



# SURFACE-MOUNT LEDs

Lighting the World

PRODUCT OVERVIEW



[www.vishay.com](http://www.vishay.com)

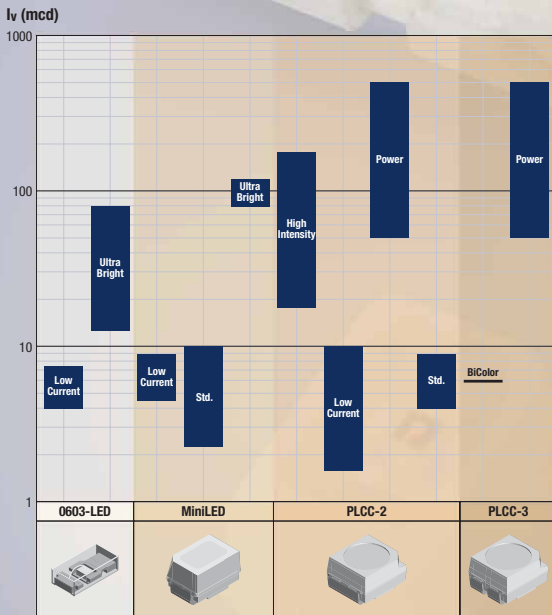
# LEDs in Surface-Mount Packages

## Introduction

Vishay offers LEDs in a variety of surface-mount package types. Standard and power LEDs are offered in packages with standard PLCC-2 dimensions. Our Mini-LED products feature a small white surface-mount package measuring just 2.3 mm (L) by 1.3 mm (W) by 1.4 mm (H) with a viewing angle of 120°. The new 0603-LED series with industry-standard, 0603-compatible dimensions of 1.6 mm (L) x 0.8 mm (W) x

0.6 mm (H), and a viewing angle of 160°, is now the smallest surface-mount LED in the Vishay product portfolio. Vishay LEDs are ideal for applications including instruments, switches, and icon backlighting. Designed for operation with an extended -40°C to +100°C temperature range, these surface-mount devices additionally provide the high level of reliability that is crucial for automotive applications.

## Product Overview



## Key Applications

- Dashboard Illumination
- Car Radio Labels
- Switch Markers
- Message Panels
- Indoor Displays
- Sign Backlighting
- Mobile Phones
- Keypad Illumination
- Miniaturized Color Effects

## Features

- Choice of Colors
- Exceptional Brightness
- Luminous Intensity Categorized
- High-Reliability Lead-frame-Based
- Specified for Vapor Phase and Wave
- Solder Process according to CECC
- Tape and Reel in 8-mm Film

## Product Table

### 0603-LED, Low Current

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMS1000	80	Red	624-636	4 (>1.6)
TLMO1000	80	Orange	598-610	7.5 (>3.2)
TLMY1000	80	Yellow	581-594	7.5 (>3.2)

### 0603-LED, Ultra Bright

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMS1100	80	Red	627-639	63 (>32)
TLMO1100	80	Orange	600-609	80 (>50)
TLMY1100	80	Yellow	580-595	80 (>50)
TLMG1100	80	Green	564-576	35 (>12.5)
TLMG1100	80	Pure Green	555-565	15 (>6.3)
TLMB1100	80	Blue	466	12.5 (>4)

### MiniLED, Low Current

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMS2000	60	Red	630	4.5 (>2)
TLMO2000	60	Soft Orange	598-611	9.0 (>4)
TLMY2000	60	Yellow	581-594	7.1 (>3.2)

### MiniLED, Standard

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMS2100	60	Red	624-636	7.5 (>2.5)
TLMO2100	60	Soft Orange	598-611	7.5 (>3.2)
TLMY2100	60	Yellow	581-594	7.5 (>3.2)
TLMG2100	60	Green	562-575	10 (>6.3)
TLMG2100	60	Pure Green	555-565	2.2 (>1.0)
TLMB2100	60	Blue	465	7.0 (>4.0)

### MiniLED, Ultra Bright

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMK2300	60	Red	630	80 (>32)
TLMF2300	60	Soft Orange	598-611	120 (>50)
TLMY2300	60	Yellow	581-594	120 (>50)

### PLCC-2, High Intensity

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMB3140	60	Blue	462-476	40 (>20)
TLMG3100	60	Blue Green	496-514	130 (>66)
TLMG3100	60	True Green	515-541	180 (>80)
TLMG3100	60	Red	648	20 (>10)
TLMG3100	60	Yellow	581-594	50 (>25)
TLMF3100	60	Soft Orange	598-611	50 (>25)
TLMK3100	60	Red	630	18 (>10)
TLMW3100	60	White	5500 K*	140 (>80)

### PLCC-2, Low Current

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMG3000	60	Red	624-636	6 (>2.5)
TLMG3000	60	Soft Orange	600-609	10 (>5.0)
TLMY3000	60	Yellow	581-594	8 (>4.0)
TLMG3100	60	Yellow	581-594	2.5 (>0.25)
TLMC3100	60	Green	563-575	1.6 (>0.63)
TLMT3100	60	Red	612-625	2.5 (>0.25)

### PLCC-2, Power

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMG3300	60	Pure Green	555-567	50 (>25)
TLMY3300	60	Yellow Green	566-577	130 (>63)
TLMK3300	60	Red	611-622	500 (>200)
TLMG3300	60	Red	626-638	300 (>160)
TLMG3300	60	Soft Orange	600-611	500 (>200)
TLMY3300	60	Yellow	583-594	450 (>200)
TLMW3300	60	White	5500 K*	500 (>250)

