

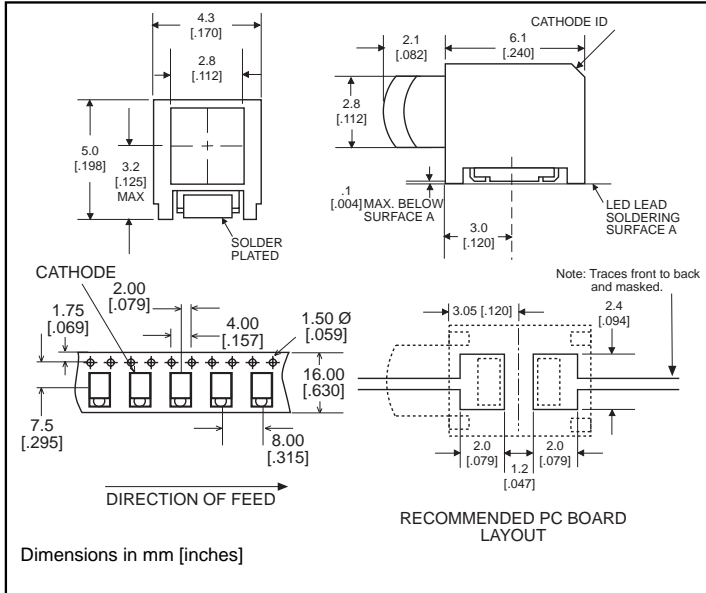
3mm

# Prism® CBI® Circuit Board Indicator Surface Mount LED, Square Lens

# Dialight

591-2001-1xx  
591-2301-1xx  
591-3401-1xx

1



## Part Number\*

## Type

591-2001-1xx	High Efficiency Red
591-2301-1xx	High Performance Green
591-2401-1xx	High Performance Yellow

## Features

- 3mm square lens provides large viewing area.
- Unique patented low part count design.
- Helps to eliminate mixed technology PC boards.
- Compatible with automatic placement equipment.
- Housing material meets UL94V-0 flammability rating.
- Lens material meets UL94-HB flammability rating.
- Compatible with infrared and vapor phase solder processes.
- Black housing enhances contrast ratio.
- Packaged on 16mm tape, 7" or 13" reels per EIA-481-2.
- Uses LEDs designed specifically for surface mounting.

U.S. Patent RE 34,254; foreign patents pending

* ORDERING INFORMATION	
<b>591-xx01-1xx</b>	
packaging option	
02	20 pieces on tape
07	7" reel, 400 pcs/reel
13	13" reel, 1600 pcs/reel

**NEW**

**Absolute Maximum Ratings, T<sub>A</sub>=25°C**

Parameter	-2001	-2301	-2401
Color*	20	23	24
Power Dissipation (derate linearly from 25°C mA/°C)	100 mA .4	100 mA .4	60 mA .25
Forward DC Current	30 mA	30 mA	20mA
Peak Forward Current (10µsec)	120 mA	120 mA	80 mA
Operating Temperature	-55°C to +100°C		
Storage Temperature	-55°C to +100°C		
Soldering Temperatures Convection IR Vapor Phase	235° Peak, above 185° for 90 sec., 215°C for 3 Min.		

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

*\*LED colors: 20) High Efficiency Red 23) High Performance Green,*

*24) High Performance Yellow*

U.S. Patent RE 34,254; foreign patents pending.

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

Parameter	Part No.	Color	Min	Typ	Max	Units	Test Cond.
Forward Voltage V <sub>F</sub>	-2001	20		2	2.6	V	I <sub>F</sub> = 10mA
	-2301	23		2	2.6		
	-2401	24		2	2.6		
Reverse Voltage V <sub>R</sub>	-2001	20	5			V	I <sub>R</sub> = 10 µA
	-2301	23	5				
	-2401	24	5				
Dominant Wavelength λ <sub>Dom</sub>	-2001	20		628		nm	
	-2301	23		570			
	-2401	24		590			
Luminous Intensity I <sub>V</sub>	-2001	20		5		mcd	I <sub>F</sub> = 10mA
	-2301	23		4			
	-2401	24		5			
Viewing Angle (2θ <sub>1/2</sub> )	-2001	20		40		deg.	
	-2301	23		40			
	-2401	24		40			

*θ<sub>1/2</sub> is the off axis angle at which the luminous intensity is half the axial luminous intensity*

