

PANEL INDICATOR LEDs - Ø9.5mm Mounting

## FEATURES



### 423 SERIES

PACK QUANTITY = 20 PIECES

- Front panel replaceability
- Must be used in conjunction with 905-000-00 panel socket. See datasheet DS084/04
- Domed fresnel lens for wide angle viewing
- Smoked & water clear lens options
- Sealed to IP40
- Product illustrated 423-532-22 in 905-000-00 panel mounting socket

## 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>HIGH INTENSITY</b> |            |      |                 |                 |                            |                |                     |                       |          |     |
| 423-501-21            | Red        |      | Colour Diffused | 12              | 20                         | 11000          | 643                 | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| 423-521-21            | Yellow     |      | Colour Diffused | 12              | 20                         | 16000          | 591                 | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| 423-532-21            | Green      |      | Colour Diffused | 12              | 20                         | 23000          | 527                 | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| 423-930-21            | Blue       |      | Colour Diffused | 12              | 20                         | 7000           | 470                 | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| 423-997-21            | Cold White |      | Colour Diffused | 12              | 20                         | 14000          | *see below          | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| 423-501-23            | Red        |      | Colour Diffused | 24-28           | 17.5                       | 11000          | 643                 | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| 423-521-23            | Yellow     |      | Colour Diffused | 24-28           | 17.5                       | 16000          | 591                 | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| 423-532-23            | Green      |      | Colour Diffused | 24-28           | 17.5                       | 23000          | 527                 | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| 423-930-23            | Blue       |      | Colour Diffused | 24-28           | 17.5                       | 7000           | 470                 | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| 423-997-23            | Cold White |      | Colour Diffused | 24-28           | 17.5                       | 14000          | *see below          | -0 ~ +85 <sup>^</sup> | -0 ~ +85 | Yes |
| <b>UNITS</b>          |            |      | <b>Vdc</b>      | <b>mA</b>       | <b>mcd</b>                 | <b>nm</b>      | <b>°C</b>           | <b>°C</b>             |          |     |

|               |                                     |       |       |       |  |
|---------------|-------------------------------------|-------|-------|-------|--|
| <b>997F-C</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             | 0.245                               | 0.361 | 0.356 | 0.264 |  |
| y             | 0.229                               | 0.385 | 0.351 | 0.220 |  |

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

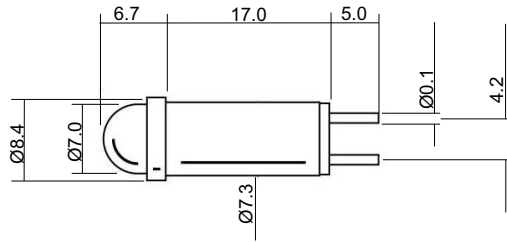
### How to Order:

website: [www.marl.co.uk](http://www.marl.co.uk) • email: [sales@marl.co.uk](mailto:sales@marl.co.uk) •

• Telephone +44 (0)1229 582430 • Fax: +44 (0)1229 585155

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### 423 SERIES



Dimensions in mm (Typical)  
Not to scale

Termination pins are off axis for polarity insertion into socket

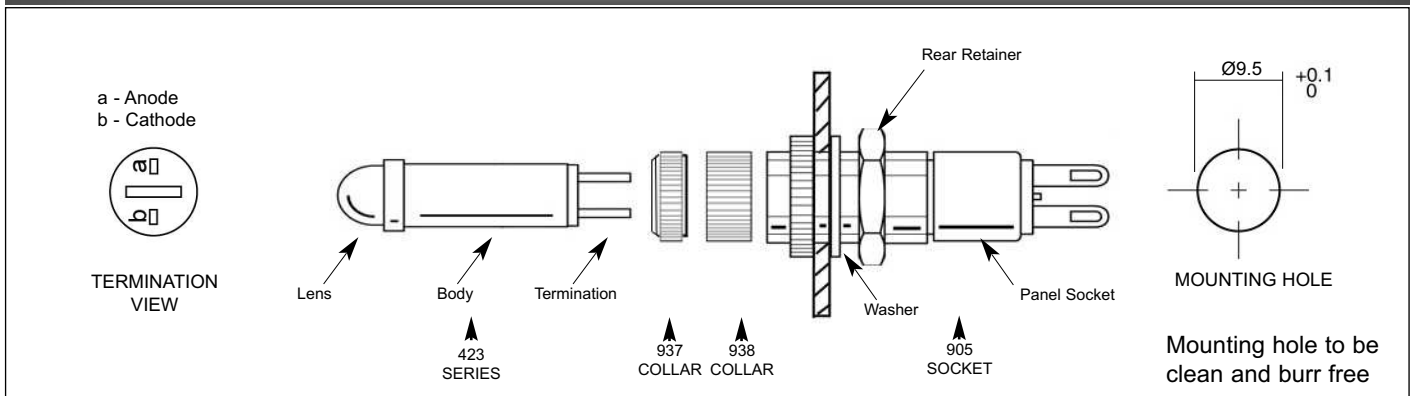
### MATERIALS

|                   |                                      |
|-------------------|--------------------------------------|
| Body              | Nylon 6                              |
| Termination Pins  | Tin on Nickel Plated Phosphor Bronze |
| Fresnel lens      | Polycarbonate                        |
| Header            | Black Acetal                         |
| Mounting Hardware | Use with socket 905-000-00.          |

