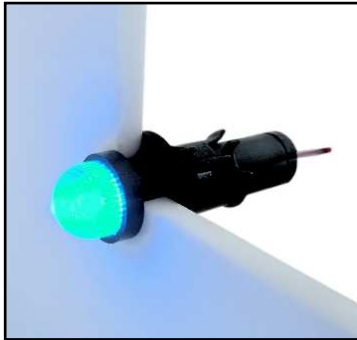


PANEL INDICATOR LEDs - Ø6.35mm Mounting

## FEATURES



### 319 SERIES

PACK QUANTITY = 20 PIECES

- Domed fresnel lens styling for wide viewing angle
- Flying lead terminations and low current versions available
- Sealed to IP40
- Supplied complete with mounting hardware
- Product illustrated 319-930-04

## SPECIFICATIONS

Ordering Information & Typical Technical Characteristics (Ta = 25°C)

Mean Time Between Failure Typically = 100,000 Hours. Luminous intensity figures refer to the unmodified discrete LED.

| PART NUMBER               | COLOUR     | LENS            | VOLTAGE DC Vopr | CURRENT DC Iopr | LUMINOUS INTENSITY Iv@20mA | WAVE LENGTH λp | OPERATING TEMP Topr | STORAGE TEMP Tstg |     |
|---------------------------|------------|-----------------|-----------------|-----------------|----------------------------|----------------|---------------------|-------------------|-----|
| <b>STANDARD INTENSITY</b> |            |                 |                 |                 |                            |                |                     |                   |     |
| 319-505-21                | Red        | Colour Diffused | 12              | 20              | 60                         | 627            | -40 ~ +85^          | -40 ~ +85         | Yes |
| 319-511-21                | Yellow     | Colour Diffused | 12              | 20              | 40                         | 590            | -40 ~ +85^          | -40 ~ +85         | Yes |
| 319-512-21                | Green      | Colour Diffused | 12              | 20              | 120                        | 565            | -40 ~ +85^          | -40 ~ +85         | Yes |
| <b>HIGH INTENSITY</b>     |            |                 |                 |                 |                            |                |                     |                   |     |
| 319-501-21                | Red        | Colour Diffused | 12              | 20              | 2700                       | 660            | -40 ~ +85^          | -40 ~ +85         | Yes |
| 319-521-21                | Yellow     | Colour Diffused | 12              | 20              | 6100                       | 595            | -40 ~ +85^          | -40 ~ +100        | Yes |
| 319-532-21                | Green      | Colour Diffused | 12              | 20              | 11600                      | 525            | -30 ~ +85^          | -40 ~ +100        | Yes |
| 319-930-21                | Blue       | Colour Diffused | 12              | 20              | 3460                       | 470            | -30 ~ +85^          | -40 ~ +100        | Yes |
| 319-997-21                | Cold White | Colour Diffused | 12              | 20              | 7800                       | *see below     | -30 ~ +85^          | -40 ~ +100        | Yes |
| 319-501-23                | Red        | Colour Diffused | 24-28           | 20              | 2700                       | 660            | -40 ~ +85^          | -40 ~ +85         | Yes |
| 319-521-23                | Yellow     | Colour Diffused | 24-28           | 20              | 6100                       | 595            | -40 ~ +85^          | -40 ~ +100        | Yes |
| 319-532-23                | Green      | Colour Diffused | 24-28           | 20              | 11600                      | 525            | -30 ~ +85^          | -40 ~ +100        | Yes |
| 319-930-23                | Blue       | Colour Diffused | 24-28           | 20              | 3460                       | 470            | -30 ~ +85^          | -40 ~ +100        | Yes |
| 319-997-23                | Cold White | Colour Diffused | 24-28           | 20              | 7800                       | *see below     | -30 ~ +85^          | -40 ~ +100        | Yes |
| <b>UNITS</b>              |            |                 | <b>Vdc</b>      | <b>mA</b>       | <b>mcd</b>                 | <b>nm</b>      | <b>°C</b>           | <b>°C</b>         |     |



|            |                                     |       |       |       |  |
|------------|-------------------------------------|-------|-------|-------|--|
| <b>997</b> | *Typical emission colour cold white |       |       |       | Intensities (Iv) and colour shades of white (x,y co-ordinates) may vary between LEDs within a batch. |
| x          | 0.296                               | 0.283 | 0.330 | 0.330 |  |
| y          | 0.276                               | 0.305 | 0.360 | 0.318 |  |

^ = Products must be derated according to the derating information. Each derating graph refers to specific LEDs. Appropriate LED numbers shown. Refer to page 3.

