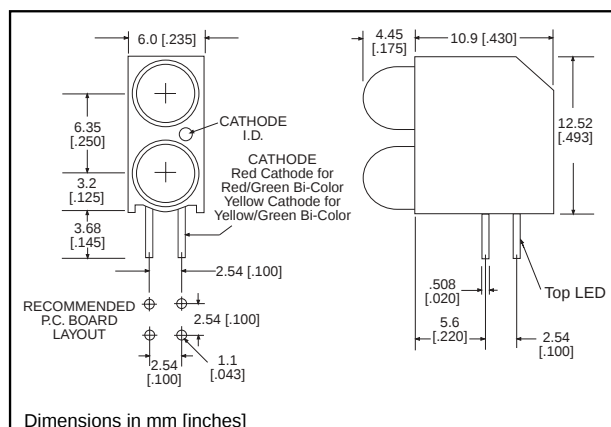


5mm

# LED CBI® Circuit Board Indicator Bi-level

# Dialight

## 552-0xxx



Standard Polarity shown in drawing: Cathode right

## Features

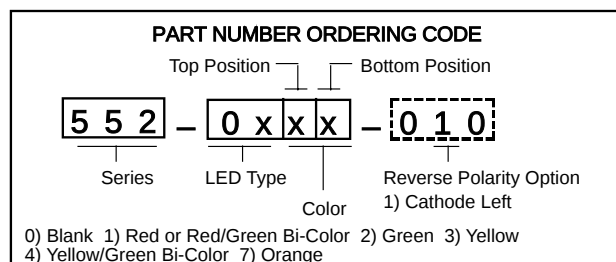
- Multiple CBIs form horizontal LED arrays on 6.35mm (0.250") center-lines.
- High Contrast, UL 94 V-0 rated, black housing
- Oxygen index: 32%
- Polymer content: PBT, 0.710 g
- Housing stand-offs facilitate PCB cleaning
- Solderability per MIL-STD-202F, method 208F
- LEDs are safe for direct viewing per IEC 825-1, EN-60825-1

## Custom Combinations

- Contact factory for information on custom color combinations and ganged arrays

## Tolerance note: As noted, otherwise:

- LED Protrusion:  $\pm 0.04$  mm [ $\pm 0.016$ ]
- CBI Housing:  $\pm 0.02$ mm [ $\pm 0.008$ ]



-010 Ordering Code Suffix required *ONLY* for Reverse Polarity Option

## PART NO.

## COLOR\*

### HIGH EFFICIENCY, LED TYPE 02

|          |        |
|----------|--------|
| 552-0211 | Red    |
| 552-0222 | Green  |
| 552-0233 | Yellow |
| 552-0277 | Orange |

### INTEGRAL RESISTOR 5 VOLTS, LED TYPE 03

|          |        |
|----------|--------|
| 552-0311 | Red    |
| 552-0322 | Green  |
| 552-0333 | Yellow |

### INTEGRAL RESISTOR 12 VOLTS, LED TYPE 04

|          |        |
|----------|--------|
| 552-0422 | Green  |
| 552-0433 | Yellow |

### BI-COLOR, LED TYPE 07

|          |              |
|----------|--------------|
| 552-0711 | Red/Green    |
| 552-0744 | Yellow/Green |

### SUPER BRIGHT, LED TYPE 08

|          |        |
|----------|--------|
| 552-0811 | Red    |
| 552-0822 | Green  |
| 552-0833 | Yellow |

### LOW CURRENT, LED TYPE 09

|          |        |
|----------|--------|
| 552-0911 | Red    |
| 552-0922 | Green  |
| 552-0933 | Yellow |

**NEW  
NEW**

To order any of the 552-0xxx part numbers with Reverse Polarity (Cathode Left), please add -010 to the part numbers shown above.

