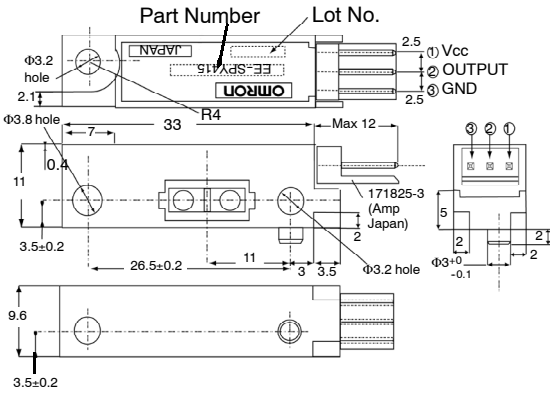
OMRON

EE-SPY415

Photomicrosensor (Reflective)

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.



■ Features

- Photo IC circuitry greatly improves response time.
- Pulse modulation effectively reduces external light interference.
- Convergent technology ensures enhanced sensing area.

■ Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated value
Supply voltage	Vcc	7 VDC
Output voltage	Vout	16 V
Output current	Iout	30 mA
Operating temperature	Topr	-10°C to 60°C
Storage temperature	Tstg	-40°C to 85°C

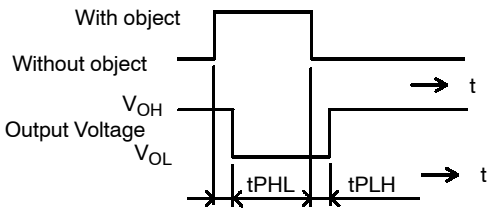
■ Ordering Information

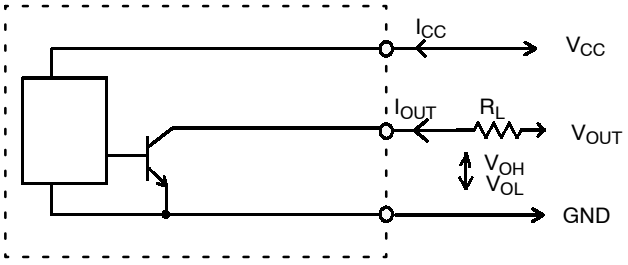
Description	Part number
Photomicrosensor (Reflective)	**EE-SPY415**

■ Electrical and Optical Characteristics (Ta = 25°C, Vcc = 12 V±10%)

Item	Symbol	Limits			Unit	Test Conditions
		Min	Typ	Max		
Consumption current	I_{CC}	--	--	25	mA	With/without object
Low level output voltage	V_{OL}	--	--	0.4	V	I_{OUT} = 20 mA with object
High level output voltage	V_{OH}	V_{CC} by 0.9	--	--	V	V_{OUT}=V_{CC} RL=1 KΩ Without object
Response delay time (See Note.)	tPLH tPHL	--	--	1	ms	V_{OUT}=V_{CC} RL=1 KΩ

Note: Response delay time is defined as below.



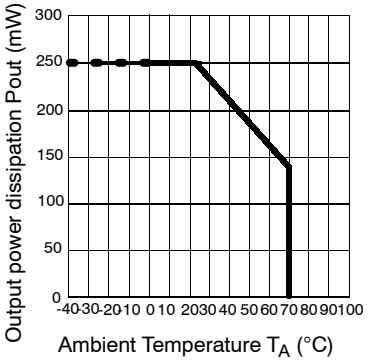


■ Ratings (Ta = 25°C, Vcc = 12 V±10%)

Item		Limits
Detectable distance (See Note.)		11 ± 2 mm (Black paper and OHP paper) 11 ± 8 mm (White paper)
Non-detectable distance (See Note.)		20 mm (Black sponge) 45 mm (White paper)
Usable ambient illumination		3,000 Lx max. at Receiver surface (incandescent lamp, fluorescent lamp)
Vibration	Mechanical durability	10 to 150 Hz, Peak acceleration 10G (100 m/s) 1.5 mm double amplitude for 2 hours each in X, Y, Z directions
Shock	Mechanical durability	300 m/s^2 (approximately 30 G) in X, Y, Z directions, respectively 3 times
Resistance to noise (normal mode)	Faulty operation	200 Vp, pulse width: 1 μs
	Break	350 Vp, pulse width: 1 μs
Resistance to noise (common mode)	Faulty operation	250 Vp, pulse width: 1 μs
	Break	500 Vp, pulse width: 1 μs
Terminal strength	Tensile strength	2 kgf (20 N), for 5 seconds
	Flexure strength	1 kgf (10 N) , 1 time, for 5 seconds

Note: If a background object is present, the object should be located at the specified non-detectable distance or further from the receiver surface.
White paper: reflection factor of 90%
Black paper: reflection factor of 16%

■ Engineering Data



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

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