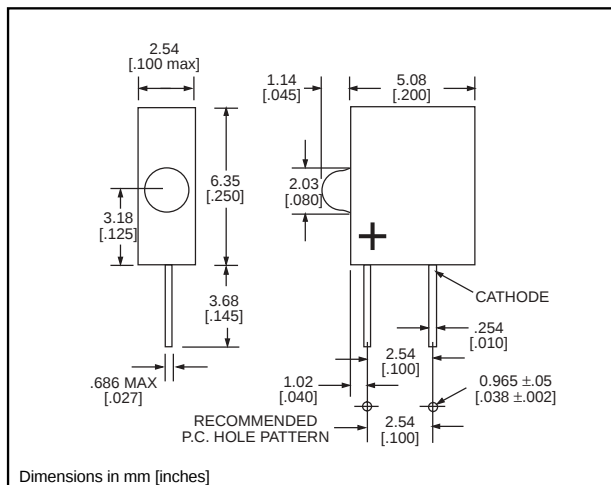


2mm

# LED CBI® Circuit Board Indicator Single

**Dialight**

**555-2xxx**



## PART NO.

## COLOR

### GENERAL PURPOSE

|          |        |
|----------|--------|
| 555-2001 | Red    |
| 555-2301 | Green  |
| 555-2401 | Yellow |

### INTEGRAL RESISTOR, VARIOUS VOLTAGES

|          |            |
|----------|------------|
| 555-2003 | Red, 5V    |
| 555-2007 | Red, 5V    |
| 555-2008 | Red, 24V   |
| 555-2009 | Red, 5V    |
| 555-2303 | Green, 5V  |
| 555-2403 | Yellow, 5V |

## Features

- Multiple CBIs form horizontal LED arrays on 2.54mm (0.100") center-lines
- High Contrast, UL 94 V-0 rated, black housing
- Oxygen index: 31.5%
- Polymer content: PBT, 0.079 g
- Housing stand-offs facilitate PCB cleaning
- Solderability per MIL-STD-202F, method 208F
- LEDs are safe for direct viewing per IEC 825-1, EN-60825-1
- Compatible with: 555-4xxx Quad Block

## Tolerance note: As noted, otherwise:

- LED Protrusion: ±0.04 mm [±0.016]
- CBI Housing: ±0.02mm[±0.008]

**Typical Operating Characteristics** ( $T_A = 25^\circ\text{C}$ )*See LED data sheet for additional information***GENERAL PURPOSE***See Page 3-17 and 3-18 for Reference Only LED Drive Circuit Examples**See Page 3-19 for Pin Out*

| Part Number | Color  | Peak Wavelength nm | $I_V$ mcd | $V_F$ Volts | Test Current (mA) | Viewing Angle $2\theta_{1/2}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|-----------|-------------|-------------------|-------------------------------|----------------|--------|
| 555-2001    | Red    | 650                | 1.2       | 1.6         | 20                | 40°                           | 2ND-9412       | 3-14   |
| 555-2301    | Green  | 565                | 1         | 2.4         | 20                | 40°                           | 2ND-9414       | 3-14   |
| 555-2401    | Yellow | 583                | 2         | 2.2         | 20                | 40°                           | 2ND-9416       | 3-14   |

**INTEGRAL RESISTOR, VARIOUS VOLTAGES**

| Part Number | Color  | Peak Wavelength nm | $I_V$ mcd | $I_F$ mA | Test Voltage | Viewing Angle $2\theta_{1/2}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|-----------|----------|--------------|-------------------------------|----------------|--------|
| 555-2003    | Red    | 650                | 1.9       | 6        | 5            | 40°                           | 2RD-9614       | 3-15   |
| 555-2007    | Red    | 650                | .9        | 3        | 5            | 40°                           | 2RD-9613       | 3-15   |
| 555-2008    | Red    | 650                | .9        | 3        | 24           | 40°                           | 2RD-9623       | 3-16   |
| 555-2009    | Red    | 650                | .6        | 1        | 5            | 40°                           | 2RD-9618       | 3-15   |
| 555-2303    | Green  | 565                | 2.5       | 4.7      | 5            | 40°                           | 2RD-9615       | 3-15   |
| 555-2403    | Yellow | 583                | 2.1       | 4.7      | 5            | 40°                           | 2RD-9616       | 3-15   |