Typical Operating Characteristics ( $T_A=25^{\circ}\text{C}$ )

See LED data sheet for additional information

## HIGH EFFICIENCY

See page 6-55 and 6-56 for Reference Only LED Drive Circuit Examples. See page 6-58 for Pin Out

| Part Number | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | V <sub>F</sub> Volts | Test Current (mA) | Viewing Angle 2 $\theta_{\frac{1}{2}}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|--------------------|----------------------|-------------------|----------------------------------------|----------------|--------|
| 552-0211    | Red    | 650                | 7                  | 2.2                  | 10                | 50°                                    | 5HD-9269       | 6-49   |
| 552-0222    | Green  | 563                | 10                 | 2.1                  | 10                | 65°                                    | 5HD-9270-5     | 6-49   |
| 552-0233    | Yellow | 585                | 6.3                | 2.1                  | 10                | 50°                                    | 5HD-9271-5     | 6-49   |
| 552-0277    | Orange | 600                | 7                  | 1.9                  | 10                | 60°                                    | 521-9704       | 6-43   |

## INTEGRAL RESISTOR, 5 VOLTS

| Part Number | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | Test Voltage | Forward Current (mA) | Viewing Angle 2 $\theta_{\frac{1}{2}}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|--------------------|--------------|----------------------|----------------------------------------|----------------|--------|
| 552-0311    | Red    | 655                | 2                  | 5            | 13                   | 60°                                    | 5RD-9422       | 6-52   |
| 552-0322    | Green  | 565                | 8                  | 5            | 12                   | 60°                                    | 5RD-9423       | 6-52   |
| 552-0333    | Yellow | 583                | 8                  | 5            | 10                   | 60°                                    | 521-9284       | 6-41   |

## INTEGRAL RESISTOR, 12 VOLTS

| Part Number | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | Test Voltage | Forward Current (mA) | Viewing Angle 2 $\theta_{\frac{1}{2}}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|--------------------|--------------|----------------------|----------------------------------------|----------------|--------|
| 552-0422    | Green  | 565                | 4                  | 12           | 13                   | 60°                                    | 5RD-9378       | 6-52   |
| 552-0433    | Yellow | 583                | 4                  | 12           | 13                   | 60°                                    | 5RD-9379       | 6-52   |

## BI-COLOR

| Part Number | Color        | Peak Wavelength nm | I <sub>v</sub> mcd | V <sub>F</sub> Volts | Test Current (mA) | Viewing Angle 2 $\theta_{\frac{1}{2}}$ | LED Data sheet | Page # |
|-------------|--------------|--------------------|--------------------|----------------------|-------------------|----------------------------------------|----------------|--------|
| 552-0711    | Red/Green    | 660/565            | 90/40              | 1.8/2.1              | 20                | 60°                                    | 521-9651       | 6-46   |
| 552-0744    | Yellow/Green | 585/565            | 8.7/8.7            | 2.1/2.1              | 20                | 50°                                    | 521-9724       | 6-46   |

## SUPER BRIGHT

| Part Number | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | V <sub>F</sub> Volts | Test Current (mA) | Viewing Angle 2 $\theta_{\frac{1}{2}}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|--------------------|----------------------|-------------------|----------------------------------------|----------------|--------|
| 552-0811    | Red    | 650                | 34                 | 2.1                  | 20                | 50°                                    | 5SD-9441       | 6-53   |
| 552-0822    | Green  | 563                | 34                 | 2.2                  | 20                | 50°                                    | 5SD-9456       | 6-53   |
| 552-0833    | Yellow | 585                | 34                 | 2.2                  | 20                | 50°                                    | 5SD-9455       | 6-53   |

## LOW CURRENT

| Part Number | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | V <sub>F</sub> Volts | Test Current (mA) | Viewing Angle 2 $\theta_{\frac{1}{2}}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|--------------------|----------------------|-------------------|----------------------------------------|----------------|--------|
| 552-0911    | Red    | 635                | 2                  | 1.8                  | 2                 | 50°                                    | 521-9320       | 6-42   |
| 552-0922    | Green  | 565                | 1.8                | 1.8                  | 2                 | 50°                                    | 521-9327       | 6-42   |
| 552-0933    | Yellow | 583                | 1.8                | 1.9                  | 2                 | 50°                                    | 521-9321       | 6-42   |

# 5mm Discrete LED Integral Resistor, 5 Volts Diffused

# Dialight

## 521-9183, -9284



### PART NO.

521-9183

521-9284

### LED COLOR

Red

Yellow

**MOUNTING CLIP:** 515-0004  
located on page 6-48

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C)

|                            | Red<br>-9183                       | Yellow<br>-9284 |
|----------------------------|------------------------------------|-----------------|
| Forward Voltage (V)        | 7.5                                | 7.5             |
| Derating (V/°C) From 50°C  | .071                               | .071            |
| Operating Temperature (°C) | -40/+85                            | -40/+85         |
| Storage Temperature (°C)   | -55/+100                           | -55/+100        |
| Soldering Temperature      | 260°C, 5 seconds, 1.6 mm from case |                 |