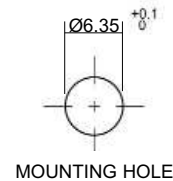
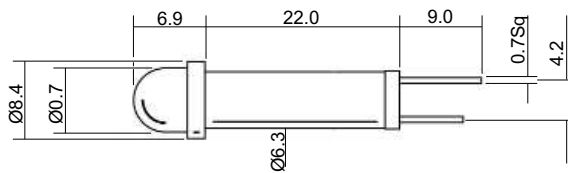
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### 319 Series



MOUNTING HOLE

Dimensions in mm (Typical)  
Not to scale

Anode termination indicated by long tag.

#### MATERIALS

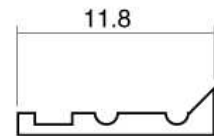
|                  |                                      |
|------------------|--------------------------------------|
| Body             | Nylon 6                              |
| Panel Washer     | Neoprene                             |
| Termination Pins | Tin on Nickel Plated Phosphor Bronze |
| Retaining Clip   | Spring steel                         |
| Fresnel lens     | Polycarbonate                        |
| Header           | PTFE                                 |

#### PUSH-ON CONNECTORS

909-000-00 is gold plated  
910-000-00 is tin plated  
for use with 319 series.

Suitable for wire sizes from  
0.15mm<sup>2</sup> to 0.38mm<sup>2</sup> cross  
sectional area.

Dual metal contact design  
provides low resistance  
and gas tight electrical  
contact.



Dimensions in mm (Typical)  
Not to scale

#### TECHNICAL CHARACTERISTICS

| SERIES | MAXIMUM POWER DISSIPATION | MAXIMUM REVERSE VOLTAGE | PANEL CUTOUT | MINIMUM MOUNTING CENTRES | MIN/MAX. PANEL THICKNESS |
|--------|---------------------------|-------------------------|--------------|--------------------------|--------------------------|
| 319    | 500                       | 3                       | 6.35         | 13.0                     | 9.0                      |
| UNITS  | mW                        | Vdc                     | mm           | mm                       | mm                       |

#### OPTIONAL FLYING LEAD TERMINATIONS

| ORDER CODE SUFFIX | SUPPLY VOLTAGE | WIRE COLOUR               | WIRE LENGTH | NO/DIAMETER OF CONDUCTORS | DIAMETER OVER INSULATION | COMMENTS                     |
|-------------------|----------------|---------------------------|-------------|---------------------------|--------------------------|------------------------------|
| 13                | DC Products    | Red-anode / Black-cathode | 150mm       | 7/0.2mm                   | 1.2mm                    | Customised lengths available |
| 13                | AC Products    | Brown-live / Blue-neutral | 150mm       |                           |                          |                              |
| 17                | DC Products    | Red-anode / Black-cathode | 1000mm      |                           |                          |                              |
| 17                | AC Products    | Brown-live / Blue-neutral | 1000mm      |                           |                          |                              |

#### PROTECTION DIODE

| ORDER CODE SUFFIX | CIRCUIT | COMMENTS   |
|-------------------|---------|--|
| 01                |         | Available on all indicators except Bi-Colour devices and when diode test is specified. |

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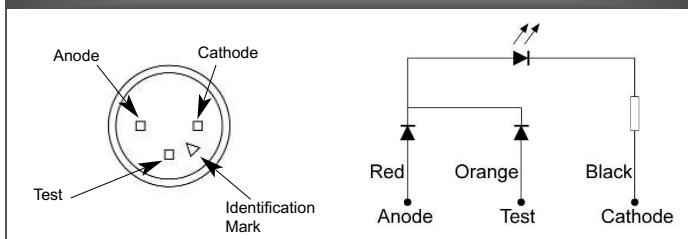


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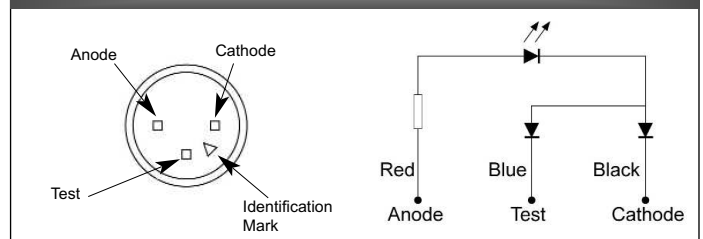
## Diode Test Facility

| ORDER CODE SUFFIX                   | TERMINATION   | CIRCUIT       | COMMENTS                         |
|-------------------------------------|---|---------------|----------------------------------|
| <b>03</b><br><b>05</b><br><b>09</b> | 3 PINS<br>150mm of flying leads colours as shown<br>1000mm of flying leads colours as shown | TEST POSITIVE | Not available with Bi-colour LED |
| <b>04</b><br><b>06</b><br><b>10</b> | 3 PINS<br>150mm of flying leads colours as shown<br>1000mm of flying leads colours as shown | TEST NEGATIVE |                                  |

