



DISPLAY TECHNOLOGY – NEW PRODUCT LAUNCH

Display Modules

Our Newest Product Line

AMOLED, PMOLED, TRANSFLECTIVE AND MINI-LED MODULES

QUALIFIED · RESPONSIVE · PROFICIENT · RELIABLE

The Display Lineup at a Glance

Four display technologies. Each engineered for a different use case.

AMOLED

Active-Matrix OLED

Self-emitting pixels with TFT control.

- ◆ 1" – 14" size range
- ◆ Up to 419 PPI
- ◆ <1 ms response · ∞ contrast
- ◆ 103% NTSC color gamut

PMOLED

Passive-Matrix OLED

Simpler row/column scanning, lower cost.

- ◆ Up to ~3" size
- ◆ Monochrome / 2-color
- ◆ Lower resolution (<100 dpi)
- ◆ Budget-friendly status displays

MINI-LED

Mini-LED Backlit LCD

LCD with thousands of tiny LEDs behind it.

- ◆ 3,000 – 20,000+ nits brightness
- ◆ Up to 1,536 dimming zones
- ◆ 1,000,000:1 contrast
- ◆ >50,000 hr lifespan

TRANSFLECTIVE LCD

Reflective + Transmissive Hybrid

Reads ambient light by day, backlight by night.

- ◆ Sunlight readable up to 9,000 nits
- ◆ Backlight off in daylight
- ◆ -20 °C to +70 °C operating range
- ◆ Low power for portable / battery

How AMOLED Works

Self-emitting pixels. No backlight. Each pixel is its own light source.

OLED LAYER STACK

Module under 2 mm — far thinner than LCD.



↑ vs LCD's 6+ layers and ≈ 2 mm thickness

01 SELF-EMITTING PIXELS

Every pixel emits its own light using organic compounds. Black pixels switch off completely — true 0 nits black, infinite contrast ratio.

02 NO BACKLIGHT, NO COLOR FILTER

Eliminates the entire backlight assembly used in LCD. Removes the polarizer + color filter stack. Result: thinner, lighter, more flexible designs.

03 RGB SUBPIXEL ARRANGEMENT

Each pixel = red + green + blue OLED subpixels. Driven individually by TFT array. AOD (Always-On Display) drops to 5 Hz refresh.

By the Numbers

What sets AMOLED apart from any backlit LCD on key technical metrics.

<2mm

ULTRA-THIN

No backlight required —
full module under 2 mm thick.

103%

NTSC GAMUT

Vivid colors exceed broadcast standard;
blacks are truly off.

μs

RESPONSE TIME

Microsecond-level pixel switching —
no motion blur, no ghosting.

170°

VIEWING ANGLE

Color and brightness consistent across
wide angles — automotive, HMI, retail.



Three Sizes. Every Form Factor.

From 0.95" smartwatch faces to 14" tablets — same self-emitting technology, scaled up.

01 / SMALL

≤ 2.4"



WEARABLES

- 0.95" – 2.40" · up to 352 PPI
- Square + circular panels
- Round 1.04" – 1.43" / 466×466
- Smartwatches & fitness bands

02 / MEDIUM

3 – 7"



MOBILE & IN-VEHICLE

- 3.92" – 7.0" · up to 419 PPI
- 1080×2400 mainstream resolution
- Smartphones & small tablets
- Automotive center consoles

03 / LARGE

8 – 14"



TABLET & PORTABLE

- 9.06" – 14" · up to 313 PPI
- Up to 2880×1880 resolution
- Tablets & laptop secondary screens
- Portable / external monitors

Where AMOLED Goes

Premium visual quality in a thin, low-power package.



SMARTPHONES

Premium handsets — vivid HDR content, deep blacks for OLED-optimized UIs.



WEARABLES

Round and square smartwatch faces. Always-on display at <5% normal power.



AUTOMOTIVE

Instrument clusters, infotainment, HUDs. Wide -40 °C to 85 °C range.



TABLETS & PORTABLES

9 – 14" panels for tablets, laptop secondary screens, portable monitors.

The Simple, Low-Cost OLED

Same self-emitting OLED tech, simpler driving — perfect for monochrome or 2-color status displays.

ATTRIBUTE	AMOLED	PMOLED
Driving	Active matrix · TFT per pixel	Passive matrix · row/col scan
Resolution	High · full HD & beyond	Lower · typically <100 dpi
Color	Full RGB · vibrant	Monochrome or 2-color
Best size	1" → 14"	Up to ~3"
Power	Higher (full color RGB drive)	Lower (simpler scan)
Cost	Higher · premium positioning	Lower · budget-friendly
Use it for	Phones, watches, automotive, tablets	Status panels, white goods, simple UIs

WHERE PMOLED FITS → Status panels · Smart-home appliances · Wearable medical · Audio gear · Industrial controls

Where PMOLED Fits

Small, simple, sharp — anywhere a customer needs a low-cost status display that looks crisp.