Solder Adherence per MIL-STD-202E, Method 208C

### OPERATING CHARACTERISTICS (T<sub>A</sub>=25°C)

|                                            |         | Red<br>-9183 | Yellow<br>-9284 |
|--------------------------------------------|---------|--------------|-----------------|
| Luminous Intensity (mcd)                   | Min.    | 2            | 2               |
| V <sub>F</sub> = 5V                        | Typical | 8            | 8               |
| Peak Wavelength (nm)                       | Typical | 635          | 583             |
| λ Peak                                     |         |              |                 |
| Viewing Angle (2θ <sup>1</sup> )           | Typical | 60°          | 60°             |
| Forward Current (I)                        | Typical | 10           | 10              |
| V <sub>F</sub> = 5V                        | Max     | 15           | 15              |
| Reverse Voltage (V), I <sub>R</sub> =100μA | Min.    | 5            | 5               |

θ<sup>1</sup> is the off axis angle at which the luminous intensity is half the axial luminous intensity

6

# 5mm Discrete LED

## Low Current, 2mA

## Diffused

# Dialight

## 521-9320, -9321, -9327



### PART NO.

521-9320

521-9321

521-9327

### COLOR

Red

Yellow

Green

**MOUNTING CLIP:** 515-0004  
located on page 6-48

### ABSOLUTE MAXIMUM RATINGS (TA=25°C)

|                                          | Red<br>-9320                       | Yellow<br>-9321 | Green<br>-9327 |
|------------------------------------------|------------------------------------|-----------------|----------------|
| Power Dissipation (mW)                   | 27                                 | 36              | 24             |
| Derating (mA/°C) From 92°C               | 1                                  | 1               | 1              |
| Forward Current (mA)                     | 7                                  | 7               | 7              |
| Peak Current (mA)<br>Pulse width = 10 μs | 500                                | 500             | 500            |
| Operating Temperature (°C)               | -55/+100                           | -55/+100        | -55/+100       |
| Storage Temperature (°C)                 | -55/+100                           | -55/+100        | -55/+100       |
| Soldering Temperature                    | 260°C, 5 seconds, 1.6 mm from case |                 |                |

Solder Adherence per MIL-STD-202E, Method 208C

### OPERATING CHARACTERISTICS (TA=25°C)

|                                           |         | Red<br>-9320 | Yellow<br>-9321 | Green<br>-9327 |
|-------------------------------------------|---------|--------------|-----------------|----------------|
| Luminous Intensity (mcd)                  | Min.    | 1.2          | 1.2             | 1.2            |
| I <sub>F</sub> =2mA                       | Typical | 2            | 1.8             | 1.8            |
| Peak Wavelength (nm)                      | Typical | 635          | 583             | 565            |
| λ Peak                                    |         |              |                 |                |
| Viewing Angle (2Θ <sup>1/2</sup> )        | Typical | 50°          | 50°             | 50°            |
| Forward Voltage (V)                       | Typical | 1.8          | 1.9             | 1.8            |
| I <sub>F</sub> =2mA                       | Max.    | 2.2          | 2.7             | 2.2            |
| Reverse Voltage (V), I <sub>R</sub> =50μA | Min.    | 5            | 5               | 5              |

Θ<sup>1</sup> is the off axis angle at which the luminous intensity is half the axial luminous intensity

# 5mm Discrete LED

## High Efficiency

## Diffused

# Dialight

## 521-9246, -9248, -9250, -9704



| PART NO. | COLOR  |
|----------|--------|
| 521-9246 | Red    |
| 521-9248 | Yellow |
| 521-9250 | Green  |
| 521-9704 | Orange |

