

3mm

# LED CBI® Circuit Board Indicator (DIN 41494 Compatible)



## 551-xx01



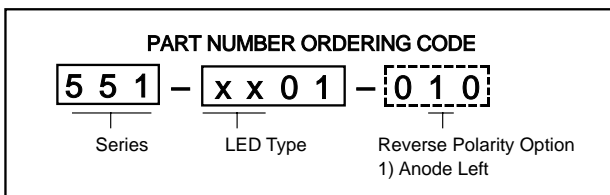
Standard Polarity shown in drawing: Anode right

### 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 <sup>3</sup>
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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**Dialight**



# 3mm Discrete LED Tinted, Diffused



## 521-9831



**PART NO.** 521-9831  
**COLOR** Blue<sup>3</sup>

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



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
SENSITIVE  
DEVICES

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

Blue  
-9831

Luminous Intensity (mcd)	Min.	6.3
I <sub>F</sub> =10mA	Typical	12
Peak Wavelength (nm)	Typical	428
λ Peak		
Viewing Angle (2Θ <sub>1/2</sub> )	Typical	70°
Forward Voltage (V)	Typical	3.5
I <sub>F</sub> =10mA	Max.	4.2
Reverse Voltage (V) IR=10μA	Min.	3

Θ<sub>1/2</sub> 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

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A=25^\circ\text{C}$ )	Green <b>-9210</b>	Yellow <b>-9211</b>	Red <b>-9216</b>	Orange <b>-9498</b>	Red <b>-9636</b>
Power Dissipation (mW)	100	60	100	135	100
Forward Current (mA)	30	20	30	25	40
Derating (mA/°C) From 50°C <sup>1</sup> from 25°C	.4	.25	.4	.5	.5 <sup>1</sup>
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

<b>OPERATING CHARACTERISTICS</b> ( $T_A=25^\circ\text{C}$ )		Green <b>-9210</b>	Yellow <b>-9211</b>	Red <b>-9216</b>	Orange <b>-9498</b>	Red <b>-9636</b>
Luminous Intensity (mcd)	Min.	4.7	7.4	7.4	3.4	8.7 <sup>1</sup>
	Typical	12.6	10	10	7	48 <sup>1</sup>
Peak Wavelength (nm)	Typical	565	585	635	600	660
Viewing Angle ( $2\theta$ °)	Typical	60°	60°	60°	60°	60°
Forward Voltage (V)	Typical	2.1 <sup>1</sup>	2.1 <sup>1</sup>	2 <sup>1</sup>	2.2	1.8 <sup>1</sup>
	Max.	2.8 <sup>1</sup>	2.8 <sup>1</sup>	2.8 <sup>1</sup>	3	2.4 <sup>1</sup>
Reverse Voltage (V), $I_R=100\mu\text{A}$	Max.	5	5	5	5	4

<sup>1</sup>  $\theta$  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

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A=25^\circ\text{C}$ )	Red	Yellow	Green
	<b>-9215</b>	<b>-9322</b>	<b>-9323</b>
Forward Voltage (V)	7.5	7.5	7.5
Derating ( $V/^\circ\text{C}$ ) From $50^\circ\text{C}$	.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

<b>OPERATING CHARACTERISTICS</b> ( $T_A=25^\circ\text{C}$ )		Red	Yellow	Green
		<b>-9215</b>	<b>-9322</b>	<b>-9323</b>
Luminous Intensity (mcd)	Min.	8.7	3.7	5.6
	Typical	29	12.6	19
Peak Wavelength (nm)	Typical	635	585	565
$\lambda$ Peak				
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



### PART NO. COLOR

521-9324	Red
521-9325	Yellow
521-9326	Green

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

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

	Red -9324	Yellow -9325	Green -9326
Power Dissipation (mW)	20	20	20
Forward Current (mA)	7	7	7
Derating (mA/°C) From 90°C	.7	.7	.7
Peak Current (mA) 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 (T<sub>A</sub>=25°C)

		Red -9324	Yellow -9325	Green -9326
Luminous Intensity (mcd) I <sub>F</sub> =2mA	Min.	1	1	1
	Typical	1.6	1.6	1.6
Peak Wavelength (nm) λ Peak	Typical	635	585	565
Viewing Angle (2Θ °)	Typical	60°	60°	60°
Forward Voltage (V) I <sub>F</sub> =2mA	Typical	1.7	1.8	1.9
	Max.	2.2	2.7	2.2
Reverse Voltage (V), I <sub>R</sub> =50μA	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



PART NO.	COLOR
521-9478	Yellow/Green
521-9628	Red/Green
521-9768	Red/Yellow

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

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A=25^\circ\text{C}$ )	Yellow/Green <b>-9478</b>	Red/Green <b>-9628</b>	Red/Yellow <b>-9768</b>
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 <sup>1</sup> /.40 <sup>1</sup>	.5/.4	.4 <sup>1</sup> /.25 <sup>1</sup>
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

<b>OPERATING CHARACTERISTICS</b> ( $T_A=25^\circ\text{C}$ )		Yellow/Green <b>-9478</b>	Red/Green <b>-9628</b>	Red/Yellow <b>-9768</b>
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
$\lambda$ Peak				
Viewing Angle ( $2\theta$ °)	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

$\theta$  ° 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

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

Red/Green  
**-9459**

Power Dissipation (mW)	140
Forward Current (mA)	45
Derating (mA/°C) From 25°C	.6
Peak Current (mA) Pulse width = 10µs	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<sub>A</sub>=25°C)

Red/Green  
**-9459**

Luminous Intensity (mcd) I <sub>F</sub> =10mA	Min. Typical	2.5/3.7 4.7/10
Peak Wavelength (nm) λ Peak	Typical	635/565
Viewing Angle (2θ <sub>1/2</sub> )	Typical	50°
Forward Voltage (V) I <sub>F</sub> =10mA	Typical Max.	2/2.1 2.8/2.8

θ<sub>1/2</sub> 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;
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- 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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