14. Frequently Asked Questions

How many different colors can each pixel display?
65,536 different colors. OLEDs have the most vivid and sharp display among all the technologies.

Is the OLED 6PDUWLVSODV capable of displaying movies?
Yes. The OLED response time is 0.2 ms, which is the best among all the display technologies. The bottle neck is normally the communication speed. Over 100 frames per second (60 fps for the Frameless OLED) of data can be transmitted to the OLED 6PDUWLVSODV. Most videos are 24 to 30 frames per second.

Can the OLED 6PDUWLVSODV capable of displaying live video?
Yes. However, the controller has to be fast enough to resize and transmit the data in the right format to the OLED SmartDisplay.

What is aging?
Aging for the OLED refers to the reduction in brightness over time. Specifically, the OLED life is defined as the time it takes for the brightness to reach half the original state. Since the OLED is intended to display movies or frequently changing images, it is assumed that each pixels will be on the equivalent of 40% of the time at full brightness.

How does aging affect the colors?
When displaying movies, the OLED colors pixels age proportionally and the combined colors stay relatively consistent. However when a still image or text is used for an extended period of time, the pixels used for the image/text will get dimmer than surrounding pixels that have not been used. For example, if a blue color is used in one area most the time, when white is displayed in that area, the white will have a tint of yellow. The yellow is because red and green is now stronger than the blue. However, by properly designing the image colors and by anticipating the amount of time they will be displayed, this problem can be avoided.

Does the power up/down sequence have to be followed?
Yes. The power up sequence must be observed. If V_{CC} powers the circuit before V_{DD} is activated, the circuit could latch and damage the OLED.
For the power down sequence, V_{CC} cannot be present after V_{DD} is off. Simultaneous turn off is possible as long as V_{CC} is examined to confirm that it does not have too much capacitance charge after turn off.

Are subassemblies of SmartDisplays available?
Yes. NKK Switches has many development kits and also supports custom designs.

Is NKK Switches planning to develop other sizes of the OLED 6PDUWLVSODV?
NKK Switches continuously improves existing product as well as develops new products. Customer feedback is considered when deciding what new products to develop. Feedback and/or application requirements is welcomed.