

Frequently Asked Questions (FAQ)



Performance & Reliability of organic technology

- Q) How does OLED technology perform in direct sunlight?
- A) OLED technology materials are still developing. From the current construction, it is noted that some of the layers contain metal, namely the metallic cathode. In direct sunlight, the metal in these layers will reflect a percentage of light. Due to the intensity of the sun, this can become a competitive amount of reflection that may make the viewing characteristics vary from diminished to illegible. This is a very subjective decision, and some OSD products already have seen great improvement by intensity and material improvements. As this trend continues, the panels will perform better. Research in alternate non-metallic materials and film additions (density filters and circular polarizers) can lend to improve reading in this type of condition.
- Q) How does OLED technology handle in extreme temperature?
- A) OLED is a solid state technology. As a result, response and contrast do not vary by ambient temperature. Temperature can act as a catalyst to the reaction in the organic layers, effecting lifetime.
- Q) What is the limitation of OLED modules in extreme temperatures?
- A) OLED displays continue to choose materials that maintain high reliability and performance in high temperatures. Limiting factors for operation and storage continue to relate to the reliability of driver IC bonds, adhesives on panel films, and interface materials. Mechanical stress, degrade of adhesive, and melting on interfaces will continue to present the limitations for temperature ratings. The panel itself will typically not be the critical item. This is a dramatic improvement over many existing technologies.
- Q) How does current and power consumption compare with other display technologies?
- A) OLED will continue to be the most efficient use of emitted light on a display assembly. The organic display technology will only require illumination for pixels that require illumination for a given image. Also, for color OLED displays, only the required intensity of light is produced for this area as intensities are modulated for RGB spectrums. In technologies with backlight assemblies, the entire panel area must be illuminated to the maximum intensity required, as passing light is obstructed as needed. OLED panels will draw less power than a backlight made to the same intensity and surface area. For the emitted brightness and efficiency, OLED technology leads us to a new era.