



# Infrared

## INVISIBLE POWER FOR VISIBLE SUCCESS

Infrared LED, Sensors and Couplers

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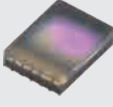
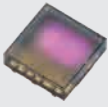
**EVERLIGHT**

## 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                           | APM-16D24-310-DF8/TR8  | APS-16D24-311-DF6/TR8  | ALS-DPDC17-78C/L749/TR8  |
|--|--|--|--|
| Picture                                |  <p>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.</p> |  <p>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.</p> |  <p>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 ALS-DPDC17-78C/L749/TR8 built-in an optical filter for IR rejection, and providing a spectrum which is close to the human eye's response. Dual-channel output (human eye and clear), so it has excellent light ratio under different light conditions.</p> |
| 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                       | 1.5uA  | 1.5uA  | 1.5uA  |
| 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                           | ALS-PD17-77B/TR8  | ALS-PD70-01C/L664/TR7  | CLS-16D24-44-DF8/TR8   |
|--|---|--|--|
| Picture                                |  <p>The ALS-PD17-77B/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.</p> |  <p>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.</p> |  <p>The 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.</p> |
| Dimension(mm)                          | 1.6*1.6*0.55  | 4.4 * 3.9 * 1.2  | 2.0 * 2.0 * 0.63   |
| Output                                 | 60uA@3V , 100lux  | 0.25uA @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                         | 480uA@3V , 1000lux  | 2.5uA @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  |

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# 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

### IR

| Product Name              | IR83-01C/L491/TR8   | IR26-91C/L510/2D  | IR26-61C/L261/TR8   | IR28-01C/L491/2D  | IRR15-22 series   |
|---------------------------|---|---|---|---|---|
| Product picture           |  |  |  |  |  |
| Package and Description   | Side view   | Side view   | Side view   | 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)   | 30  | 75(X)40(Y)  | 120   |
| Output Intensity @IF=20mA | 4.0mW/sr  | 8mW/sr  | 5mW/sr  | 11mW/sr   | 1.5/0.5mW/sr , 2.3/2.1mW/sr   |

### IR

| Product Name              | IRR60-48C/TR8   | IRRG25-16C/L491/TR8   | HIR67-31AC/L638/TR8   | HIR-C190-O90A   | HIR-C19D-10150  |
|---------------------------|---|---|---|---|---|
| Product picture           |  |  |  |  |  |
| Package and Description   | Top view  | Top view  | Top view  | High Power Infrared LED   | High Power Infrared LED   |
| Dimension(mm)             | 6.0*4.8*1.1   | 2.5*1.6*0.55  | 3.5*2.8*3.0   | 3.5*3.5*2.36  | 3.5*3.5*2.36  |
| Peak Wavelength(nm)       | 660nm/905nm   | 525nm/660nm/940nm   | 850nm   | 850nm   | 850nm   |
| View Angle                | 125(X)145(Y)  | 120   | 5   | 90  | 150   |
| Output Intensity @IF=20mA | 1.6/0.9mW/sr  | min:1200mcd/<br>150mcd/1.5mW/sr   | 55mW/sr@(70mA)  | 790mW@(1000mA)  | 790mW@(1000mA)  |

### PD/PT

| Product Name            | PD83-01B/L458/2H  | PD26-91B/L458/2C  | PT26-61B/TR8  | PD28-01B/L609/2C  |
|-------------------------|---|---|---|---|
| Product picture         |  |  |  |  |
| Package and Description | Side view   | Side view   | Side view   | Side view   |
| Dimension(mm)           | 1.6x0.8x1.52  | 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          | 2.4uA   | 2uA   | 4mA   | 25uA  |

### PD/PT

| Product Name            | PD15-22C/TR8  | PD51-40C/TR8  | PD60-48C/TR8  | 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   | 5.1x4.0x0.85  | 6.0*4.8*1.1   | 4.4x3.7x0.55  |
| Peak Wavelength(nm)     | 940nm   | 940nm   | 940nm   | 940nm   |
| Output Current          | 6.5uA   | 30uA  | 37uA  | 42uA  |

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# Infrared Receiver Modules. READY FOR YOUR ORDERS

Power pack: assembled in one infrared bandpass package, EVERLIGHT's Infrared Receiver Modules couple the performance of a PIN diode receiver with the power of a preamplifier. The demodulated output signal can be directly decoded by a single microprocessor. The EVERLIGHT IRM product series fully support all major transmission codes and frequencies. That's why IRM devices are frequently used in top-selling audio-video equipments comfortably operated by comprehensive remote controls.

