

Poster Presentation

## [FMCp1]Micro/Mini LEDs

Special Topics of Interest on Micro/Mini LEDs

Thu. Nov 28, 2019 10:40 AM - 1:10 PM Main Hall (1F)

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10:40 AM - 1:10 PM

## [FMCp1-2]High Performance GaN-based Micro-LEDs with Improved Ambient Contrast Ratio

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Keywords:Micro-LED Display, Mini LED Display, Ambient Contrast Ratio

GaN-based Micro-LEDs have shown great potential in various filed, such as solid-state lighting, display, sensor, visible light communication and multifunctional devices. The performance of Micro-LEDs in various operating environment drew enormous attention recently. We report high performance Micro-LEDs on sapphire substrate with device size scaling to 30um and ultra-high current density of 100A/cm<sup>2</sup> under applied bias of 4V. The Micro-LED devices can keep comparable performance after extreme environment test with an emission wavelength of 460nm. We also proposed three method to improve ambient contrast ratio including optical method, anti-reflection film and optimized device structure.