### PLCC-2, Standard

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMH3100	60	Red	612-625	6.0 (>2.5)
TLMO3100	60	Soft Orange	598-611	8.0 (>2.5)
TLMY3100	60	Yellow	581-594	6.0 (>2.5)
TLMG3100	60	Green	562-575	9.0 (>4.0)
TLMF3100	60	Pure Green	555-565	4.0 (>1.0)
TLMB3100	60	Blue	466	8.0 (>4.0)
TLMG3100	60	Red	624-636	7.5 (>2.5)

### PLCC-3, Bi-Color

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMV3100	60	Green/Red	565/635	6 (>2.5)

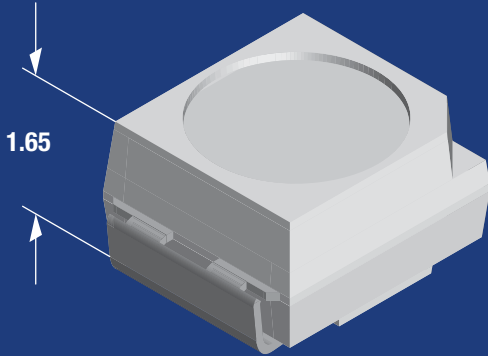
### PLCC-3, Power

Part Number	Angle (± deg)	Color	Dominant Wavelength (nm)	Iv (mcd) @ If (mA)
TLMG3200	60	Pure Green	555-567	50 (>25)
TLMY3200	60	Yellow Green	566-577	130 (>63)
TLMK3200	60	Red	611-622	500 (>200)
TLMG3200	60	Red	626-638	300 (>160)
TLMO3200	60	Soft Orange	600-611	500 (>200)
TLMY3200	60	Yellow	583-594	450 (>200)

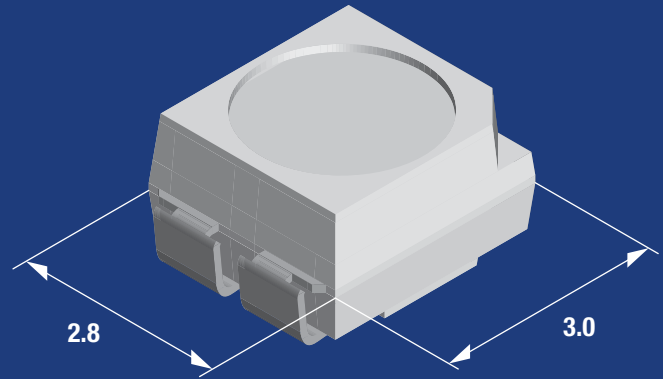
\* Color Temperature

# Dimensions

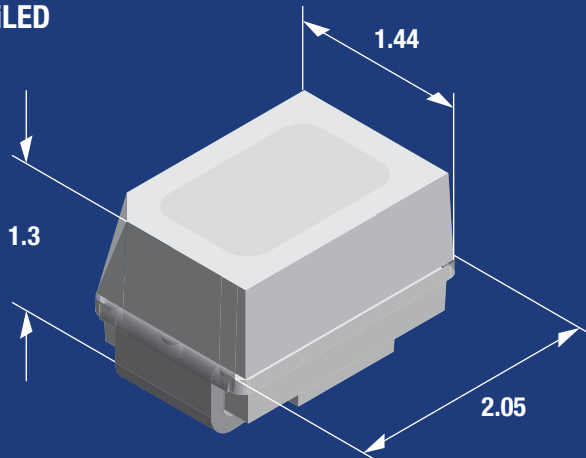
PLCC-2



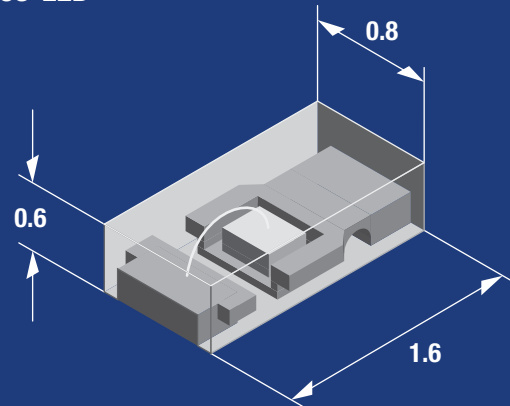
PLCC-3



MiniLED



0603-LED



For further technical information, please contact: [leds@vishay.com](mailto:leds@vishay.com) or visit our web site: [www.vishay.com](http://www.vishay.com)

## WORLDWIDE SALES CONTACTS



### THE AMERICAS

VISHAY AMERICAS  
UNITED STATES  
PH: +1-402-563-6866  
FAX: +1-402-563-6296

### ASIA

VISHAY INTERTECHNOLOGY ASIA PTE LTD.  
SINGAPORE  
PH: +65-6788-6668  
FAX: +65-6788-0988

### JAPAN

VISHAY JAPAN CO LTD.  
JAPAN  
PH: +81-3-5464-6411  
FAX: +81-3-5464-6433

### EUROPE

VISHAY ELECTRONIC GmbH  
GERMANY  
PH: +49-9287-71-0  
FAX: +49-9287-70435

### VISHAY S.A.

FRANCE  
PH: +33-1-39-98-22-00  
FAX: +33-1-39-98-22-05

### VISHAY LTD.

GREAT BRITAIN  
PH: +44-191-514-4155  
FAX: +44-191-567-8262