## Infrared Receiver Modules

### IRM- M3 series

| Product Name             | IRM-36xxM3<br>IRM-37xxM3                        | IRM-66xxM3    | IRM-36xxM3S28 | IRM-H2xxM3           | IRM-H5xxM3     | IRM-H6xxM3  | IRM-H8xxM3<br>IRM-V8xxM3 | IRM-H9xxM3 | IRM-V5xxM3   |
|--------------------------|---|---------------|---------------|----------------------|----------------|-------------|--------------------------|------------|--------------|
| Picture                  |   |               |               |                      |                |             |                          |            |              |
| Dimension(mm)            | 8.25*6.0*5.6                                    | 6.27*4.36*3.1 | 15.1*10.2*8.4 | 5.1*4.6*1.45         | 5.30*2.90*3.65 | 5.0*4.0*4.0 | 6.6*3.0*3.2              | 5.*4.0*2.0 | 5.3*3.8*2.65 |
| Code Application         | Matsushita NEC JVC RC5 RC6 Toshiba Sharp Zenith |               |               |                      |                |             |                          |            |              |
| Carrier Freq             | 36 KHz 38 KHz 56 KHz                            |               | 38 KHz        | 36 KHz 38 KHz 56 KHz | 38 KHz         |             | 36 KHz 38 KHz 56 KHz     |            |              |
| Supply Voltage (V)       | 2.7-5.5   |               |               |                      |                |             |                          |            |              |
| Current Consumption (mA) | 0.4   |               |               |                      |                |             |                          |            |              |

### IRM- M series

| Product Name             | IRM-36xxM  | IRM-37xxM | IRM-H6xxM   | IRM-V8xxM   | IRM-H8xxM | IRM-V5xxM    |
|--------------------------|--|-----------|-------------|-------------|-----------|--------------|
| Picture                  |  |           |             |             |           |              |
| Dimension(mm)            | 8.25*6.0*5.6   |           | 5.0*4.0*4.0 | 6.6*3.0*3.2 |           | 5.3*3.8*2.65 |
| Code Application         | JVC Matsushita Mitsubishi RCMM RCA XMP R-step RCS_80 NEC Panasonic RC5 RC6 Sharp |           |             |             |           |              |
| Carrier Freq             | 36 KHz 38 KHz  |           |             |             |           |              |
| Supply Voltage (V)       | 2.7-5.5  |           |             |             |           |              |
| Current Consumption (mA) | 0.4  |           |             |             |           |              |

### IRM- M2 series

| Product Name             | IRM-8601M2  |
|--------------------------|---|
| Picture                  |   |
| Dimension(mm)            | 9.2*6.8*6   |
| Code Application         | JVC Mitsubishi RC5 RC6 NEC Sharp Sony 12 Bit Sony 15 Bit Sony 20 Bit Continuous |
| Carrier Freq             | 38 KHz  |
| Supply Voltage (V)       | 2.7~5.5   |
| Current Consumption (mA) | 0.4   |

### IRM - Z3 series

| Product Name             | IRM-36xxZ3<br>IRM-37xxZ3  |
|--------------------------|---|
| Picture                  |   |
| Dimension(mm)            | 8.25*6.0*5.6  |
| Code Application         | JVC RCS-80 Mitsubishi NEC Panasonic RC5 RC6 RCMM Sharp Sony 12 Bit Sony 15 Bit XMP-1 AEHA |
| Carrier Freq             | 38 KHz  |
| Supply Voltage (V)       | 2.7-5.5   |
| Current Consumption (mA) | 0.25-0.5mA  |

### Wide Band

| Product Name             | IRM-H600JW  |
|--------------------------|-------------|
| Picture                  |             |
| Dimension(mm)            | 5.0*4.0*4.0 |
| Carrier Freq             | 20~60KHz    |
| Supply Voltage (V)       | 2.7-5.5     |
| Current Consumption (mA) | 0.4-0.5mA   |

