aperture (a x b)	Model
Photomicrosensor (transmissive)	2.1 x 0.5	EE-SV3(-B)
	2.1 x 1.0	EE-SV3-C(S)
	2.1 x 0.2	EE-SV3-D(S)
	0.5 x 2.1	EE-SV3-G(S)

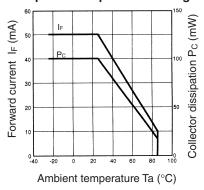
■ Electrical and Optical Characteristics (Ta = 25°C)

Item		Symbol	Value		Condition		
			EE-SV3(-B)	EE-SV3-C(S)	EE-SV3-D(S)	EE-SV3-G(S)	
Emitter	Forward voltage	age V _F 1.2 V typ., 1.5 V max.				$I_F = 30 \text{ mA}$	
	Reverse current	I _R	0.01 μA typ., 10 μA max.				V _R = 4 V
	Peak emission wavelength	λ_{P}	940 nm typ.				$I_F = 20 \text{ mA}$
Detector	Light current	I _L	0.5 to 14 mA	1 to 28 mA	0.1 mA min.	0.5 to 14 mA	I _F = 20 mA, V _{CE} = 10 V
	Dark current	I _D	2 nA typ., 200 nA max.			-	$V_{CE} = 10 \text{ V}, 0 \ell x$
	Leakage current	I _{LEAK}					
	Collector–Emitter saturated voltage	V _{CE (sat)}	0.1 V typ., 0.4 V max		0.1 V typ., 0.4 V max.	$I_F = 20 \text{ mA},$ $I_L = 0.1 \text{ mA}$	
	Peak spectral sensitivity wavelength	λ_{P}	850 nm typ.			V _{CE} = 10 V	
Rising time tr 4 μs typ.		typ.		$V_{CC} = 5 \text{ V},$			
Falling time	e	tf	4 μs typ.		$R_L = 100 \Omega$, $I_L = 5 \text{ mA}$		

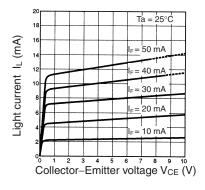
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■ Engineering Data

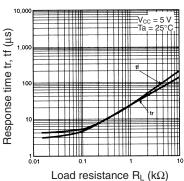
Forward Current vs. Collector Dissipation Temperature Rating



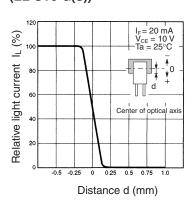
Light Current vs. Collector-Emitter Voltage Characteristics (EE-SV3(-B))



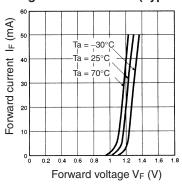
Response Time vs. Load Resistance Characteristics (Typical)



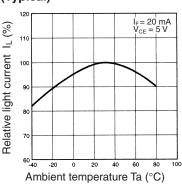
Sensing Position Characteristics (EE-SV3-G(S))



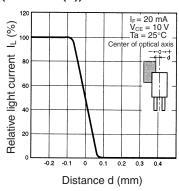
Forward Current vs. Forward Voltage Characteristics (Typical)



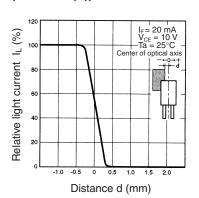
Relative Light Current vs. Ambient Temperature Characteristics (Typical)



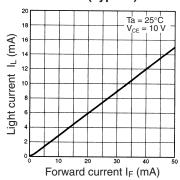
Sensing Position Characteristics (EE-SV3-D(S))



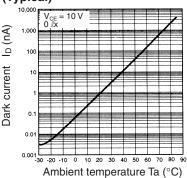
Sensing Position Characteristics (EE-SV3-C(S))



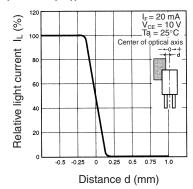
Light Current vs. Forward Current Characteristics (Typical)



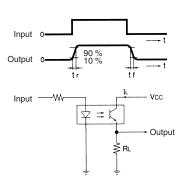
Dark Current vs. Ambient **Temperature Characteristics** (Typical)

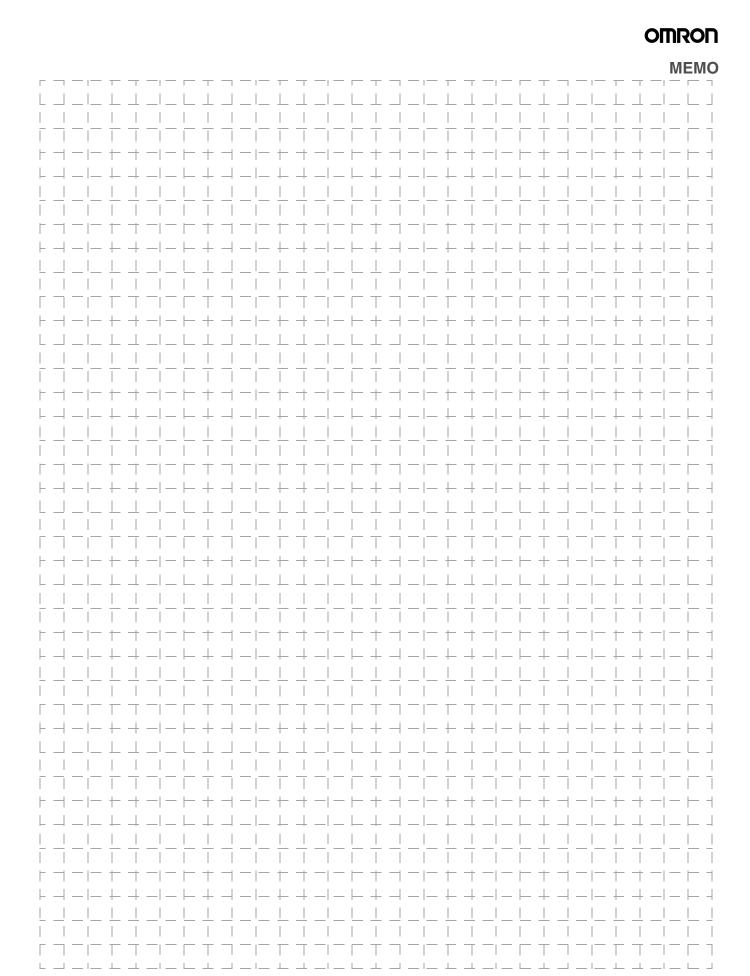


Sensing Position Characteristics (EE-SV3(-B))



Response Time Measurement Circuit







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Specifications subject to change without notice

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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