

# Optical Sensors AN EYE FOR BRILLIANCE – UNDER ALL CONDITIONS

EVERLIGHT's family of Ambient Light Sensors provide cost efficient power-saving functions for state-of-the-art mobile devices. Besides a significant boost of operating time per battery charge, EVERLIGHT optical sensors also ensure better perception by actively supporting the automatic backlighting adjustment – e.g. in flat screens, ensuring top video quality under all lighting conditions. Inspired by the human eye's unique ability to adapt, Ambient Light Sensors are the key for the flexible adjustment of brightness and light settings according to the light conditions. Key applications for advanced EVERLIGHT photodetector components are TV sets and monitors, digital cameras, gaming consoles, commercial signboards and intelligent street lights that start operation exactly when it's needed – not a second before.

## Ambient Light Sensor + Proximity Sensor + IR LED

Product Name	EVL-APM-16D24-310-DF8/TR8	EVL-APS-16D24-311-DF6/TR8	EVL-ALS-DPDC17-78C/L749/TR8
Product Picture	The APM-16D24-310-DF8/TR8 is a digital output ambient light and proximity sensor with I2C interface and interrupt. It has a flexible and wide operating range for the ambient light sensor with a maximum resolution of 0.0023Lux-/count and a maximum detectable illumination of 57880Lux. The PS function has adjustable number of IR pulses from 1 to 256 and flexible IR LED driving current from 50mA to 200mA, to meet different application requirements. Furthermore it is equipped with a filter to reduce unwanted IR signals and noise comes from the environment.	The APS-16D24-311-DF6/TR8 is a digital output ambient light and proximity sensor with I2C interface and interrupt. It has a flexible and wide operating range for the ambient light sensor with a maximum resolution of 0.0033Lux-/count and a maximum detectable illumination of 83000Lux. The PS function has adjustable number of IR pulses from 1 to 256 and flexible IR LED driving current from 50mA to 200mA, to meet different application requirements. Furthermore it is equipped with a filter to reduce unwanted IR signals and noise comes from the environment.	The ALS-DPDC17-78C/L749/TR8 is a digital output ambient light with I2C interface and interrupt. It has a flexible and wide operating range for the ambient light sensor with a maximum resolution of 0.0033Lux-/count and a maximum detectable illumination of 83000Lux. The PS function has adjustable number of IR pulses from 1 to 256 and flexible IR LED driving current from 50mA to 200mA, to meet different application requirements. Furthermore it is equipped with a filter to reduce unwanted IR signals and noise comes from the environment.
Dimension(mm)	3.94*2.36*1.35	2.35*1.8*1.0	2.0*2.0*0.63
Output	Digital	Digital	Digital
Interface	I2C	I2C	I2C
Resolution	16bits ALS / 12bits Proximity	16bits ALS / 12bits Proximity	16bits ALS
Supply Voltage	2.4 ~ 3.6V	2.4 ~ 3.6V	2.4 ~ 3.6V
Supply Current	160µA	160µA	160µA
Shutdown Current	1.5µA	1.5µA	1.5µA
Interrupter Function	YES	YES	YES
Ambient light sensing	YES	YES	YES
Detection Range	0.0023 ~ 57,880lx	0.0033 ~ 83,000lx	0.0033 ~ 83,000lx
Proximity sensing function	YES	YES	N/A
IR LED driving current operation range	50 ~ 200mA	50 ~ 200mA	N/A
Application	Backlight Dimming / Smartphone / Tablet PC / Digital Light Management	Backlight Dimming / Smartphone / Tablet PC / Digital Light Management	Backlight Dimming / Smartphone / Tablet PC / Digital Light Management

Product Name	EVL-ALS-PDC17-77B/TR8	EVL-ALS-PD70-01C/L664/TR7	EVL-CLS-16D24-44-DF8/TR8
Product Picture	The ALS-PDC17-77B/TR8 is consisting of a photodiode and a current amplification IC. EVERLIGHT ALS series product is a good effective solution to the power saving of display backlighting of mobile appliances, such as the mobile phones, NB and PDAs. Due to the high rejection ratio of infrared radiation, the spectral response of the ambient light sensor is close to that of human eyes. microcontroller utilization.	ALS-PD70-01C/L664/TR7 Ambient Light Sensor Device, consisting of a photodiode in miniature SMD package, which is molded in water clear with flat top. Due to the high rejection ratio of infrared radiation, the spectral response of the ambient light sensor is close to that of human eyes. It is a good effective solution for power saving of display backlighting, as well as light receiver for heart rate monitors.	CLS-16D24-44-DF8/TR8 is a digital RGB color sensor that can sense Red, Green, Blue, Clear and IR lights. It can communicate via I2C interface. Thanks to RGBW and IR color sensing, the brightness and color temperature of backlight can be adjusted based on ambient light source that makes the panel look more comfortable for human eyes. The CLS features are ideal for reducing power consumption and adjusting brightness of display equipments like LCD, PDP, LED, virtual keyboard and portable projector, etc.
Dimension(mm)	1.6*1.6*0.55	4.4*3.9*1.2	2.0*2.0*0.63
Output	60µA@3V , 100lux	0.25µA @5V , 100lux	Digital
Interface	Current output	Current output	I2C
Resolution	N/A	N/A	16bits R/G/B/W/IR
Supply Voltage	1.8 ~5.5V	2.5 ~ 5.5V	2.4 ~ 3.6V
Supply Current	480µA@3V , 1000lux	2.5µA @5V, 1000lux	210µA
Shutdown Current	100nA	1nA	2.5µA
Interrupter Function	N/A	N/A	YES
Ambient light sensing	YES	YES	YES
Detection Range	0 ~ 10,000lx	0 ~ 10,000lx	0.001 ~ 204,679lx
Proximity sensing function	N/A	N/A	N/A
IR LED driving current operation range	N/A	N/A	N/A
Application	Smartphone/ Tablet PC/ Backlight Dimming	Smartphone / Tablet PC / Backlight Dimming / Wearable Devices	Backlight Dimming / Smartphones / Notebooks / Digital Light Management / Color Correction