### IRM - J7 series

| Product Name             | IRM-36xxJ7   |
|--------------------------|--------------|
| Picture                  |              |
| Dimension(mm)            | 8.25*6.0*5.6 |
| Carrier Freq             | 38KHz        |
| Supply Voltage (V)       | 2.7-5.5      |
| Current Consumption (mA) | 0.5-0.8mA    |

## Infrared Components

### ITR Transmissive Type

| Product Name      | ITR1205ST11A/TR | ITR20403    | ITR9606-F     | ITR1203DT50A/TB | ITR1604CT50A/TB |
|-------------------|-----------------|-------------|---------------|-----------------|-----------------|
| Product picture   |                 |             |               |                 |                 |
| Dimension(mm)     | 3.1*2.0*2.75    | 6.4*4.2*5.4 | 14.0*6.0*10.0 | 7.5*2.6*6.3     | 27.2*10*16.1    |
| VF_Typ (V)        | 1.2             | 1.2         | 1.2           | 1.18            | 1.25            |
| VF_Max (V)        | 1.4             | 1.6         | 1.5           | 1.4             | 1.5             |
| VCE(SAT)_Max (V)  | 0.4             | 0.4         | 0.4           | 0.4             | 0.4             |
| IC(ON)_Min (mA)   | 0.15            | 0.2         | 0.5           | 0.25            | 0.25            |
| Gap Distance (mm) | 1.1             | 3           | 5             | 5               | 5               |

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Reflective Type

| Product Name            | ITR1504SR10A/TR | ITR1201SR10AR/TR | ITR1502SR40A/TR8 | ITR20001/T  | ITR9909-R   |
|-------------------------|-----------------|------------------|------------------|-------------|-------------|
| Product picture         |                 |                  |                  |             |             |
| Dimension(mm)           | 1.9*1.4*0.6     | 3.4*2.7*1.5      | 4*3*2            | 6.4*4.9*6.5 | 8.7*4.5*5.9 |
| VF_Typ (V)              | 1.25            | 1.2              | 1.2              | 1.2         | 1.2         |
| VF_Max (V)              | 1.5             | 1.4              | 1.4              | 1.5         | 1.5         |
| VCE(SAT)_Max (V)        | 0.4             | 0.4              | 0.4              | 0.4         | 0.4         |
| IC(ON)_Min (mA)         | 0.27            | 0.1              | 0.06             | 0.2         | 0.2         |
| Detecting Distance (mm) | 1mm             | 1mm              | 3-5mm            | 5-10mm      | 5-10mm      |

## Photo Couplers COMBINING PERFORMANCE WITH EFFICIENCY

In order to provide the best fit for your demand, EVERLIGHT photocouplers come in a wide range of established SOP and DIP chip carrier types. Powerful input functions cover DC sensing, DC threshold sensing or AC sensing. Optional output functions are transistor, darlington, triac, Schmitt trigger or high speed transistor.

EVERLIGHT optocouplers are designed for the use in low-bandwidth, general switching applications and in high-voltage applications for AC load switching. Common end products featuring photocouplers include appliances, temperature controls, air conditioners (HVAC), vending machines, lighting controls, battery chargers and isolated power supplies.

## High Speed Coupler

### High Speed Coupler 1M bps

| Product Name  | 6N135 6N136  | EL4502 EL4503 | EL4504       | EL0500 EL0501   | EL0452 EL0453  | ELM452 ELM453 | ELW135 ELW136 |
|---------------|--|---------------|--------------|---|----------------|---------------|---------------|
| Picture       |  |               |              |   |                |               |               |
| Dimension(mm) | 9.76*6.6*3.5   | 9.76*6.6*3.5  | 9.76*6.6*3.5 | 4.88*3.92*3.18  | 4.88*3.92*3.18 | 4.4*4.1*2     | 11.15*9*3.9   |
| CTR           | 7~50% 19~50%   | 19~50%        | 25~60%       | 7~50% 19~50%  | 19~50%         | 20~50%        | 7~50% 19~50%  |
| CMR           | 1000   | 1000 15000    | 15000        | 1000  | 1000 15000     | 5000 15000    | 1000          |
| Vcc (V)       | 30   |               |              |   |                |               |               |
| Io (mA)       | 8  |               |              |   |                |               |               |
| Applications  | <ul style="list-style-type: none"> <li>· Line receivers</li> <li>· Telecommunication equipments</li> <li>· Power transistor isolation in motor drives</li> <li>· Replacement for low speed phototransistor photo couplers</li> </ul> |               |              | <ul style="list-style-type: none"> <li>· Feedback loop in switch-mode power supplies</li> <li>· Home appliances</li> <li>· High speed logic ground isolation</li> </ul> |                |               |               |