### TECHNICAL CHARACTERISTICS

| SERIES | MAXIMUM POWER DISSIPATION | MAXIMUM REVERSE VOLTAGE | PANEL CUTOUT | MINIMUM MOUNTING CENTRES | MAX. PANEL THICKNESS |
|--------|---------------------------|-------------------------|--------------|--------------------------|----------------------|
| 423    | 500                       | 3                       | 9.5          | 16.5                     | 6.5                  |
| UNITS  | mW                        | Vdc                     | mm           | mm                       | mm                   |

### PANEL SOCKETS & CONNECTORS



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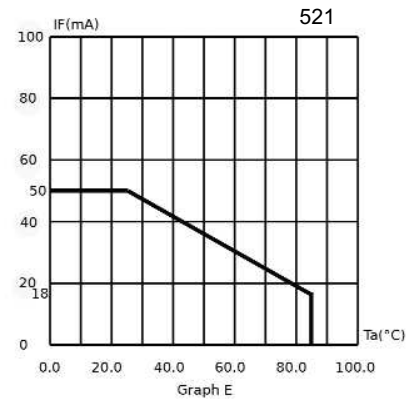
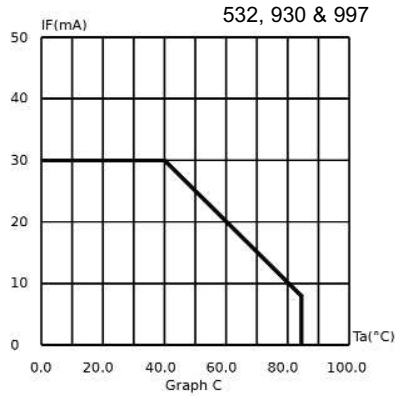
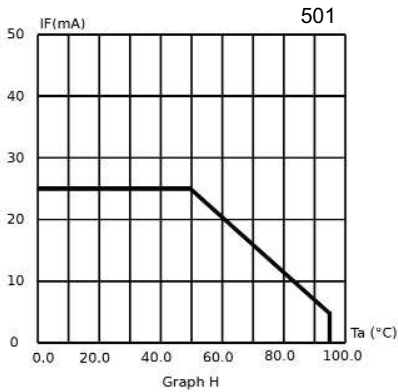


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### Optional Reverse Protection Diode

| ORDER CODE SUFFIX | CIRCUIT | COMMENTS  |
|-------------------|---------|---|
| 01                |         | Available on all indicators except Bi-Colour devices. |

### De-rating Information



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## 423 Series

Part numbers also available in the 423 Series:

| PART NO.      | COLOUR | VOLTAGE<br>(Vdc) Vopr |
|---------------|--------|-----------------------|
| 423-501-04    | Red    | 20mA                  |
| 423-501-20    | Red    | 5/6Vdc                |
| 423-501-22    | Red    | 24Vdc                 |
| 423-501-24    | Red    | 48Vdc                 |
| 423-502-21    | Red    | 12Vdc                 |
| 423-503-04    | Red    | 20mA                  |
| 423-503-20    | Red    | 5/6Vdc                |
| 423-503-22    | Red    | 24Vdc                 |
| 423-503-22-01 | Red    | 24Vdc                 |
| 423-503-24    | Red    | 48Vdc                 |
| 423-503-72    | Red    | 24Vac                 |
| 423-506-04    | Orange | 20mA                  |
| 423-506-21    | Orange | 12Vdc                 |
| 423-506-22    | Orange | 24Vdc                 |
| 423-506-22-01 | Orange | 24Vdc                 |
| 423-506-74    | Orange | 48Vac                 |
| 423-506-74-50 | Orange | 48Vac                 |
| 423-509-04    | Yellow | 20mA                  |
| 423-509-20    | Yellow | 5/6Vdc                |
| 423-509-21    | Yellow | 12Vdc                 |
| 423-509-22    | Yellow | 24Vdc                 |
| 423-509-24    | Yellow | 48Vdc                 |
| 423-512-04    | Green  | 20mA                  |
| 423-512-20    | Green  | 5/6Vdc                |
| 423-512-21    | Green  | 12Vdc                 |
| 423-512-22    | Green  | 24Vdc                 |
| 423-512-22-01 | Green  | 24Vdc                 |
| 423-512-24    | Green  | 48Vdc                 |
| 423-512-72    | Green  | 24Vac                 |
| 423-521-04    | Yellow | 20mA                  |
| 423-521-20    | Yellow | 5/6Vdc                |
| 423-521-22    | Yellow | 24Vdc                 |
| 423-521-24    | Yellow | 48Vdc                 |
| 423-521-74    | Yellow | 48Vac                 |
| 423-532-04    | Green  | 20mA                  |
| 423-532-21    | Green  | 12Vdc                 |
| 423-532-22    | Green  | 24Vdc                 |
| UNITS         |        |                       |

| PART NO.   | COLOUR     | VOLTAGE<br>(Vdc) Vopr |
|------------|------------|-----------------------|
| 423-532-24 | Green      | 48Vdc                 |
| 423-930-04 | Blue       | 20mA                  |
| 423-930-22 | Blue       | 24Vdc                 |
| 423-930-24 | Blue       | 48Vdc                 |
| 423-993-04 | Warm White | 20mA                  |
| 423-993-23 | Warm White | 24-28Vdc              |
| 423-993-24 | Warm White | 48Vdc                 |
| 423-993-73 | Warm White | 28Vac                 |
| 423-997-04 | White      | 20mA                  |
| 423-997-21 | White      | 12Vdc                 |
| 423-997-22 | White      | 24Vdc                 |
| 423-997-24 | White      | 48Vdc                 |
| 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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