



# Medical Applications

Medical Monitor



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When seconds count, there's no room for error in the ER, operating room or patient's bedside. Blood oxygen levels. Heart rate. Drug dosage. Medical monitoring devices have a responsibility much greater than simply communicating an output – like saving lives.

These machines must perform flawlessly in high-pressure, high-stakes environments where vibration and exposure to blood and cleaning chemicals are all part of the job. And some devices, like defibrillators, will be used by non-medical operators, making clear and intuitive indication more crucial than ever.

Our line of illuminated components delivers the reliability needed for any medical monitoring application – from a wide range of lenses, viewing angles and voltage options to the industry's smallest capacitive touch sensor display and thinnest seven-segment display.

These products do more than offer opportunities for sleek design. They provide solutions that enable life-saving treatment, helping doctors and nurses administer the highest level of care. That's because the highest level of care goes into creating them.

Whether a custom or standard solution is required, VCC delivers the quality, innovation and efficiency to enhance the human-machine interaction without hampering profitability.



## Applications

- Blood analyzers
- Defibrillators
- Diagnostic equipment
- Heart rate monitors
- Pulse oximeters
- Vital sign monitors

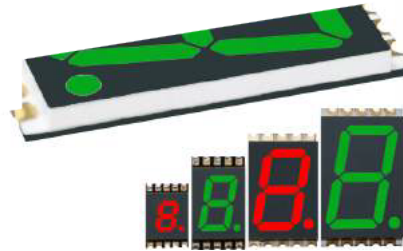
## DSM7T Series



### Thin 7 Segment SMD LED Display

- 1-digit seven segment SMD LED numeric display
- Available in 3 different digits heights 0.28", 0.39", 0.56"
- High light output and excellent character appearance
- Side by side mounting allows space saving
- Available in 3 different colors: blue, red and pure green
- Low power consumption
- Top mount and reverse mounting
- Low current
- Tape and reel package for automated SMD placement
- RoHS compliant

## DSM7U Series



### Ultra Thin 7 Segment SMD LED Display

- Ultra thin 7 segment SMD numeric LED display
- 4 different digits heights: 0.20", 0.30", 0.56", 0.70"
- Colors: red and pure green
- Top-mount or reverse mounting
- Reduce overall thickness of PCB
- Lower power consumption
- High light output
- Technically and mechanically rugged
- Quality tested with the highest industry standard
- Tape and reel package for automated SMD placement
- Exclusive patented technology
- RoHS compliant

## LFB Series



### 3mm Press Fit Light Pipe

- Diffused rigid light pipe
- Low profile press fit diffused light pipe
- Crushable ribs simplifies installation
- Uniform brightness
- Frosted surface provides a soft glow
- 120° viewing angle
- Works with through hole and SMD LEDs
- Fits 0.12" (3mm) panel mounting hole
- Enables flush panel design opportunities
- Available lengths from 0.125" to 1.000"
- Clear polycarbonate UL 94-V0
- Vibration resistant with optional retainer ring
- RoHS compliant

## LFC Series



### 5mm Press Fit Light Pipe

- Diffused rigid light pipe
- Low profile press fit diffused light pipe
- Crushable ribs simplifies installation
- Uniform brightness
- Frosted surface provides a soft glow
- 120° viewing angle
- Works with through hole and SMD LEDs
- Fits 0.16" (4mm) panel mounting hole
- Enables flush panel design opportunities
- Available lengths from 0.125" to 1.000"
- Clear polycarbonate UL 94-V0
- Vibration resistant with optional retainer ring
- RoHS compliant

## LPC Series



### 4.3mm Low Profile Light Pipe

- Low profile fresnel light pipe
- Rigid light pipe
- Uniform brightness
- Fresnel lens provides excellent light focus
- Unique near flush design
- Light pipe is secured to the display panel
- Works with through hole and SMD LEDs
- Fits 0.17" (4.3mm) panel mounting hole
- 160° viewing angle
- Available lengths from 0.200" to 2.000"
- Clear acrylic optical grade UL 94-HB
- Vibration resistant with retainer ring
- RoHS compliant

## LPCR Series

### 4.3 mm Fresnel Press Fit Light Pipe

- Low profile fresnel light pipe
- Crushable ribs simplify installation
- Light pipe is secured to the display panel
- Unique near flush design
- Fresnel lens provides excellent light focus
- Rigid light pipe
- 160° viewing angle
- Works with through hole and SMD LEDs
- Fits 0.17" (4.3 mm) panel mounting hole
- Available lengths from 0.125" to 1.000"
- Clear polycarbonate UL 94-V0
- Vibration resistant with optional retainer ring
- RoHS compliant

