



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

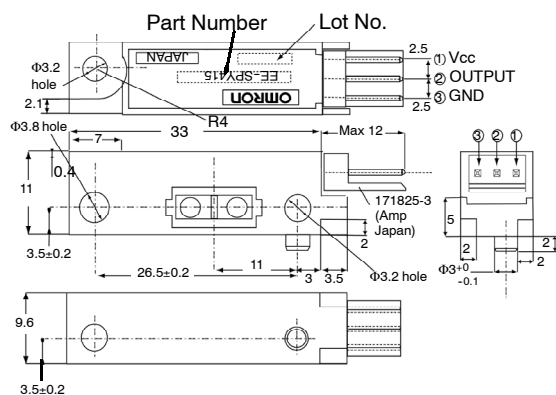
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



■ 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
($T_a = 25^\circ\text{C}$)

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

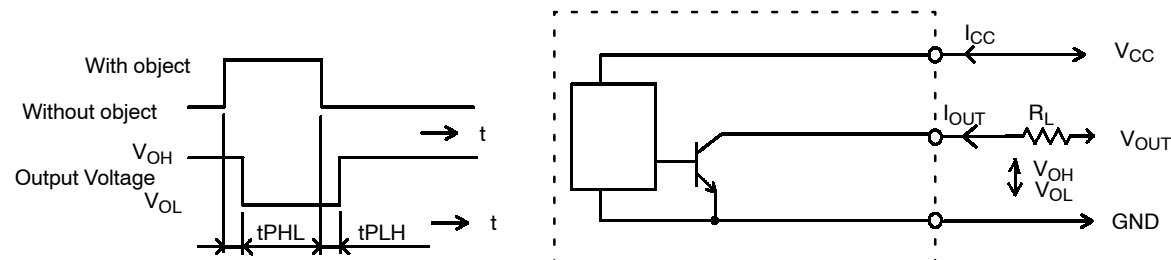
■ Ordering Information

Description	Part number
Photomicrosensor (Reflective)	EE-SPY415

■ Electrical and Optical Characteristics ($T_a = 25^\circ\text{C}$, $V_{cc} = 12\text{ V} \pm 10\%$)

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	$I_{OUT} = 20\text{ mA}$ with object
High level output voltage	V_{OH}	V_{CC} by 0.9	--	--	V	$V_{OUT} = V_{CC}$ $R_L = 1\text{ K}\Omega$ Without object
Response delay time (See Note.)	t_{PLH} t_{PHL}	--	--	1	ms	$V_{OUT} = V_{CC}$ $R_L = 1\text{ K}\Omega$

Note: Response delay time is defined as below.



■ Ratings ($T_a = 25^\circ\text{C}$, $V_{cc} = 12\text{ V} \pm 10\%$)

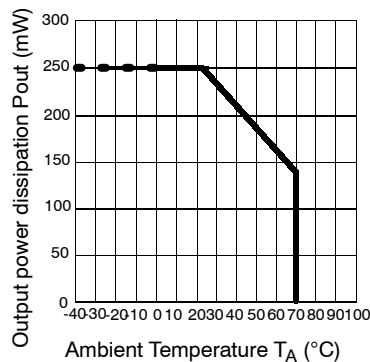
Item		Limits
Detectable distance (See Note.)		$11 \pm 2\text{ mm}$ (Black paper and OHP paper) $11 \pm 8\text{ mm}$ (White paper)
Non-detectable distance (See Note.)		20 mm (Black sponge) 45 mm (White paper)
Usable ambient illumination		3,000 Lx max. at Receiver surface (incandescent lamp, fluorescent 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.

OMRON[®]

OMRON ELECTRONICS LLC

One East Commerce Drive
Schaumburg, IL 60173

847-882-2288

OMRON CANADA, INC.

885 Milner Avenue
Toronto, Ontario M1B 5V8

416-286-6465

OMRON ON-LINE

Global – <http://www.omron.com>
USA – <http://www.omron.com/oei>
Canada – <http://www.omron.com/oci>