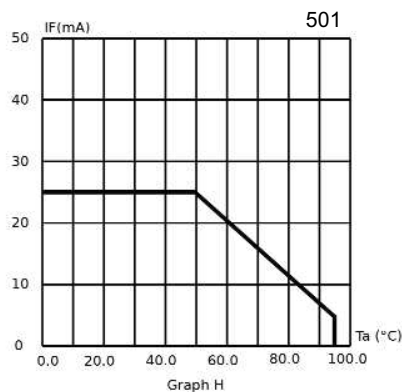
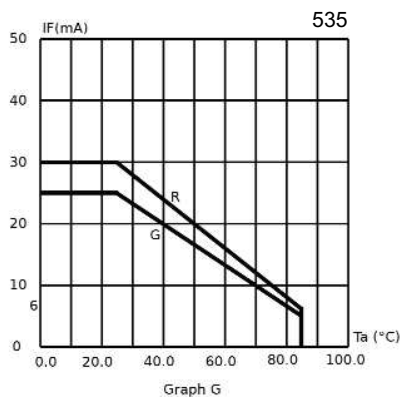
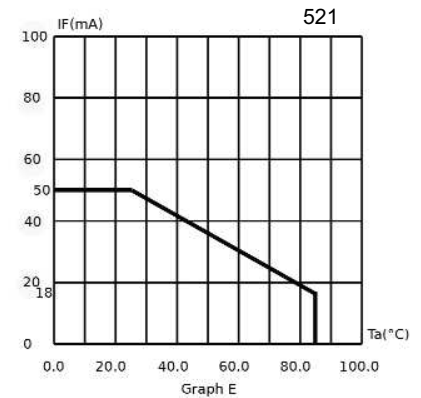
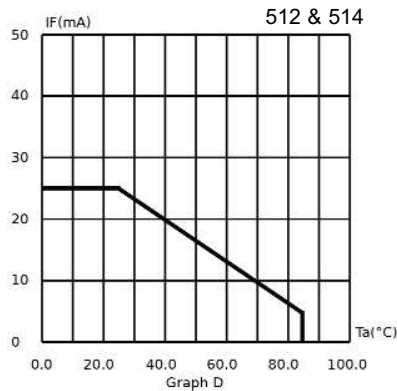
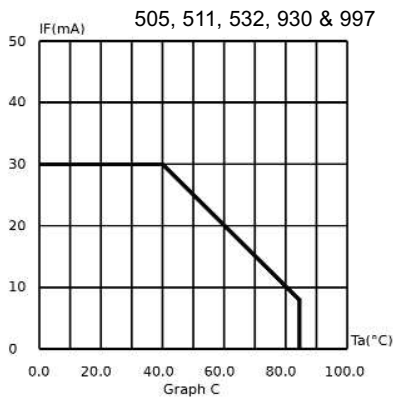
### Test Positive



### Test Negative



## De-rating Information



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## 319 Series

Part numbers also available in the 319 Series:

