

5mm

**LED CBI® Circuit Board Indicator  
Square Back Housing, Tri-Block**



**550-xx05-003**



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, 0.560 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:  
550-xx05 Single-Block  
550-xx05-004 Quad-Block

**Custom Combinations**

- Contact factory for information on custom color combinations

**Tolerance note: As noted, otherwise:**

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

**PART NO.**

**GENERAL PURPOSE**

- 550-0205-003
- 550-0305-003
- 550-0405-003

**INTEGRAL RESISTOR**

- 550-0505-003
- 550-0705-003
- 550-0805-003

**LOW CURRENT**

- 550-1105-003
- 550-1205-003
- 550-1305-003

**HIGH EFFICIENCY**

- 550-2205-003
- 550-2305-003
- 550-2405-003
- 550-2505-003

**BI-COLOR**

- 550-3005-003
- 550-3105-003

**SUPER BRIGHT, DIFFUSED**

- 550-5105-003
- 550-5205-003
- 550-5305-003

**SUPER BRIGHT, WATER CLEAR  
(Non-tinted, Non-diffused)**

- 550-5505-003
- 550-5605-003
- 550-5705-003

**COLOR\***

- Green
- Yellow
- Red

- Red, 5V
- Green, 5V
- Yellow, 5V

- Red
- Yellow
- Green

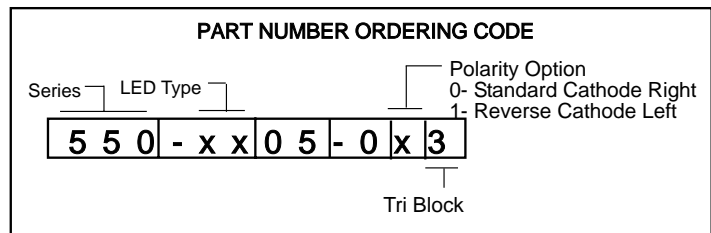
- Green
- Yellow
- Red
- Orange

- Red/Green
- Yellow/Green



\* LED 1, LED 2, LED 3

**Reverse Polarity (Cathode Left) option available.  
See Part Number Ordering Code.**



## Typical Operating Characteristics (T<sub>A</sub>=25°C)

See LED data sheet for additional information

**GENERAL PURPOSE** 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 2Θ° | LED Data sheet | Page # |
|--------------|--------|--------------------|--------------------|----------------------|-------------------|-------------------|----------------|--------|
| 550-0205-003 | Green  | 565                | 12.3               | 2.1                  | 20                | 60°               | 5ND-9674       | 6-51   |
| 550-0305-003 | Yellow | 585                | 12.3               | 2.1                  | 20                | 60°               | 5ND-9673       | 6-51   |
| 550-0405-003 | Red    | 635                | 12.3               | 2                    | 20                | 60°               | 5ND-9672       | 6-51   |

### INTEGRAL RESISTOR

| Part Number  | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | Test Voltage | Forward Current (mA) | Viewing Angle 2Θ° | LED Data sheet | Page # |
|--------------|--------|--------------------|--------------------|--------------|----------------------|-------------------|----------------|--------|
| 550-0505-003 | Red    | 655                | 2                  | 5            | 13                   | 60°               | 5RD-9422       | 6-52   |
| 550-0705-003 | Green  | 565                | 8                  | 5            | 12                   | 60°               | 5RD-9423       | 6-52   |
| 550-0805-003 | Yellow | 583                | 8                  | 5            | 10                   | 60°               | 521-9284       | 6-41   |

### LOW CURRENT

| Part Number  | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | V <sub>F</sub> Volts | Test Current (mA) | Viewing Angle 2Θ° | LED Data sheet | Page # |
|--------------|--------|--------------------|--------------------|----------------------|-------------------|-------------------|----------------|--------|
| 550-1105-003 | Red    | 635                | 2                  | 1.8                  | 2                 | 50°               | 521-9320       | 6-42   |
| 550-1205-003 | Yellow | 583                | 1.8                | 1.9                  | 2                 | 50°               | 521-9321       | 6-42   |
| 550-1305-003 | Green  | 565                | 1.8                | 1.8                  | 2                 | 50°               | 521-9327       | 6-42   |