### High Speed Coupler 10M bps

| Product Name  | 6N137  | EL0600/0601 EL0611 | ELM600/M601 ELM611 | ELW137 ELW2601 ELW2611  | EL2630 EL2631 | EL0630 EL0631  |
|---------------|--|--------------------|--------------------|---|---------------|----------------|
| Picture       |  |                    |                    |   |               |                |
| Dimension(mm) | 9.76*6.6*3.5   | 4.88*3.92*3.18     | 4.4*4.1*2          | 11.15*9*3.9   | 9.76*6.6*3.5  | 4.88*3.92*3.18 |
| CMR           | 1000   | 5000 10000         | 5000 20000         | 5000 10000  | 5000 10000    | 5000 10000     |
| Vcc (V)       | 7  |                    |                    |   |               |                |
| Io (mA)       | 50   |                    |                    |   |               |                |
| Applications  | <ul style="list-style-type: none"> <li>· Ground loop elimination</li> <li>· LSTTL to TTL, LSTTL or 5 volt CMOS</li> <li>· Line receiver, data transmission</li> <li>· Data multiplexing</li> </ul> |                    |                    | <ul style="list-style-type: none"> <li>· Switching mode power supply</li> <li>· Pulse transformer replacement</li> <li>· Computer peripheral interface</li> </ul> |               |                |




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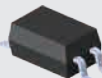

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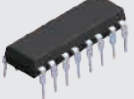






## High Speed Coupler 15M bps

## High Speed Coupler 5M bps

| Product Name  | EL083L   | ELM81L  | EL2200  | EL2201 | EL2202  |
|---------------|--|---|---|--------|---|
| Picture       |   |  |    |        |   |
| Dimension(mm) | 4.88*3.92*3.18   | 4.4*4.1*2   | 9.76*6.6*3.5  |        |   |
| CMR           | 10000  |   | 1000  |        |   |
| Vcc (V)       | 3.3  |   | 20  |        |   |
| Io (mA)       | 20   |   | 25  |        |   |
| Applications  | <ul style="list-style-type: none"> <li>Line receiver, data transmission</li> <li>Data multiplexing</li> <li>Switching power supplies</li> <li>Pulse transformer replacement</li> <li>Computer peripheral interface</li> <li>High speed logic ground isolation</li> </ul> |   | <ul style="list-style-type: none"> <li>Ground Loop Elimination</li> <li>LSTTL to LSTTL or CMOS</li> <li>Line Receiver, Data Transmission</li> </ul> |        | <ul style="list-style-type: none"> <li>Isolated Bus Driver</li> <li>Pulse Transformer Replacement</li> <li>Microprocessor System Interface</li> </ul> |
|               | <ul style="list-style-type: none"> <li>Computer Peripheral Interface</li> <li>High Speed Logic Ground Isolation</li> </ul>   |   |   |        |   |