**MOUNTING CLIP:** 515-0004  
located on page 6-48

| <b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A=25^{\circ}\text{C}$ )                                                        | Red<br>-9246                                         | Yellow<br>-9248 | Green<br>-9250 | Orange<br>-9704 |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------|----------------|-----------------|
| Power Dissipation (mW)                                                                                              | 135                                                  | 85              | 135            | 135             |
| Derating (mW/ $^{\circ}\text{C}$ ) From $25^{\circ}\text{C}$ 1. (mA/ $^{\circ}\text{C}$ ) From $50^{\circ}\text{C}$ | 1.8                                                  | 1.6             | 1.8            | .5 <sup>1</sup> |
| Forward Current (mA)                                                                                                | 25                                                   | 20              | 25             | 30              |
| Peak Current (mA)<br>Pulse width = 10 $\mu\text{s}$                                                                 | 500                                                  | 500             | 500            | 500             |
| Operating Temperature ( $^{\circ}\text{C}$ )                                                                        | -55/+100                                             | -55/+100        | -20/+100       | -55/+100        |
| Storage Temperature ( $^{\circ}\text{C}$ )                                                                          | -55/+100                                             | -55/+100        | -55/+100       | -55/+100        |
| Soldering Temperature                                                                                               | 260 $^{\circ}\text{C}$ , 5 seconds, 1.6 mm from case |                 |                |                 |

Solder Adherence per MIL-STD-202E, Method 208C

| <b>OPERATING CHARACTERISTICS</b> ( $T_A=25^{\circ}\text{C}$ ) |         | Red<br>-9246  | Yellow<br>-9248 | Green<br>-9250 | Orange<br>-9704 |
|---------------------------------------------------------------|---------|---------------|-----------------|----------------|-----------------|
| Luminous Intensity (mcd)                                      | Min.    | 4             | 4               | 4.2            | 4               |
|                                                               | Typical | 7             | 8               | 5.2            | 7               |
| Peak Wavelength (nm)<br>$\lambda$ Peak                        | Typical | 635           | 583             | 565            | 600             |
| Viewing Angle ( $2\theta^{\circ}$ )                           | Typical | 60 $^{\circ}$ | 60 $^{\circ}$   | 60 $^{\circ}$  | 60 $^{\circ}$   |
| Forward Voltage (V)                                           | Typical | 2.2           | 2.2             | 2.3            | 1.9             |
|                                                               | Max.    | 3             | 3               | 3              | 2.4             |
| Reverse Voltage (V), $I_R=100\mu\text{A}$                     | Min.    | 5             | 5               | 5              | 5               |

$\theta^{\circ}$  is the off axis angle at which the luminous intensity is half the axial luminous intensity

6

# 5mm Discrete LED Bi-Color Non-Tinted, Diffused

# Dialight

## 521-9651, -9724



### PART NO.

521-9651

521-9724

### LED COLOR

Red/Green

Yellow/Green

**MOUNTING CLIP:** 515-0005  
located on page 6-48

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C)

|                                           | Red/Green<br>-9651                 | Yellow/Green<br>-9724 |
|-------------------------------------------|------------------------------------|-----------------------|
| Power Dissipation (mW)                    | 100/100                            | 60/100                |
| Forward Current (mA)                      | 40/30                              | 20/30                 |
| Derating (mA/°C) From 50°C                | .5/.4                              | .25/.40               |
| Peak Current (mA)<br>Pulse width = 100 μs | 200/120                            | 80/120                |
| Operating Temperature (°C)                | -55/+100                           | -55/+100              |
| Storage Temperature (°C)                  | -55/+100                           | -55/+100              |
| Soldering Temperature                     | 260°C, 5 seconds, 1.6 mm from case |                       |

Solder Adherence per MIL-STD-202E, Method 208C

### OPERATING CHARACTERISTICS (T<sub>A</sub>=25°C)

|                                    |         | Red/Green<br>-9651 | Yellow/Green<br>-9724 |
|------------------------------------|---------|--------------------|-----------------------|
| Luminous Intensity (mcd)           | Min.    | 29/12.6            | 2.5/2.5               |
| I <sub>F</sub> =20mA               | Typical | 90/40              | 8.7/8.7               |
| Peak Wavelength (nm)               | Typical | 660/565            | 585/565               |
| λ <sub>Peak</sub>                  |         |                    |                       |
| Viewing Angle (2Θ <sup>1/2</sup> ) | Typical | 60°                | 50°                   |
| Forward Voltage (V)                | Typical | 1.8/2.1            | 2.1/2.1               |
| I <sub>F</sub> =20mA               | Max.    | 2.4/2.8            | 2.8/2.8               |