### HIGH EFFICIENCY

| Part Number  | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | V <sub>F</sub> Volts | Test Current (mA) | Viewing Angle 2Θ° | LED Data sheet | Page # |
|--------------|--------|--------------------|--------------------|----------------------|-------------------|-------------------|----------------|--------|
| 550-2205-003 | Green  | 563                | 10                 | 2.1                  | 10                | 65°               | 5HD-9270-5     | 6-49   |
| 550-2305-003 | Yellow | 585                | 6.3                | 2.1                  | 10                | 50°               | 5HD-9271-5     | 6-49   |
| 550-2405-003 | Red    | 650                | 7                  | 2.2                  | 10                | 50°               | 5HD-9269       | 6-49   |
| 550-2505-003 | Orange | 600                | 7                  | 1.9                  | 10                | 60°               | 521-9704       | 6-43   |

### BI-COLOR

| Part Number  | Color        | Peak Wavelength nm | I <sub>v</sub> mcd | V <sub>F</sub> Volts | Test Current (mA) | Viewing Angle 2Θ° | LED Data sheet | Page # |
|--------------|--------------|--------------------|--------------------|----------------------|-------------------|-------------------|----------------|--------|
| 550-3005-003 | Red/Green    | 660/565            | 90/40              | 1.8/2.1              | 20                | 60°               | 521-9651       | 6-46   |
| 550-3105-003 | Yellow/Green | 585/565            | 8.7/8.7            | 2.1/2.1              | 20                | 50°               | 521-9724       | 6-46   |

### SUPER BRIGHT, DIFFUSED

| Part Number  | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | V <sub>F</sub> Volts | Test Current (mA) | Viewing Angle 2Θ° | LED Data sheet | Page # |
|--------------|--------|--------------------|--------------------|----------------------|-------------------|-------------------|----------------|--------|
| 550-5105-003 | Red    | 650                | 34                 | 2.1                  | 20                | 50°               | 5SD-9441       | 6-53   |
| 550-5205-003 | Green  | 563                | 34                 | 2.2                  | 20                | 50°               | 5SD-9456       | 6-53   |
| 550-5305-003 | Yellow | 585                | 34                 | 2.2                  | 20                | 50°               | 5SD-9455       | 6-53   |

### SUPER BRIGHT, WATER CLEAR (NON-TINTED, NON-DIFFUSED)

| Part Number  | Color  | Peak Wavelength nm | I <sub>v</sub> mcd | V <sub>F</sub> Volts | Test Current (mA) | Viewing Angle 2Θ° | LED Data sheet | Page # |
|--------------|--------|--------------------|--------------------|----------------------|-------------------|-------------------|----------------|--------|
| 550-5505-003 | Red    | 635                | 125                | 2.2                  | 20                | 24°               | 521-9464       | 6-47   |
| 550-5605-003 | Green  | 565                | 120                | 2.3                  | 20                | 24°               | 521-9465       | 6-47   |
| 550-5705-003 | Yellow | 583                | 140                | 2.2                  | 20                | 24°               | 521-9466       | 6-47   |



# 5mm Discrete LED Integral Resistor, 5 Volts Diffused

# Dialight

## 521-9183, -9284



| <u>PART NO.</u> | <u>LED COLOR</u> |
|-----------------|------------------|
| 521-9183        | Red              |
| 521-9284        | Yellow           |