## Photo Coupler

| Product Name         | EL101X-G  | EL111X-G  | EL617   | EL817   | EL121N   | EL357N  | EL3H7   | CNY65   |  |
|----------------------|---|---|---|---|--|---|---|---|--|
| Picture              |    |  |    |  |    |  |  |    |  |
| Dimension(mm)        | 7.6*3.6*2.2   | 7.6*3.6*2.2   | 6.6*4.68*3.5  | 6.5*4.58*3.5  | 4.4*3.6*2.0  | 4.4*4.1*2.0   | 4.4*2.7*2.0   | 13.64*9.74*6.01   |  |
| Vf_Typ (V)           | 1.45  | 1.45  | 1.2   | 1.2   | 1.2  | 1.2   | 1.2   | 1.6   |  |
| Rise/ Fall Time (μs) | 2/3   | 2/3   | 4/3   | 4/3   | 3/4  | 3/4   | 5/3   | 3/5   |  |
| BVCEO_Min(V)         | 80V   | 80V   | 80V   | 35V   | 80V  | 80V   | 80V   | 80V   |  |
| Viso (Vrms)          | 5000V   | 5000V   | 5000V   | 5000V   | 3750V  | 3750V   | 3750V   | 10000V  |  |
| CTR Rank             | 50~600%<br>(IF=5mA, Vce=5V)   | 50~600%<br>(IF=5mA, Vce=5V)   | 50~600%<br>(IF=5mA, Vce=5V)   | 50~600%<br>(IF=5mA, Vce=5V)   | 50~600%<br>(IF=5mA, Vce=5V)  | 50~600%<br>(IF=5mA, Vce=5V)   | 50~600%<br>(IF=5mA, Vce=5V)   | 50~300%<br>(IF=5mA, Vce=5V)   |  |
| VCE(SAT)_Max(V)      | 0.3   | 0.4   | 0.2   | 0.2   | 0.2  | 0.2   | 0.2   | 0.3   |  |
| Application          | <ul style="list-style-type: none"> <li>Power supply</li> <li>Programmable controllers</li> <li>Measuring instruments</li> <li>Telecommunication equipments</li> <li>Home appliances</li> <li>Signal transmission between circuits of different potentials and impedances</li> </ul> |   | <ul style="list-style-type: none"> <li>Telephone set</li> <li>Telephone exchangers</li> <li>Sequence controllers</li> </ul> |   | <ul style="list-style-type: none"> <li>Programmable controllers</li> <li>System appliances, measuring instruments</li> <li>Telecommunication equipments</li> <li>Home appliances, such as fan heaters, etc.</li> <li>Signal transmission between circuits of different potentials and impedances.</li> <li>DC-DC Converters</li> </ul> |   |   | <ul style="list-style-type: none"> <li>Switch mode power supply</li> <li>Line receiver</li> <li>Computer peripheral interface</li> <li>Microprocessor system interface</li> </ul> |  |

| Product Name         | EL827   | EL847   | EL852  | EL452   | EL357L   | EL8171  | EL814   | EL354N  |
|----------------------|---|---|--|---|--|---|---|---|
| Picture              |    |  |   |  |    |  |    |  |
| Dimension(mm)        | 9.76*6.5*3.5  | 19.82*6.5*3.5   | 6.5*4.58*3.5   | 4.4*4.1*2   | 7.6*3.6*2.2  | 6.5*4.58*3.5  | 6.5*4.58*3.5  | 4.4*4.1*2   |
| Vf_Typ (V)           | 1.2   | 1.2   | 1.2  | 1.2   | 1.45   | 1.2   | 1.2   | 1.2   |
| Rise/ Fall Time (μs) | 3/4   | 4/3   | 300/100  | 80/10   | 7/8  | 6/8   | 7/11  | 6/8   |
| BVCEO_Min(V)         | 80V   | 80V   | 350V   | 350V  | 80V  | 70V   | 80V   | 80V   |
| Viso (Vrms)          | 5000V   | 5000V   | 5000V  | 3750V   | 5000V  | 5000V   | 5000V   | 3750V   |
| CTR Rank             | 50~600%<br>(IF=5mA, Vce=5V)   | 50~600%<br>(IF=5mA, Vce=5V)   | 1000~15000%<br>(IF=1mA, Vce=2V)  | 1000 min.<br>(IF=1mA, Vce=2V)   | 60~300%<br>(IF=1mA, Vce=5V)  | 100~350%<br>(IF=0.5mA, Vce=5V)  | 20~300%<br>(IF=±1mA, Vce=5V)  | 20~300%<br>(IF=±1mA, Vce=5V)  |
| VCE(SAT)_Max(V)      | 0.2   | 0.2   | 1.2  | 1.5   | 0.4  | 0.2   | 0.2   | 0.2   |
| Application          | <ul style="list-style-type: none"> <li>Programmable controllers</li> <li>System appliances, measuring instruments</li> <li>Telecommunication equipments</li> <li>Home appliances, such as fan heaters, etc.</li> <li>Signal transmission between circuits of different potentials and impedances</li> </ul> |   | <ul style="list-style-type: none"> <li>Telephone set, telephone exchangers</li> <li>Sequence controllers</li> <li>System appliances, measuring instruments</li> <li>Signal transmission between circuits of different potentials and impedances</li> </ul> |   | <ul style="list-style-type: none"> <li>Power supply / Programmable controllers</li> <li>Measuring instruments</li> <li>Telecommunication equipments</li> <li>Home appliances</li> <li>Telephone set / Telephone exchangers</li> <li>Sequence controllers</li> <li>Signal transmission between circuits of different potentials and impedances</li> </ul> |   | <ul style="list-style-type: none"> <li>AC line monitor</li> <li>Programmable controllers</li> <li>Telephone line interface</li> <li>Unknown polarity DC sensor</li> </ul> |   |