2mm  
General Purpose  
Diffused

**Dialight**

2ND-XXXX

**\* NOT A VALID PART  
NUMBER. THIS SHEET IS FOR  
REFERENCE ONLY.**

TYPE

2ND-9412\*  
2ND-9414\*  
2ND-9416\*

COLOR

Red  
Green  
Yellow

**ABSOLUTE MAXIMUM RATINGS** ( $T_A=25^\circ\text{C}$ )

|                                                                      | Red<br><b>-9412</b>                                | Green<br><b>-9414</b> | Yellow<br><b>-9416</b> |
|----------------------------------------------------------------------|----------------------------------------------------|-----------------------|------------------------|
| Power Dissipation (mW)                                               | 80                                                 | 80                    | 80                     |
| Derating (mW/ $^\circ\text{C}$ ) From $25^\circ\text{C}$             | 1.1                                                | 1.1                   | 1.1                    |
| Forward Current (mA)                                                 | 40                                                 | 25                    | 25                     |
| Peak Current (mA)<br><i>Pulse width = 1 <math>\mu\text{s}</math></i> | 250                                                | 250                   | 250                    |
| Operating Temperature ( $^\circ\text{C}$ )                           | -55/+100                                           | -55/+100              | -55/+100               |
| Storage Temperature ( $^\circ\text{C}$ )                             | -55/+100                                           | -55/+100              | -55/+100               |
| Soldering Temperature                                                | 260 $^\circ\text{C}$ , 5 seconds, 1.6 mm from case |                       |                        |

**OPERATING CHARACTERISTICS** ( $T_A=25^\circ\text{C}$ )

|                                                 |         | Red<br><b>-9412</b> | Green<br><b>-9414</b> | Yellow<br><b>-9416</b> |
|-------------------------------------------------|---------|---------------------|-----------------------|------------------------|
| Luminous Intensity (mcd)<br>$I_F=20\text{mA}$   | Min.    | 1                   | .5                    | .6                     |
|                                                 | Typical | 1.2                 | 1                     | 2                      |
| Peak Wavelength (nm)<br>$\lambda_{\text{Peak}}$ | Typical | 650                 | 565                   | 583                    |
| Viewing Angle ( $2\theta_{1/2}$ )               | Typical | 40 $^\circ$         | 40 $^\circ$           | 40 $^\circ$            |
| Forward Voltage (V)<br>$I_F=20\text{mA}$        | Typical | 1.6                 | 2.4                   | 2.2                    |
|                                                 | Max.    | 2                   | 3                     | 3                      |
| Reverse Voltage (V), $I_R=10\mu\text{A}$        | Min.    | 3                   | 3                     | 3                      |

$\theta_{1/2}$  is the off axis angle at which the luminous intensity is half the axial luminous intensity

2mm

Integral Resistor, 5 Volts  
Diffused

**Dialight**

2RD-9613 thru 2RD-9618

**\* NOT A VALID PART  
NUMBER. THIS SHEET IS FOR  
REFERENCE ONLY.**

**TYPE**

2RD-9613\*  
2RD-9614\*  
2RD-9615\*  
2RD-9616\*  
2RD-9618\*

**COLOR**

Red  
Red  
Green  
Yellow  
Red

3

**ABSOLUTE MAXIMUM RATINGS** ( $T_A=25^\circ\text{C}$ )

|                                            | Red<br>-9613                                       | Red<br>-9614 | Green<br>-9615 | Yellow<br>-9616 | Red<br>-9618 |
|--------------------------------------------|----------------------------------------------------|--------------|----------------|-----------------|--------------|
| Forward Voltage (V)                        | 6                                                  | 6            | 6              | 6               | 6            |
| Operating Temperature ( $^\circ\text{C}$ ) | -55/+100                                           | -55/+100     | -55/+100       | -55/+100        | -55/+100     |
| Storage Temperature ( $^\circ\text{C}$ )   | -55/+100                                           | -55/+100     | -55/+100       | -55/+100        | -55/+100     |
| Soldering Temperature                      | 260 $^\circ\text{C}$ , 5 seconds, 1.6 mm from case |              |                |                 |              |

