

Selecting the Right LED

A specification checklist for engineers

Whether you need a compact **SMD LED** for a space-constrained PCB or a bright **through-hole** indicator for high-visibility signaling, the right choice balances electrical, optical, mechanical, and packaging factors.

Providing the following parameters enables to identify the best LED for your application. If a standard product doesn't meet your requirements, VCC can develop a custom solution tailored to your design.

#	SPECIFICATION	WHAT TO CAPTURE	WHY IT MATTERS
1	LED type	SMD, through-hole, or display.	Sets the assembly method and footprint family.
2	Voltage & current	Your defined operating points.	Confirms electrical compatibility and drive design.
3	Color / wavelength	Target color or λ D in nm.	Locks the exact indication color across your build.
4	Viewing angle	120° and 140° are the most popular.	Controls how visible the LED is off-axis at the panel.
5	Brightness	High- or low-intensity (mcd).	Matches output to the ambient light of the application.
6	Size	Through-hole 5 mm (T-1 $\frac{3}{4}$) or 3 mm (T-1); SMD L×W / package.	Fits the available board and panel real estate.
7	Custom needs	Night-vision, eye-care, UV, or IR.	Covers specialized optical requirements beyond standard color.
8	Dispensing / packaging	Tape & reel, bulk bag, cut-tape, or custom qty.	Aligns to your assembly line and order volume.

Featured VCC LED series

SpectraBright RGB & BI-COLOR SMD	LSM0606 0603 HIGH-BRIGHTNESS	CMD15 1206 HIGH-BRIGHTNESS
- Multi-status indication in one chip - RGB (3-color) & bi-color in a single device - Packages: 1204, 1201, 0606, 0603 - High- and low-brightness options 120°, 150°, 160° viewing angles - Cost savings vs single-chip parts - RoHS & REACH compliant	- Top-emitting 0603 (1608 metric) package - Smallest-footprint surface-mount LED - Wide viewing angle - Colors: red, green, blue, yellow, white - Cost-efficient for compact, low-power designs - Ideal for automated PCB assembly - RoHS & REACH compliant	- High-brightness 1206 single colors - Tape & reel for high-speed auto insertion - Convection & vapor-phase reflow compatible 140° viewing angle - Colors: red, green, blue, yellow, white 3,000 pcs per reel · MSL rating 2 - RoHS & REACH compliant