Θ<sup>1</sup> is the off axis angle at which the luminous intensity is half the axial luminous intensity

# 5mm Discrete LED Super Bright, Water Clear Non-Tinted, Non-Diffused

# Dialight

## 521-9464,-9465,-9466



### PART NO.

521-9464

521-9465

521-9466

### COLOR

Red

Green

Yellow

**MOUNTING CLIP:** 515-0004  
located on page 6-48

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

|                                                                       | Red<br>-9464                        | Green<br>-9465 | Yellow<br>-9466  |
|-----------------------------------------------------------------------|-------------------------------------|----------------|------------------|
| Power Dissipation (mW)                                                | 135                                 | 135            | 85               |
| Derating (mW/°C) <i>From 25°C 1. From 50 °C</i>                       | 1.8                                 | 1.8            | 1.6 <sup>1</sup> |
| Forward Current (mA)                                                  | 30                                  | 30             | 20               |
| Peak Current (mA)<br><i>Pulse width = 10 <math>\mu\text{s}</math></i> | 500                                 | 500            | 500              |
| Operating Temperature (°C)                                            | -55/+100                            | -20/+100       | -55/+100         |
| Storage Temperature (°C)                                              | -55/+100                            | -55/+100       | -55/+100         |
| Soldering Temperature                                                 | 260 °C, 5 seconds, 1.6 mm from case |                |                  |

*Solder Adherence per MIL-STD-202E, Method 208C*

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

|                                           |         | Red<br>-9464 | Green<br>-9465 | Yellow<br>-9466 |
|-------------------------------------------|---------|--------------|----------------|-----------------|
| Luminous Intensity (mcd)                  | Min.    | 80           | 80             | 80              |
|                                           | Typical | 125          | 120            | 140             |
| Peak Wavelength (nm)<br>$\lambda$ Peak    | Typical | 635          | 565            | 583             |
| Viewing Angle ( $2\theta^{1/2}$ )         | Typical | 24°          | 24°            | 24°             |
| Forward Voltage (V)<br>$I_F=20\text{mA}$  | Typical | 2.2          | 2.3            | 2.2             |
|                                           | Max.    | 3            | 3              | 3               |
| Reverse Voltage (V), $I_R=100\mu\text{A}$ | Min.    | 5            | 5              | 5               |

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

6

5mm  
High Efficiency  
Diffused

**Dialight**

5HD-XXXX

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

| TYPE        | COLOR  |
|-------------|--------|
| *5HD-9269   | Red    |
| *5HD-9270-2 | Green  |
| *5HD-9270-5 | Green  |
| *5HD-9271-2 | Yellow |
| *5HD-9271-5 | Yellow |

#### ABSOLUTE MAXIMUM RATINGS

| (T <sub>A</sub> =25°C)                  | Red<br>-9269                       | Green<br>-9270-2 | Green<br>-9270-5 | Yellow<br>-9271-2 | Yellow<br>-9271-5 |
|-----------------------------------------|------------------------------------|------------------|------------------|-------------------|-------------------|
| Power Dissipation (mW)                  | 60                                 | 140              | 75               | 200               | 60                |
| Derating (mW/°C) From 50°C 1. From 40°C | .66 <sup>1</sup>                   |                  | .66 <sup>1</sup> |                   | .66 <sup>1</sup>  |
| Forward Current (mA)                    | 20                                 | 40               | 25               | 60                | 20                |
| Derating (mA/°C) From 25°C              |                                    | .6               |                  | .8                |                   |
| Peak Current (mA)                       | 60                                 | 500              | 60               | 1000              | 60                |
| Pulse width = 1μs                       |                                    |                  |                  |                   |                   |
| Operating Temperature (°C)              | -25/+85                            | -55/+100         | -25/+85          | -55/+100          | -25/+85           |
| Storage Temperature (°C)                | -30/+100                           | -55/+100         | -30/+100         | -55/+100          | -30/+100          |
| Soldering Temperature                   | 260°C, 5 seconds, 1.6 mm from case |                  |                  |                   |                   |