**OPERATING CHARACTERISTICS** ( $T_A=25^\circ\text{C}$ )

|                                           |         | Red<br>9613 | Red<br>-9614 | Green<br>-9615 | Yellow<br>-9616 | Red<br>-9618 |
|-------------------------------------------|---------|-------------|--------------|----------------|-----------------|--------------|
| Luminous Intensity (mcd)                  | Min.    | .4          | .8           | .8             | 1.3             | .3           |
|                                           | Typical | .9          | 1.9          | 2.5            | 2.1             | .6           |
| Peak Wavelength (nm)                      | Typical | 650         | 650          | 565            | 583             | 650          |
| $\lambda_{\text{Peak}}$                   |         |             |              |                |                 |              |
| Viewing Angle ( $2\Theta_{1/2}$ )         | Typical | 40 $^\circ$ | 40 $^\circ$  | 40 $^\circ$    | 40 $^\circ$     | 40 $^\circ$  |
| Forward Current (mA)                      | Typical | 3           | 6            | 4.7            | 4.7             | 1            |
|                                           | Max.    | 4           | 8            | 6.7            | 6.7             | 2.6          |
| Reverse Voltage (V), $I_R=100\mu\text{A}$ | Min.    | 6           | 6            | 6              | 6               | 6            |

2mm

Integral Resistor, Various Voltages

Diffused

**Dialight**

2RD-9619 thru 2RD-9623

**\* NOT A VALID PART  
NUMBER. THIS SHEET IS FOR  
REFERENCE ONLY.**

| <u>TYPE</u> | <u>COLOR</u> |
|-------------|--------------|
| 2RD-9619*   | Red, 14V     |
| 2RD-9620*   | Red, 3.6V    |
| 2RD-9621*   | Red, 10V     |
| 2RD-9622*   | Red, 15V     |
| 2RD-9623*   | Red, 24V     |

| <b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A=25^{\circ}\text{C}$ ) | Red 14V<br><b>-9619</b>                              | Red 3.6V<br><b>-9620</b> | Red 10V<br><b>-9621</b> | Red 15V<br><b>-9622</b> | Red 24V<br><b>-9623</b> |
|--------------------------------------------------------------|------------------------------------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| Forward Voltage (V)                                          | 14                                                   | 3.6                      | 10                      | 15                      | 24                      |
| Operating Temperature ( $^{\circ}\text{C}$ )                 | -55/+100                                             | -55/+100                 | -55/+100                | -55/+100                | -55/+100                |
| Storage Temperature ( $^{\circ}\text{C}$ )                   | -55/+100                                             | -55/+100                 | -55/+100                | -55/+100                | -55/+100                |
| Soldering Temperature                                        | 260 $^{\circ}\text{C}$ , 5 seconds, 1.6 mm from case |                          |                         |                         |                         |

| <b>OPERATING CHARACTERISTICS</b> ( $T_A=25^{\circ}\text{C}$ ) |         | Red 14V<br><b>-9619</b> | Red 3.6V<br><b>-9620</b> | Red 10V<br><b>-9621</b> | Red 15V<br><b>-9622</b> | Red 24V<br><b>-9623</b> |
|---------------------------------------------------------------|---------|-------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| Luminous Intensity (mcd)                                      | Min.    | 1.3                     | 2.6                      | 1.8                     | .3                      | .4                      |
| $V_F$ =Forward Voltage                                        | Typical | 3.1                     | 6.2                      | 4.2                     | .9                      | .9                      |
| Peak Wavelength (nm)                                          | Typical | 650                     | 650                      | 650                     | 650                     | 650                     |
| $\lambda_{\text{Peak}}$                                       |         |                         |                          |                         |                         |                         |
| Viewing Angle ( $2\theta_{1/2}$ )                             | Typical | 40 $^{\circ}$           | 40 $^{\circ}$            | 40 $^{\circ}$           | 40 $^{\circ}$           | 40 $^{\circ}$           |
| Forward Current (mA)                                          | Typical | 10                      | 20                       | 14                      | 3                       | 3                       |
| $V_F$ =Forward Voltage                                        | Max.    | 15                      | 25                       | 18                      | 3.8                     | 3.8                     |
| Reverse Voltage (V), $I_R=100\mu\text{A}$                     | Typical | 15                      | 4.6                      | 11                      | 16                      | 25                      |