

LEDs — Visible Wavelength & Color

How wavelength maps to the color you see

For an indicator, **color is information**. It encodes status and must stay consistent across a panel and an entire product line. In LEDs, that color is set by **wavelength**.

Two specifications describe it: **λP (peak wavelength)** and **λD (dominant wavelength)** – with λD corresponding to the color actually seen by the human eye , which is why it's the value to design around when matching indicators.

Color by dominant wavelength

	COLOR	WAVELENGTH (λD)
	Purple	400 – 435 nm
	Blue	435 – 480 nm
	Blue-green	480 – 500 nm
	Green	500 – 560 nm
	Yellow-green	560 – 580 nm
	Yellow	580 – 595 nm
	Orange	595 – 610 nm
	Red	610 – 760 nm

Specify by λD : Because λD is the color the eye perceives, quoting dominant wavelength (not just a color name) removes ambiguity when matching indicators across a panel or a product line.

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