

3mm

LED CBI® Circuit Board Indicator (DIN 41494 Compatible)



551-xx01



Standard Polarity shown in drawing: Anode right

Features

- Designed to accommodate DIN 41494
- Mounting pin increases stability
- Multiple CBIs form horizontal LED arrays on 5.0mm (0.197") center-lines
- High Contrast, UL 94 V-0 rated, black housing
- Oxygen index: 31.5%
- Polymer content: PBT, 0.519 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

Tolerance note: As noted, otherwise:

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



-010 Ordering Code Suffix required ONLY for Reverse Polarity Option

PART NO.

COLOR

HIGH EFFICIENCY

| | |
|----------|-------------------|
| 551-0201 | Green |
| 551-0301 | Yellow |
| 551-0401 | Red |
| 551-0801 | Blue ³ |
| 551-2501 | Orange |



INTEGRAL RESISTOR, 5 VOLTS

| | |
|----------|--------|
| 551-0501 | Red |
| 551-0601 | Green |
| 551-0701 | Yellow |

LOW CURRENT

| | |
|----------|--------|
| 551-1101 | Red |
| 551-1201 | Yellow |
| 551-1301 | Green |

BI-COLOR

| | |
|----------|--------------|
| 551-3001 | Red/Green |
| 551-3101 | Yellow/Green |

To order any of the 551-xx01 part numbers with Reverse Polarity (Anode Left), please add -010 to the part numbers shown above.



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE
DEVICES

551-xx01

(DIN 41494 Compatible)

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

See LED data sheet for additional information

See page 4-70 and 4-71 for Reference Only LED Drive Circuit Examples. See page 4-72 for Pin Out

HIGH EFFICIENCY

| Part Number | Color | Peak Wavelength nm | I_V mcd | V_F Volts | Test Current (mA) | Viewing Angle $2\Theta_{\%}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|-----------|-------------|-------------------|------------------------------|----------------|--------|
| 551-0201 | Green | 565 | 12.6 | 2.1* | 10 | 60° | 521-9210 | 4-58 |
| 551-0301 | Yellow | 585 | 10 | 2.1* | 10 | 60° | 521-9211 | 4-58 |
| 551-0401 | Red | 635 | 10 | 2* | 10 | 60° | 521-9216 | 4-58 |
| 551-0801 | Blue | 428 | 12 | 3.5 | 10 | 70° | 521-9831 | 4-57 |
| 551-2501 | Orange | 600 | 7 | 2.2 | 10 | 60° | 521-9498 | 4-58 |

* $I_F = 20\text{mA}$

INTEGRAL RESISTOR, 5 VOLTS

| Part Number | Color | Peak Wavelength nm | I_V mcd | Test Voltage | Forward Current (mA) | Viewing Angle $2\Theta_{\%}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|-----------|--------------|----------------------|------------------------------|----------------|--------|
| 551-0501 | Red | 635 | 29 | 5 | 10 | 60° | 521-9215 | 4-59 |
| 551-0601 | Green | 565 | 19 | 5 | 10 | 60° | 521-9323 | 4-59 |
| 551-0701 | Yellow | 585 | 12.6 | 5 | 10 | 60° | 521-9322 | 4-59 |

LOW CURRENT

| Part Number | Color | Peak Wavelength nm | I_V mcd | V_F Volts | Test Current (mA) | Viewing Angle $2\Theta_{\%}$ | LED Data sheet | Page # |
|-------------|--------|--------------------|-----------|-------------|-------------------|------------------------------|----------------|--------|
| 551-1101 | Red | 635 | 1.6 | 1.7 | 2 | 60° | 521-9324 | 4-60 |
| 551-1201 | Yellow | 585 | 1.6 | 1.8 | 2 | 60° | 521-9325 | 4-60 |
| 551-1301 | Green | 565 | 1.6 | 1.9 | 2 | 60° | 521-9326 | 4-60 |

BI-COLOR

| Part Number | Color | Peak Wavelength nm | I_V mcd | V_F Volts | Test Current (mA) | Viewing Angle $2\Theta_{\%}$ | LED Data sheet | Page # |
|-------------|--------------|--------------------|-----------|-------------|-------------------|------------------------------|----------------|--------|
| 551-3001 | Red/Green | 635/565 | 5 | 2 | 10 | 50° | 521-9459 | 4-63 |
| 551-3101 | Yellow/Green | 585/565 | 4.3/6.3 | 2.1*/2.1* | 10 | 80° | 521-9478 | 4-62 |

* $I_F = 20\text{mA}$

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3mm Discrete LED Tinted, Diffused

Dialight

521-9831



PART NO. 521-9831
COLOR Blue³

MOUNTING CLIP: 515-0006
located on page 4-65



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE
DEVICES

4

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Blue
-9831

| | |
|----------------------------|------------------------------------|
| Power Dissipation (mW) | 100 |
| Forward Current (mA) | 20 |
| Derating (mA/°C) From 55°C | .44 |
| Operating Temperature (°C) | -40/+100 |
| Storage Temperature (°C) | -40/+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°C)