Solder Adherence per MIL-STD-202E, Method 208C

6

#### OPERATING CHARACTERISTICS

| (T <sub>A</sub> =25°C)                      |         | Red<br>-9269 | Green<br>-9270-2 | Green<br>-9270-5 | Yellow<br>-9271-2 | Yellow<br>-9271-5 |
|---------------------------------------------|---------|--------------|------------------|------------------|-------------------|-------------------|
| Luminous Intensity (mcd)                    | Min.    | 2.2          | 4                | 3.6              | 4                 | 2.2               |
| I <sub>F</sub> =10mA                        | Typical | 7            | 32               | 10               | 10                | 6.3               |
| Peak Wavelength (nm)                        | Typical | 650          | 565              | 563              | 590               | 585               |
| λ Peak                                      |         |              |                  |                  |                   |                   |
| Viewing Angle (2Θ °)                        | Typical | 50°          | 50°              | 65°              | 70°               | 50°               |
| Forward Voltage (V)                         | Typical | 2.2          | 2*               | 2.1              | 2.4*              | 2.1               |
| I <sub>F</sub> =10mA, *I <sub>F</sub> =20mA | Max.    | 2.5          | 2.6*             | 3                | 3*                | 3                 |
| Reverse Voltage (V),                        | Min.    | 5            | 5*               | 3*               | 5*                | 3                 |
| I <sub>R</sub> =100μA *I <sub>R</sub> =10μA |         |              |                  |                  |                   |                   |

Θ<sup>1</sup> is the off axis angle at which the luminous intensity is half the axial luminous intensity

5mm  
General Purpose  
Diffused

**Dialight**

5ND-xxxx

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

TYPE

\*5ND-9672  
\*5ND-9673  
\*5ND-9674

COLOR

Red  
Yellow  
Green

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

|                                                                       | Red<br>-9672                       | Yellow<br>-9673 | Green<br>-9674 |
|-----------------------------------------------------------------------|------------------------------------|-----------------|----------------|
| Power Dissipation (mW)                                                | 80                                 | 60              | 100            |
| Forward Current (mA)                                                  | 40                                 | 20              | 30             |
| Derating (mA/°C) <i>From 25°C</i>                                     | .5                                 | .25             | .4             |
| Peak Current (mA)<br><i>Pulse width = 10 <math>\mu\text{s}</math></i> | 200                                | 80              | 120            |
| Operating Temperature (°C)                                            | -55/+100                           | -55/+100        | -55/+100       |
| Storage Temperature (°C)                                              | -55/+100                           | -55/+100        | -55/+100       |
| Soldering Temperature                                                 | 260°C, 5 seconds, 1.6 mm from case |                 |                |

*Solder Adherence per MIL-STD-202E, Method 208C*

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

|                                           |         | Red<br>-9672 | Yellow<br>-9673 | Green<br>-9674 |
|-------------------------------------------|---------|--------------|-----------------|----------------|
| Luminous Intensity (mcd)                  | Min.    | 3.5          | 3.5             | 3.5            |
| $I_F=20\text{mA}$                         | Typical | 12.3         | 12.3            | 12.3           |
| Peak Wavelength (nm)                      | Typical | 635          | 585             | 565            |
| $\lambda_{\text{Peak}}$                   |         |              |                 |                |
| Viewing Angle ( $2\theta_{\frac{1}{2}}$ ) | Typical | 60°          | 60°             | 60°            |
| Forward Voltage (V)                       | Typical | 2            | 2.1             | 2.1            |
| $I_F=20\text{mA}$                         | Max.    | 2.8          | 2.8             | 2.8            |
| Reverse Voltage (V), $I_R=100\mu\text{A}$ | Min.    | 5            | 5               | 5              |

$\theta^{\frac{1}{2}}$  is the off axis angle at which the luminous intensity is half the axial luminous intensity

6

5mm  
Integral Resistor  
Diffused

**Dialight**

5RD-XXXX

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

| <u>TYPE</u> | <u>COLOR</u> | <u>VOLTS</u> |
|-------------|--------------|--------------|
| *5RD-9378   | Green        | 12           |
| *5RD-9379   | Yellow       | 12           |
| *5RD-9422   | Red          | 5            |
| *5RD-9423   | Green        | 5            |