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## Photo Triac Zero Cross Type

## Random Phase Type

| Product Name  | EL304X/306X/308X  | ELT304X/T306X/T308X | ELM304X/M306X/M308X   | EL302X/305X  | ELT302X/T305 | ELM302X/M305X   |
|---------------|---|---------------------|---|--|--------------|---|
| Picture       |   |                     |   |  |              |   |
| Dimension(mm) | 7.12*6.5*3.5  | 6.5*4.28*3.5        | 4.4*4.1*2.0   | 7.12*6.5*3.5   | 6.5*4.58*3.5 | 4.4*4.1*2.0   |
| Key Spec.     | VDRM=400, 600, 800V<br>IFT= 5, 10, 15mA   |                     | VDRM=400, 600, 800V<br>IFT= 3, 5, 10mA  | VDRM=400, 600V<br>IFT= 5, 10, 15mA   |              | VDRM=400, 600V<br>IFT= 3, 5, 10mA   |
| Viso(Vrms)    | 5000  |                     | 3750  | 5000   |              | 3750  |
| IF(mA)        | 60  |                     |   | 60   |              |   |
| Applications  | <ul style="list-style-type: none"> <li>· Light controls</li> <li>· Static power supply</li> <li>· Temperature controls</li> </ul> |                     | <ul style="list-style-type: none"> <li>· AC motor starters</li> <li>· Solid state relays</li> </ul> | <ul style="list-style-type: none"> <li>· Solenoid/valve controls</li> <li>· Lamp ballasts</li> <li>· Static AC power switch</li> <li>· Interfacing microprocessors to 115 to 240Vac peripherals</li> </ul> |              | <ul style="list-style-type: none"> <li>· Incandescent lamp dimmers</li> <li>· Temperature controls</li> <li>· Motor controls</li> </ul> |

## Power Photo Triac

## Solid State Relay

| Product Name                               | ELR0223               | ELR1223 | ELR2223 | ELR3223 |
|--|-----------------------|---------|---------|---------|
| Picture                                    |                       |         |         |         |
| Dimension(mm)                              | 9.76x6.6x3.5          |         |         |         |
| ON-state current IT (rms)(A)               | 0.3                   | 0.6     | 0.9     | 1.2     |
| Repetitive peak OFF-state voltage VDRM (V) | 600                   |         |         |         |
| Isolation voltage (AC)Viso (rms)           | 5000                  |         |         |         |
| Min. trigger current IFT (mA)              | 10 (VDRM=6V, RL=100Ω) |         |         |         |

| Product Name               | EL440A               | EL640A               | EL840A           | ELM440A          |
|----------------------------|----------------------|----------------------|------------------|------------------|
| Picture                    |                      |                      |                  |                  |
| Dimension(mm)              | 6.5*4.58*3.5         | 7.12*6.5*3.5         | 9.76x6.6x3.5     | 4.4*4.1*2.0      |
| Output type                | Normally Open 1a     | Normally Open 1a     | Normally Open 2a | Normally Open 1a |
| Load Voltage (V)           | 60 / 250 / 400 / 600 | 60 / 250 / 400 / 600 | 400 / 600        | 400              |
| Load Current (mA)          | 550 / 180 / 120 / 50 | 550 / 180 / 120 / 50 | 120 / 50         | 120              |
| Ron Typ.(Ω)                | 0.75 / 6.5 / 20 / 40 | 0.75 / 6.5 / 20 / 40 | 20 / 40          | 20               |
| I <sub>fon</sub> max. (mA) | 5                    | 3                    | 5                | 5                |
| Viso (Vrms)                | 5000                 | 5000                 | 5000             | 3750             |

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