Blue
-9831

| | | |
|------------------------------------|---------|-----|
| Luminous Intensity (mcd) | Min. | 6.3 |
| I _F =10mA | Typical | 12 |
| Peak Wavelength (nm) | Typical | 428 |
| λ Peak | | |
| Viewing Angle (2Θ _{1/2}) | Typical | 70° |
| Forward Voltage (V) | Typical | 3.5 |
| I _F =10mA | Max. | 4.2 |
| Reverse Voltage (V) IR=10μA | Min. | 3 |

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

3mm Discrete LED

High Efficiency

Diffused

521-9210, -9211, -9216, -9498, -9636

Dialight



PART NO. COLOR

- 521-9210 Green
- 521-9211 Yellow
- 521-9216 Red
- 521-9498 Orange
- 521-9636 Red



MOUNTING CLIP: 515-0006
located on page 4-65

| ABSOLUTE MAXIMUM RATINGS (T _A =25°C) | Green -9210 | Yellow -9211 | Red -9216 | Orange -9498 | Red -9636 |
|--|------------------------------------|------------------------|---------------------|------------------------|---------------------|
| Power Dissipation (mW) | 100 | 60 | 100 | 135 | 100 |
| Forward Current (mA) | 30 | 20 | 30 | 25 | 40 |
| Derating (mA/°C) From 50°C 1 from 25°C | .4 | .25 | .4 | .5 | .5 ¹ |
| Operating Temperature (°C) | -55/+100 | -55/+100 | -55/+100 | -55/+100 | -55/+100 |
| Storage Temperature (°C) | -55/+100 | -55/+100 | -55/+100 | -55/+100 | -55/+100 |
| Soldering Temperature | 260°C, 5 seconds, 1.6 mm from body | | | | |

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

| OPERATING CHARACTERISTICS (T _A =25°C) | | Green -9210 | Yellow -9211 | Red -9216 | Orange -9498 | Red -9636 |
|---|---|-----------------------|------------------------|---------------------|------------------------|---------------------|
| Luminous Intensity (mcd) | Min. | 4.7 | 7.4 | 7.4 | 3.4 | 8.7 ¹ |
| | I _F =10mA 1 I _F =20mA | Typical | 12.6 | 10 | 10 | 7 |
| Peak Wavelength (nm) | Typical | 565 | 585 | 635 | 600 | 660 |
| Viewing Angle (2θ °) | Typical | 60° | 60° | 60° | 60° | 60° |
| Forward Voltage (V) | Typical | 2.1 ¹ | 2.1 ¹ | 2 ¹ | 2.2 | 1.8 ¹ |
| | I _F =10mA 1 I _F =20mA | Max. | 2.8 ¹ | 2.8 ¹ | 2.8 ¹ | 3 |
| Reverse Voltage (V), I _R =100µA | Max. | 5 | 5 | 5 | 5 | 4 |

¹ is the off axis angle at which the luminous intensity is half the axial luminous intensity

**3mm Discrete LED
Integral Resistor, 5V
Diffused**

Dialight

521-9215, -9322, -9323



| PART NO. | COLOR |
|----------|--------|
| 521-9215 | Red |
| 521-9322 | Yellow |
| 521-9323 | Green |

MOUNTING CLIP: 515-0006
located on page 4-65

| ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$) | Red | Yellow | Green |
|--|--|--------------|--------------|
| | -9215 | -9322 | -9323 |
| Forward Voltage (V) | 7.5 | 7.5 | 7.5 |
| Derating ($V/^\circ\text{C}$) From 50°C | .086 | .086 | .071 |
| Operating Temperature ($^\circ\text{C}$) | -40/+85 | -40/+85 | -20/+85 |
| 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

| OPERATING CHARACTERISTICS ($T_A=25^\circ\text{C}$) | | Red | Yellow | Green |
|---|---------|--------------|--------------|--------------|
| | | -9215 | -9322 | -9323 |
| Luminous Intensity (mcd) | Min. | 8.7 | 3.7 | 5.6 |
| | Typical | 29 | 12.6 | 19 |
| Peak Wavelength (nm) | Typical | 635 | 585 | 565 |
| Viewing Angle ($2\theta_{1/2}$) | Typical | 60 $^\circ$ | 60 $^\circ$ | 60 $^\circ$ |
| Forward Current (mA) | Typical | 10 | 10 | 10 |
| | Max. | 20 | 20 | 20 |
| 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

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3mm Discrete LED
Low Current
Diffused

Dialight

521-9324, -9325, -9326



| <u>PART NO.</u> | <u>COLOR</u> |
|-----------------|--------------|
| 521-9324 | Red |
| 521-9325 | Yellow |
| 521-9326 | Green |