WEARABLES & FITNESS

Compact bands, secondary smartwatch displays, sport trackers — small monochrome OLEDs that stay readable in any light.



SMART-HOME APPLIANCES

Thermostats, washing machines, ovens, smart switches — clean status readouts that scan well at a glance.



AUDIO GEAR

DJ controllers, mixing consoles, headphone DACs, in-ear amps — small high-contrast displays for level meters and menus.



MEDICAL DEVICES

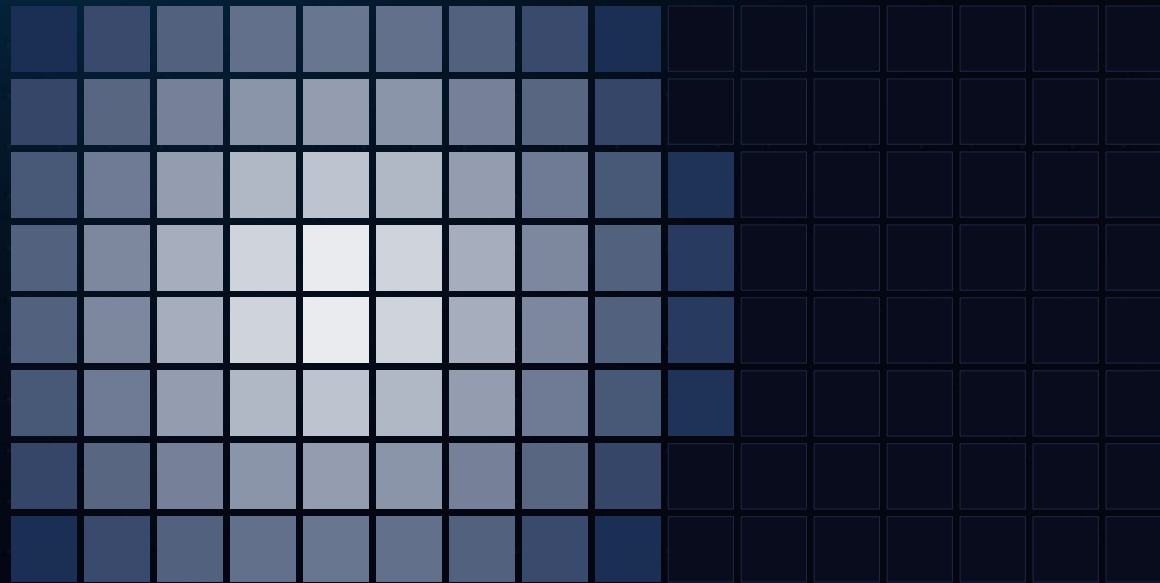
Blood pressure monitors, glucose meters, pulse oximeters — clear numerics with low power for battery-driven devices.

How Mini-LED Works

An LCD with thousands of tiny LEDs behind it — the most precise backlight ever shipped.

FALD • FULL-ARRAY LOCAL DIMMING

Each zone independently dimmed.



Up to 1,536 zones • 4,096 brightness levels per zone • ∞ : 1 contrast

LCD + Mini-LED Backlight

Mini-LEDs are placed on a PCB behind the LCD panel — typically 1–16 LEDs per zone, depending on panel size.

PWM Dimming Control

Each zone driven by PWM at typical refresh — partially illuminated most of the time, which keeps power and heat low.

Stacked or Daisy-Chained

One IC drives up to 384 zones; up to 4 boards can be daisy-chained for very large panels (1,536 zones total).

Same Interfaces as LCD

HDMI / LVDS / eDP. Drop-in replacement for existing LCD designs — no host-side software changes required.

Sunlight-Readable, Anywhere.

3,000 – 20,000+ nits — the workhorse for outdoor, automotive, and industrial display.

BRIGHTNESS LADDER

in plain English



FOR REFERENCE / iPhone OLED peak: ~2,000 nits → Mini-LED: 3,000 – 20,000+ nits



MARINE / YACHT



EV CHARGING



GAS PUMPS



OUTDOOR KIOSKS

The Outdoor Battery-Saver

Reflective + transmissive in one panel. Uses ambient light by day, backlight by night.

HOW IT WORKS

Best of both display worlds.

Transmissive (traditional LCD): backlight pushes through the panel — beautiful indoors, washes out in sun.

Reflective (e-ink-style): ambient light reflects off a back layer — perfect outdoors, useless in the dark.

Transflective = both. A semi-reflective layer sits behind the LCD so the panel reflects sunlight and transmits backlight. The brighter the ambient, the less backlight you need.

KEY ADVANTAGES

Up to 9,000 nits · Backlight off in daylight · -20 °C to +70 °C · 3-Wire SPI / RGB / MIPI



AVIATION & MILITARY



OUTDOOR HANDHELDS / GPS



OUTDOOR / SPORT WATCHES



MARINE INSTRUMENTS

THE END

Thank you.

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