*\*LED colors: 20) High Efficiency Red 23) High Performance Green,*

*24) High Performance Yellow*



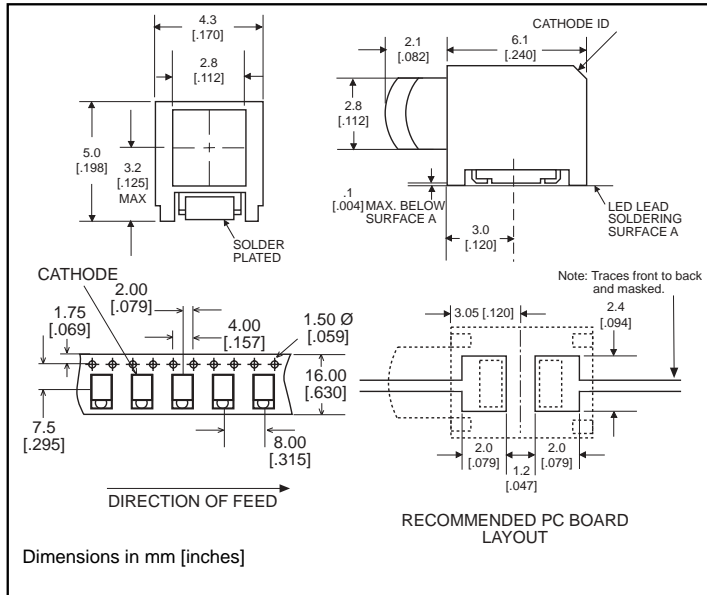
3mm

**Prism® CBI® Circuit Board Indicator**  
**Surface Mount LED, High Intensity, Square Lens**



591-2101-1xx  
 591-2201-1xx  
 591-2701-1xx

**1**



**Part Number\***

591-2101-1xx  
 591-2201-1xx  
 591-2701-1xx

**Type**

AlGaAs Red  
 High Intensity Green  
 AlInGaP Yellow



**Features**

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- Uses LEDs designed specifically for surface mounting.

U.S. Patent RE 34,254; foreign patents pending

<b>* ORDERING INFORMATION</b>	
<b>591-2x01-1xx</b>	
packaging option	
02	20 pieces on tape
07	7" reel, 400 pcs/reel
13	13" reel, 1600 pcs/reel



**Absolute Maximum Ratings,  $T_A=25^\circ\text{C}$**

Parameter	-2101	-2201	-2701
Color*	21	22	27
Power Dissipation (derate linearly from $25^\circ\text{C}$ mA $^\circ\text{C}$ )	100mA .8	100mA .6	100mA .6
Forward DC Current	40mW	30mW	50mW
Peak Forward Current (10 $\mu$ sec)	200mW	120mW	160mW
Operating Temperature	-55 $^\circ\text{C}$ to +100 $^\circ\text{C}$		
Storage Temperature	-55 $^\circ\text{C}$ to +100 $^\circ\text{C}$		
Soldering Temperatures Convection IR Vapor Phase	235 $^\circ$ Peak, above 185 $^\circ$ for 90 sec., 215 $^\circ\text{C}$ for 3 Min.		

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

\*LED colors: 21) AlGaAs Red 22) High Intensity Green, 27) AlInGaPYellow

U.S. Patent RE 34,254; foreign patents pending.

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

Parameter	Part No.	Color*	Min	Typ	Max	Units	Test Cond.
Forward Voltage $V_F$	-2101	21		1.8	2.4	V	$I_F = 20\text{mA}$
	-2201	22		2.1	2.6		
	-2701	27		2	2.4		
Reverse Voltage $V_R$	-2101	21	5			V	$I_F = 10\text{mA}$
	-2201	22	5				
	-2701	27	5				
Dominant Wavelength $\lambda_{\text{Dom}}$	-2101	21		638		nm	
	-2201	22		569			
	-2701	27		595			
Luminous Intensity $I_V$	-2101	21		23.9		mcd	$I_F = 10\text{mA}$
	-2201	22		9.1			
	-2701	27		33.6			
Viewing Angle ( $2\Theta_{1/2}$ )	-2101	21		40		deg.	
	-2201	22		40			
	-2701	27		40			

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

\*LED colors: 21) AlGaAs Red 22) High Intensity Green, 27) AlInGaPYellow