**ABSOLUTE MAXIMUM RATINGS**  
(T<sub>A</sub>=25°C)

|                                                | Green 12V<br>-9378                 | Yellow 12V<br>-9379 | Red 5V<br>-9422 | Green 5V<br>-9423 |
|------------------------------------------------|------------------------------------|---------------------|-----------------|-------------------|
| Forward Voltage (V)<br>*(T <sub>A</sub> =70°C) | 15 *                               | 15                  | 7.5             | 7.5               |
| Operating Temperature (°C)                     | -20/+85                            | -40/+85             | -40/+85         | -20/+85           |
| Storage Temperature (°C)                       | -55/+100                           | -55/+100            | -55/+100        | -55/+100          |
| Soldering Temperature                          | 260°C, 5 seconds, 1.6 mm from case |                     |                 |                   |

*Solder Adherence per MIL-STD-202E, Method 208C*

**OPERATING CHARACTERISTICS**  
(T<sub>A</sub>=25°C)

|                                            |         | Green 12V<br>-9378 | Yellow 12V<br>-9379 | Red 5V<br>-9422 | Green 5V<br>-9423 |
|--------------------------------------------|---------|--------------------|---------------------|-----------------|-------------------|
| Luminous Intensity (mcd)                   | Min.    | 1.5*               | 1.5*                | 1               | 2                 |
| V <sub>F</sub> =5V, *V <sub>F</sub> =12V   | Typical | 4*                 | 4*                  | 2               | 8                 |
| Peak Wavelength (nm)                       | Typical | 565                | 583                 | 655             | 565               |
| λ Peak                                     |         |                    |                     |                 |                   |
| Viewing Angle (2θ *)                       | Typical | 60°                | 60°                 | 60°             | 60°               |
| Forward Current (mA), V <sub>F</sub> =5V   | Typical | 13*                | 13*                 | 13              | 12                |
| *V <sub>F</sub> =12V                       | Max.    | 20*                | 20*                 | 20              | 15                |
| Reverse Voltage (V), I <sub>R</sub> =100μA | Typical | 5                  | 5                   | 5               | 5                 |

θ<sup>1</sup> is the off axis angle at which the luminous intensity is half the axial luminous intensity

5mm  
Super Bright LED  
Diffused

**Dialight**

5SD-xxxx

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

TYPE  
\*5SD-9441  
\*5SD-9455  
\*5SD-9456

COLOR  
Red  
Yellow  
Green

| <b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A=25^{\circ}\text{C}$ )                                                                                                   | Red<br>-9441                                         | Yellow<br>-9455 | Green<br>-9456 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------|----------------|
| Power Dissipation (mW)                                                                                                                                         | 75                                                   | 75              | 75             |
| Forward Current (mA)                                                                                                                                           | 25                                                   | 25              | 25             |
| Derating (mA/ $^{\circ}\text{C}$ ) <i>From 50<math>^{\circ}\text{C}</math></i> <i>*(mW/<math>^{\circ}\text{C}</math>) From 40<math>^{\circ}\text{C}</math></i> | .66*                                                 | .5              | .5             |
| Peak Current (mA)<br><i>Pulse width = 1 ms</i>                                                                                                                 | 60                                                   | 60              | 60             |
| 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 |                 |                |

*Solder Adherence per MIL-STD-202E, Method 208C*

| <b>OPERATING CHARACTERISTICS</b> ( $T_A=25^{\circ}\text{C}$ ) |         | Red<br>-9441  | Yellow<br>-9455 | Green<br>-9456 |
|---------------------------------------------------------------|---------|---------------|-----------------|----------------|
| Luminous Intensity (mcd)<br>$I_F=20\text{mA}$                 | Min.    | 17            | 17              | 17             |
|                                                               | Typical | 34            | 34              | 34             |
| Peak Wavelength (nm)<br>$\lambda$ Peak                        | Typical | 650           | 585             | 563            |
| Viewing Angle ( $2\theta^{1/2}$ )                             | Typical | 50 $^{\circ}$ | 50 $^{\circ}$   | 50 $^{\circ}$  |
| Forward Voltage (V)<br>$I_F=20\text{mA}$                      | Typical | 2.1           | 2.2             | 2.2            |
|                                                               | Max.    | 2.55          | 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

6

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9