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

| <b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A=25^\circ\text{C}$ ) | Red<br><b>-9183</b>                | Yellow<br><b>-9284</b> |
|--|------------------------------------|------------------------|
| 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

| <b>OPERATING CHARACTERISTICS</b> ( $T_A=25^\circ\text{C}$ ) |         | Red<br><b>-9183</b> | Yellow<br><b>-9284</b> |
|---|---------|---------------------|------------------------|
| Luminous Intensity (mcd)                                    | Min.    | 2                   | 2                      |
|   | Typical | 8                   | 8                      |
| Peak Wavelength (nm)  | Typical | 635                 | 583                    |
| Viewing Angle ( $2\theta^{1/2}$ )                           | Typical | 60°                 | 60°                    |
| Forward Current (I)   | Typical | 10                  | 10                     |
|   | Max     | 15                  | 15                     |
| Reverse Voltage (V), $I_R=100\mu\text{A}$                   | Min.    | 5                   | 5                      |

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

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**5mm Discrete LED**  
**Low Current, 2mA**  
**Diffused**

**Dialight**

**521-9320, -9321, -9327**



| <u>PART NO.</u> | <u>COLOR</u> |
|-----------------|--------------|
| 521-9320        | Red          |
| 521-9321        | Yellow       |
| 521-9327        | Green        |

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

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

|  | Red<br><b>-9320</b>                | Yellow<br><b>-9321</b> | Green<br><b>-9327</b> |
|--|------------------------------------|------------------------|-----------------------|
| 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><b>-9320</b> | Yellow<br><b>-9321</b> | Green<br><b>-9327</b> |
|--------------------------------|---------|---------------------|------------------------|-----------------------|
| Luminous Intensity (mcd)       | Min.    | 1.2                 | 1.2                    | 1.2                   |
|                                | Typical | 2                   | 1.8                    | 1.8                   |
| Peak Wavelength (nm)<br>λ Peak | Typical | 635                 | 583                    | 565                   |
| Viewing Angle (2θ ½)           | Typical | 50°                 | 50°                    | 50°                   |
| Forward Voltage (V)<br>IF=2mA  | Typical | 1.8                 | 1.9                    | 1.8                   |
|                                | Max.    | 2.2                 | 2.7                    | 2.2                   |
| Reverse Voltage (V), IR=50μA   | Min.    | 5                   | 5                      | 5                     |

θ ½ 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><b>-9246</b>                                | Yellow<br><b>-9248</b> | Green<br><b>-9250</b> | Orange<br><b>-9704</b> |
|---|--|------------------------|-----------------------|------------------------|
| 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'                    |
| 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><b>-9246</b> | Yellow<br><b>-9248</b> | Green<br><b>-9250</b> | Orange<br><b>-9704</b> |
|---|---------|---------------------|------------------------|-----------------------|------------------------|
| Luminous Intensity (mcd)<br>$I_F=10\text{mA}$               | Min.    | 4                   | 4                      | 4.2                   | 4                      |
|   | Typical | 7                   | 8                      | 5.2                   | 7                      |
| Peak Wavelength (nm)<br>$\lambda_{\text{Peak}}$             | Typical | 635                 | 583                    | 565                   | 600                    |
| Viewing Angle ( $2\theta$ °)                                | Typical | 60°                 | 60°                    | 60°                   | 60°                    |
| Forward Voltage (V)<br>$I_F=10\text{mA}$                    | 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                      |

$\theta$  is the off axis angle at which the luminous intensity is half the axial luminous intensity

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

**Dialight**

**521-9651, -9724**



| PART NO. | LED COLOR    |
|----------|--------------|
| 521-9651 | Red/Green    |
| 521-9724 | Yellow/Green |

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

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

|  | Red/Green<br><b>-9651</b>          | Yellow/Green<br><b>-9724</b> |
|--|------------------------------------|------------------------------|
| 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><i>Pulse width = 100 <math>\mu\text{s}</math></i> | 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** ( $T_A=25^\circ\text{C}$ )

|   |         | Red/Green<br><b>-9651</b> | Yellow/Green<br><b>-9724</b> |
|---|---------|---------------------------|------------------------------|
| Luminous Intensity (mcd)                        | Min.    | 29/12.6                   | 2.5/2.5                      |
|   | Typical | 90/40                     | 8.7/8.7                      |
| Peak Wavelength (nm)<br>$\lambda_{\text{Peak}}$ | Typical | 660/565                   | 585/565                      |
| Viewing Angle ( $2\theta^{\circ}$ )             | Typical | 60°                       | 50°                          |
| Forward Voltage (V)                             | Typical | 1.8/2.1                   | 2.1/2.1                      |
|   | Max.    | 2.4/2.8                   | 2.8/2.8                      |

