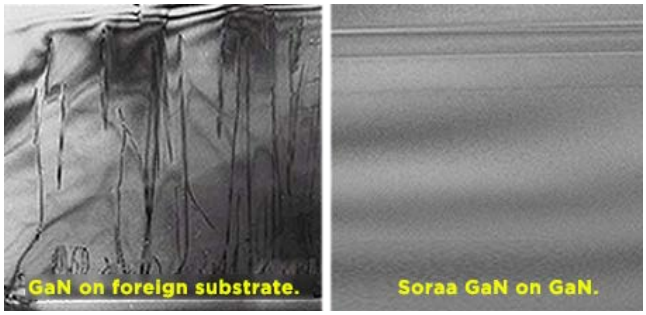
TECHNOLOGY

GAN ON GAN

GAN ON GAN

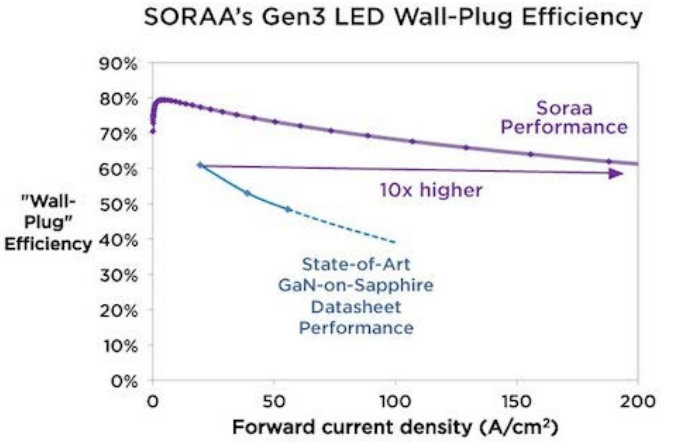


SIMPLY PERFECT CRYSTALS

The main advantage of Soraa's GaN on GaN (Gallium Nitride on Gallium Nitride) LED material is that it allows reliable operation at very high current densities. With a 1000x fewer defects than conventional LEDs (which build GaN layers on cheaper foreign substrates like sapphire, silicon carbide, or silicon) Soraa's LED has a near-perfect crystal structure. This enables Soraa LEDs to emit more than 5x more light per unit area of LED material than conventional LEDs. GaN on GaN's optical transparency and high thermal and electrical conductivity also enable a very robust, simple LED design that delivers maximum light output and performance.

RECORD-SETTING INNOVATION

Soraa's third generation (Gen3) GaN on GaN™ LED achieves world-record setting wall-plug-efficiency, outperforming the nearest competitor by 20% at normal operating conditions. In just one year, Soraa has achieved a remarkable 30% increase in white lumen per watt (lm/W) efficiency over its prior generation LED, setting a pace of technology evolution unrivalled in the LED industry. The company's Gen3 LED runs at 75% wall-plug-efficiency at a current density of 35A/cm2 and a junction temperature of 85°C, efficiency levels that are out of reach for other LED manufacturers. Soraa leverages the properties of the native GaN substrate and a chip-on-board LED package design to create a very robust, single point source that enables excellent beam control.



Source: Competitor data sheet, and Soraa internal data at 85°C junction temperature