## 3mm LED (built-in resistor)



### 3mm Through-Hole LED

- 3mm (T-1) LED
- LED with built-in resistor for 12V DC
- High intensity light output
- Flange lead frame style, ideal for status indication
- Enables easy design, and space saving benefit
- Dome top with a water clear lens
- Single color: red, green, white, blue, yellow
- Offers superior light output for excellent readability in sunlight
- Can be connected to 12V power supply without additional components
- Simplifies design and manufacturability
- RoHS compliant

## 5mm LED (built-in resistor)



### 5mm Through-Hole LED

- 5mm (T-1 3/4) LED
- LED with built-in resistor for 12V DC
- High intensity light output
- Flange lead frame style, ideal for status indication
- Enables easy design, and space saving benefit
- Dome top with a water clear lens
- Single color: red, green, white, blue, yellow
- Offers superior light output for excellent readability in sunlight
- Can be connected to 12V power supply without additional components
- Simplifies design and manufacturability
- RoHS compliant

## 10mm LED



### 10mm Through-Hole LED

- 10mm (T-3 1/4) through hole LED
- High intensity light output
- Low power consumption
- Round with domed top
- 30 degree viewing angle
- Water transparent lens
- InGaN/Sapphire Material Technology
- RoHS compliant

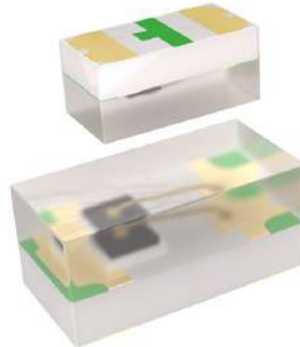
## 0603 LED



### 0603 SMD LED

- 0603 package size
- 1.6 mm x 0.8 mm x 0.55mm package size
- Low current, low profile SMD LED package
- Exceptional illumination
- Wide viewing angle (110°-120°)
- Rectangle flat top LED
- Single color: red, white, green, blue and yellow
- AlGaInP and GaInP technology
- Optimized light coupling by inter reflector
- Package: 4,000pcs / reel
- Compatible with automatic placement equipment
- RoHS compliant

## 0402 LED



### 0402 SMD LED

- 0402 package size
- 1.0 mm x 0.5 mm x 0.45mm package size
- Surface mount LED
- High reliability PCB based
- Water clear lens
- Offered in various colors
- InGaN technology
- Ideal for backlight and indicator light
- Wide viewing angle
- Compatible with automatic placement equipment
- RoHS compliant

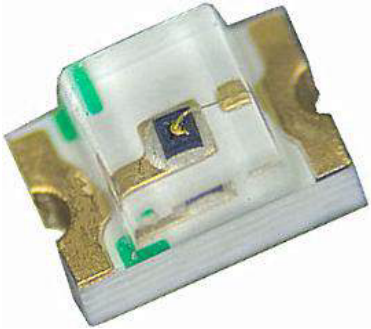
## PLCC2 LED



### PLCC2 SMD LED

- PLCC2 package size
- 2.7 mm x 3.1 mm x 1.9mm package size
- Clear non-diffused lens
- 120 degree viewing angle
- Offered in various colors
- Ideal for backlight and indicator light
- AlGaInP technology
- Compatible with automatic placement equipment
- RoHS compliant

## 0805 LED



### 0805 SMD LED

- 0805 package size
- 1.25 mm x 2.0 mm x 1.1mm package size
- Clear non-diffused lens
- Offered in various colors
- 140 degree viewing angle
- Ideal for backlight and indicator light
- AlGaInP technology
- Compatible with automatic placement equipment
- RoHS compliant

## 1206 LED



### 1206 SMD LED

- 1206 package size
- 1.5 mm x 3.2 mm x 1.1mm package size
- Water clear lens
- Offered in various colors
- 130 degree viewing angle
- Ideal for backlight and indicator light
- AlGaInP technology
- Compatible with automatic placement equipment
- RoHS compliant

## 1208 LED



### 1208 SMD LED

- 1208 package size
- 3.0 mm x 2.0 mm x 1.3mm package size
- Consistent high brightness
- Designed to permit easy post-reflow solder joint inspection
- 110 degree viewing angle
- Color: amber, red, yellow, green
- Ideal for backlight and indicator light
- AlGaInP technology
- Compatible with automatic placement equipment
- RoHS compliant



VCC is a recognized global leader for illuminated electronic components including aerospace, food service, people movers, transportation, medical, telecom and industrial markets.

Providing custom and standard solutions with superior design engineering expertise, excellent customer service and the broadest product line in the industry VCC proudly exceed user experiences.

From simple to more complex human machine interface systems, VCC excels at designing, testing and manufacturing custom light indication solutions, in less time and on budget.

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