| PART NO.      | COLOUR | VOLTAGE<br>(Vdc) Vopr | PART NO.      | COLOUR<br>(Vdc) Vopr | VOLTAGE  | PART NO.      | COLOUR | VOLTAGE<br>(Vdc) Vopr |
|---------------|--------|-----------------------|---------------|----------------------|----------|---------------|--------|-----------------------|
| 319-501-04    | Red    | 20mA                  | 319-509-04-03 | Yellow               | 20mA     | 319-521-04    | Yellow | 20mA                  |
| 319-501-21    | Red    | 12Vdc                 | 319-509-04-04 | Yellow               | 20mA     | 319-521-22    | Yellow | 24Vdc                 |
| 319-501-22    | Red    | 24Vdc                 | 319-509-04-51 | Yellow               | 20mA     | 319-532-04    | Green  | 20mA                  |
| 319-501-22-03 | Red    | 24Vdc                 | 319-509-20    | Yellow               | 5/6Vdc   | 319-532-22    | Green  | 24Vdc                 |
| 319-501-46    | Red    | 35Vdc                 | 319-509-21    | Yellow               | 12Vdc    | 319-532-75-21 | Green  | 110Vac                |
| 319-502-21    | Red    | 12Vdc                 | 319-509-21-04 | Yellow               | 12Vdc    | 319-555-00-50 | Red    | 9-14Vdc               |
| 319-502-22-03 | Red    | 24Vdc                 | 319-509-22    | Yellow               | 24Vdc    | 319-561-00-50 | Yellow | 9-14Vdc               |
| 319-503-04-03 | Red    | 20mA                  | 319-509-22-03 | Yellow               | 24Vdc    | 319-564-00-50 | Green  | 9-14Vdc               |
| 319-503-04-04 | Red    | 20mA                  | 319-509-22-50 | Yellow               | 24Vdc    | 319-564-04    | Green  | 20mA                  |
| 319-503-04-50 | Red    | 20mA                  | 319-509-22-51 | Yellow               | 24Vdc    | 319-921-75    | Green  | 110Vac                |
| 319-503-20    | Red    | 5/6Vdc                | 319-509-22-52 | Yellow               | 24Vdc    | 319-930-04    | Blue   | 20mA                  |
| 319-503-21    | Red    | 12Vdc                 | 319-509-22-53 | Yellow               | 24Vdc    | 319-930-04-03 | Blue   | 20mA                  |
| 319-503-21-04 | Red    | 12Vdc                 | 319-509-23    | Yellow               | 24-28Vdc | 319-930-04-04 | Blue   | 20mA                  |
| 319-503-21-17 | Red    | 12Vdc                 | 319-509-23-03 | Yellow               | 24-28Vdc | 319-930-04-50 | Blue   | 20mA                  |
| 319-503-22    | Red    | 24Vdc                 | 319-509-23-04 | Yellow               | 24-28Vdc | 319-930-22    | Blue   | 24Vdc                 |
| 319-503-22-03 | Red    | 24Vdc                 | 319-509-24-03 | Yellow               | 48Vdc    | 319-930-22-03 | Blue   | 24Vdc                 |
| 319-503-22-04 | Red    | 24Vdc                 | 319-511-04    | Yellow               | 20mA     | 319-997-04    | White  | 20mA                  |
| 319-503-22-50 | Red    | 24Vdc                 | 319-511-21-50 | Yellow               | 12Vdc    | 319-997-22    | White  | 24Vdc                 |
| 319-503-22-51 | Red    | 24Vdc                 | 319-511-22    | Yellow               | 24Vdc    | 319-997-46    | White  | 35Vdc                 |
| 319-503-22-52 | Red    | 24Vdc                 | 319-511-22-03 | Yellow               | 24Vdc    | UNITS         |        |                       |
| 319-503-22-54 | Red    | 24Vdc                 | 319-512-04    | Green                | 20mA     |               |        |                       |
| 319-503-23    | Red    | 24-28Vdc              | 319-512-20    | Green                | 5/6Vdc   |               |        |                       |
| 319-503-23-04 | Red    | 24-28Vdc              | 319-512-21-04 | Green                | 12Vdc    |               |        |                       |
| 319-503-43    | Red    | 18Vdc                 | 319-512-21-50 | Green                | 12Vdc    |               |        |                       |
| 319-505-04    | Red    | 20mA                  | 319-512-22    | Green                | 24Vdc    |               |        |                       |
| 319-505-20    | Red    | 5/6Vdc                | 319-512-22-03 | Green                | 24Vdc    |               |        |                       |
| 319-505-21-50 | Red    | 12Vdc                 | 319-512-22-50 | Green                | 24Vdc    |               |        |                       |
| 319-505-22    | Red    | 24Vdc                 | 319-512-22-52 | Green                | 24Vdc    |               |        |                       |
| 319-505-22-03 | Red    | 24Vdc                 | 319-512-22-53 | Green                | 24Vdc    |               |        |                       |
| 319-506-04    | Orange | 20mA                  | 319-512-22-54 | Green                | 24Vdc    |               |        |                       |
| 319-506-22    | Orange | 24Vdc                 | 319-512-23-03 | Green                | 24-28Vdc |               |        |                       |
| 319-506-22-03 | Orange | 24Vdc                 | 319-512-23-04 | Green                | 24-28Vdc |               |        |                       |
| 319-506-22-50 | Orange | 24Vdc                 | 319-512-25-13 | Green                | 110Vdc   |               |        |                       |
| 319-506-23-04 | Orange | 24-28Vdc              | 319-514-22    | Green                | 24Vdc    |               |        |                       |
| 319-506-76-15 | Orange | 230Vac                | 319-519-22-03 | Blue                 | 24Vdc    |               |        |                       |
| 319-509-04    | Yellow | 20mA                  | 319-519-23-03 | Blue                 | 24Vdc    |               |        |                       |
| UNITS         |        |                       | UNITS         |                      |          |               |        |                       |

The products listed above illustrate all of the options available to order. These products may have custom modifications that alter their operation beyond the generic information contained within this datasheet. Please contact sales for further information.

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