## 億光電子工業股份有限公司 EVERLIGHT ELECTRONICS CO., LTD.

### HEADQUARTERS

23860 新北市樹林區中華路6之8號  
No. 6-8, Zhonghua Rd., Shulin Dist., New Taipei City, Taiwan 23860  
TEL: +886-2-2685-8688 FAX: +886-2-2685-8699  
[www.everlight.com](http://www.everlight.com)

ELCN230805001

Your source of information : enter [www.everlight.com](http://www.everlight.com) for all advanced EVERLIGHT optoelectronic products and updated specifications. Structure and material depend on customer request.

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# EVERLIGHT

## Infrared LED A CLEAR SIGNAL OF QUALITY

The possible field of application for high-quality infrared components reflects the high grade of today's technical progress and individuality – so does the impressive portfolio of EVERLIGHT infrared LED. It offers a wide choice of package designs for infrared emitting diodes, photodiodes, phototransistors or Photo ICs. Serving all common standard packages like SMD, DIP, PLCC or plastic housings, EVERLIGHT provides you with excellent solutions that fit a wide range of requirements – for a broad variety of applications. The perfect source of inspiration for engineering creativity!

## Infrared Components

Product Name	EVL-IR83-01C/L491/TR8	EVL-IR26-91C/L510/2D	EVL-IR26-61C/L510/TR8	EVL-IR28-01C/L491/2D	EVL-IRR15-22 series
Product picture					
Package and Description	Top / Side view	Top / Side view	Top / Side view	Top / Side view	SMD LED with dual wavelength
Dimension(mm)	1.6*1.52*0.8	3*2.43*1	3.0*2.65*1.2	4.2*2.8*3.0	3.2*2.7*1.1
Peak Wavelength(nm)	940nm	940nm	940nm	940nm	660nm/905nm, 660nm/940nm
View Angle	100(X)40(Y)	130(X)20(Y)	20	75(X)40(Y)	120
Output Intensity @IF=20mA	4.0mW/sr	8mW/sr	24mW/sr	11mW/sr	1.50.5mW/sr , 2.3/2.1mW/sr

Product Name	EVL-B4RRG2020CW4/L885/3T	EVL-B4RRG1816CW3/L885	EVL-HC-IR3838 Series	EVL-HIR-C190-090A	EVL-IR-S06-P120
Product picture					
Package and Description	Top view	Top view	Top view	High Power Infrared LED	High Power Infrared LED
Dimension(mm)	2.0*2.0*0.6	1.85*1.65*0.6	90°=3.8*3.8*2.6 150°=3.8*3.8*1.8	3.5*3.5*2.36	2.8*2*0.6
Peak Wavelength(nm)	525nm/660nm/940nm	525nm/660nm/940nm	850nm/940nm	850nm	940nm
View Angle	10	120	90/150	90	120
Output Intensity @IF=20mA	MinG:2000mcd MinR:4.5mW/sr MiniR:3.0mW/sr	MinG:3.7mW/sr MinR:4.0mW/sr MiniR:3.2mW/sr	600mW~1250mW	790mW(@1000mA)	1000mW(@1000mA)

Product Name	EVL-PD83-01B/L458/2H	EVL-PD26-91B/L458/2C	EVL-PT26-61B/TR8	EVL-PD28-01B/L609/2C
Product picture				
Package and Description	Top / Side view	Top / Side view	Top / Side view	Top / Side view
Dimension(mm)	1.6*0.8*1.52	3*2.43*1	3.0*2.65*1.2	4.2*3.9*2.8
Peak Wavelength(nm)	940nm	940nm	940nm	940nm
Output Current	2.4µA	2µA	4mA	25µA

Product Name	EVL-PD15-22C/TR8	EVL-PD51-40C/TR8	EVL-B-PD32206C1/L9.7/135/3T	EVL-PD44-37C/L753/TR8
Product picture				
Package and Description	SMD package, Photodiode	Top view	SMD package, Photodiode	Top view
Dimension(mm)	3.2*2.7*1.1	5.4*4.0*0.85	3.2*2.0*0.6	4.4*3.7*0.55
Peak Wavelength(nm)	940nm	940nm	940nm	940nm
Output Current	6.5µA	30µA	14µA	42µA

Maximizing lifecycles with maximum respect for the cycle of life.



Your source of information : enter [www.everlight.com](http://www.everlight.com) for all advanced EVERLIGHT optoelectronic products and updated specifications. Structure and material depend on customer request.