$\theta^{\circ}$  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.**      **COLOR**

|          |        |
|----------|--------|
| 521-9464 | Red    |
| 521-9465 | Green  |
| 521-9466 | Yellow |

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

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

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

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

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5mm  
High Efficiency  
Diffused



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)<br>Derating (mW/°C) From 50°C 1. From 40°C | 60<br>.66 <sup>1</sup>             | 140              | 75<br>.66 <sup>1</sup> | 200               | 60<br>.66 <sup>1</sup> |
| Forward Current (mA)<br>Derating (mA/°C) From 25°C                | 20                                 | 40<br>.6         | 25                     | 60<br>.8          | 20                     |
| Peak Current (mA)<br>Pulse width = 1μs                            | 60                                 | 500              | 60                     | 1000              | 60                     |
| 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

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**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               |
|                          | 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               |
|                          | 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

COLOR

\*5ND-9672

Red

\*5ND-9673

Yellow

\*5ND-9674

Green

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

|   | Red<br><b>-9672</b>                | Yellow<br><b>-9673</b> | Green<br><b>-9674</b> |
|---|------------------------------------|------------------------|-----------------------|
| 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 μs</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><b>-9672</b> | Yellow<br><b>-9673</b> | Green<br><b>-9674</b> |
|---|---------|---------------------|------------------------|-----------------------|
| Luminous Intensity (mcd)<br>$I_F=20\text{mA}$   | Min.    | 3.5                 | 3.5                    | 3.5                   |
|   | Typical | 12.3                | 12.3                   | 12.3                  |
| Peak Wavelength (nm)<br>$\lambda_{\text{Peak}}$ | Typical | 635                 | 585                    | 565                   |
| Viewing Angle ( $2\theta^{\frac{1}{2}}$ )       | Typical | 60°                 | 60°                    | 60°                   |
| Forward Voltage (V)<br>$I_F=20\text{mA}$        | Typical | 2                   | 2.1                    | 2.1                   |
|   | 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

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**5mm  
Integral Resistor  
Diffused**



**\* 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**

|   | Green 12V<br>-9378                 | Yellow 12V<br>-9379 | Red 5V<br>-9422 | Green 5V<br>-9423 |
|---|------------------------------------|---------------------|-----------------|-------------------|
| Forward Voltage (V)<br>(T <sub>A</sub> =25°C) | 15 *                               | 15                  | 7.5             | 7.5               |
| * (T <sub>A</sub> =70°C)                      |                                    |                     |                 |                   |
| 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**

|  |         | 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                 |
|  | Typical | 4*                 | 4*                  | 2               | 8                 |
|  |         |                    |                     |                 |                   |
| Peak Wavelength (nm)                       | Typical | 565                | 583                 | 655             | 565               |
|  |         |                    |                     |                 |                   |
| Viewing Angle (2θ *)                       | Typical | 60°                | 60°                 | 60°             | 60°               |
| Forward Current (mA), V <sub>F</sub> =5V   | Typical | 13*                | 13*                 | 13              | 12                |
|  | 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      | COLOR  |
|-----------|--------|
| *5SD-9441 | Red    |
| *5SD-9455 | Yellow |
| *5SD-9456 | 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/°C) <i>From 50°C</i> *(mW/°C) <i>From 40°C</i> | .66*                               | .5              | .5             |
| Peak Current (mA)<br><i>Pulse width = 1 ms</i>              | 60                                 | 60              | 60             |
| 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*

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

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

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