MOUNTING CLIP: 515-0006
 located on page 4-65

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

| | Red -9324 | Yellow -9325 | Green -9326 |
|---|--|------------------------|-----------------------|
| Power Dissipation (mW) | 20 | 20 | 20 |
| Forward Current (mA) | 7 | 7 | 7 |
| Derating (mA/ $^\circ\text{C}$) From 90 $^\circ\text{C}$ | .7 | .7 | .7 |
| Peak Current (mA) Pulse width = 10 μs | 500 | 500 | 500 |
| 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

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

| | | Red -9324 | Yellow -9325 | Green -9326 |
|--|---------|---------------------|------------------------|-----------------------|
| Luminous Intensity (mcd) $I_F=2\text{mA}$ | Min. | 1 | 1 | 1 |
| | Typical | 1.6 | 1.6 | 1.6 |
| Peak Wavelength (nm) λ Peak | Typical | 635 | 585 | 565 |
| Viewing Angle (2θ $^\circ$) | Typical | 60 $^\circ$ | 60 $^\circ$ | 60 $^\circ$ |
| Forward Voltage (V) $I_F=2\text{mA}$ | Typical | 1.7 | 1.8 | 1.9 |
| | Max. | 2.2 | 2.7 | 2.2 |
| Reverse Voltage (V), $I_R=50\mu\text{A}$ | Min. | 5 | 5 | 5 |

θ is the off axis angle at which the luminous intensity is half the axial luminous intensity

3mm Discrete LED
Bi-Color
Non-Tinted, Diffused



521-9478, -9628, -9768



| <u>PART NO.</u> | <u>COLOR</u> |
|-----------------|--------------|
| 521-9478 | Yellow/Green |
| 521-9628 | Red/Green |
| 521-9768 | Red/Yellow |

MOUNTING CLIP: 515-0006
 located on page 4-65

| ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$) | Yellow/Green -9478 | Red/Green -9628 | Red/Yellow -9768 |
|--|-------------------------------------|---------------------------|-----------------------------------|
| Power Dissipation (mW) | 60/100 | 140/100 | 100/60 |
| Forward Current (mA) | 20/30 | 40/30 | 30/20 |
| Derating (mA/°C) From 25°C From 50°C | .25 ¹ /.40 ¹ | .5/.4 | .4 ¹ /.25 ¹ |
| Peak Current (mA) Pulse width = 10µs | 80/120 | 200/120 | 120/80 |
| Operating Temperature (°C) | -55/+100 | -55/+100 | -55/+100 |
| Storage Temperature (°C) | -55/+100 | -55/+100 | -55/+100 |
| Soldering Temperature | 260°C, 5 seconds, 1.66 mm from case | | |

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

| OPERATING CHARACTERISTICS ($T_A=25^\circ\text{C}$) | | Yellow/Green -9478 | Red/Green -9628 | Red/Yellow -9768 |
|---|---------|------------------------------|---------------------------|----------------------------|
| Luminous Intensity (mcd) | Min. | 2.5/2.5 | 3.7*/1.1* | 1.7*/1.7* |
| | Typical | 4.3/6.3 | 12.6*/3.7* | 5.6*/5.6* |
| | | | | |
| Peak Wavelength (nm) | Typical | 585/565 | 660/565 | 630/585 |
| | | | | |
| Viewing Angle (2θ °) | Typical | 80° | 200° | 80° |
| Forward Voltage (V) | Typical | 2.1/2.1 | 1.8/2.1 | 2/2.1 |
| | Max. | 2.8/2.8 | 2.4/2.8 | 2.8/2.8 |
| Reverse Voltage (V) $I_R=100\text{ua}$ | Min. | 5 | 5 | 5 |

° is the off axis angle at which the luminous intensity is half the axial luminous intensity

**3mm Discrete LED
Bi-Color
Non-Tinted, Diffused**

Dialight

521-9459



PART NO. 521-9459
COLOR Red/Green

MOUNTING CLIP: 515-0006
located on page 4-65

4

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

Red/Green
-9459

| | |
|--|------------------------------------|
| Power Dissipation (mW) | 140 |
| Forward Current (mA) | 45 |
| Derating (mA/°C) From 25°C | .6 |
| Peak Current (mA) <i>Pulse width = 10µs</i> | 1000 |
| Operating Temperature (°C) | -55/+100 |
| Storage Temperature (°C) | -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
-9459

| | | |
|---|-----------------|-------------------|
| Luminous Intensity (mcd) $I_F=10\text{mA}$ | Min. Typical | 2.5/3.7 4.7/10 |
| Peak Wavelength (nm) λ Peak | Typical | 635/565 |
| Viewing Angle ($2\theta_{1/2}$) | Typical | 50° |
| Forward Voltage (V) $I_F=10\text{mA}$ | Typical Max. | 2/2.1 2.8/2.8 |

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



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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