Ultrathin High-Resolution 8.8 cm (3.6-Type) VGA* Transflective LCD Module
Optimal for High-Performance Mobile Applications

ACX526AKM

This is a high-resolution transflective LCD module that is optimal for mobile IT tools such as the rapidly evolving PDA.
Sony aimed for an optimal pixel structure and achieved transflective mode operation despite the ultrahigh resolution of over 220 ppi, thus assuring excellent viewability even outdoors.
Sony has continued to provide optimal display solutions for mobile equipment and is proud to present this device as their most advanced display based on the Sony leading edge low-temperature polycrystalline silicon technology.

- **Supports ultrahigh resolution VGA display**
- **Built-in VGA/QVGA switching function**
- **Thin-form module with a 3.4 mm thickness achieved by adopting an ultrathin touch panel**
- **Achieves high brightness, high contrast and a wide color reproducibility**
- **Achieves excellent viewability outdoors with a 6% reflectivity**

* 480 × RGB × 640

VGA Display

The high-performance pixel transistor achieved by the low-temperature polycrystalline silicon technology of which Sony is proud makes VGA display (223 ppi) possible despite the 8.8 cm (3.6-type) size of the display. The finest parts of the image can be displayed and smooth curved lines can be displayed in photographs and other images. This is a truly high-performance display that can handle any type of content.

Built-in VGA/QVGA Switching Function

The integration of a VGA/QVGA switching circuit on panel glass was made possible by the fusion of Sony's circuit design technologies and the high-performance pixel transistor achieved by the low-temperature polycrystalline silicon technology of which Sony is proud. This allows the selection of a mode optimal for the content being displayed. (See figure 1 and photograph 1.) Furthermore, the combination and integration of the operation circuits starting with the scanner circuit, makes all display operations possible with just a single COG chip. These technologies not only achieve high display performance, but they also assure high reliability.

Ultrathin Module Structure

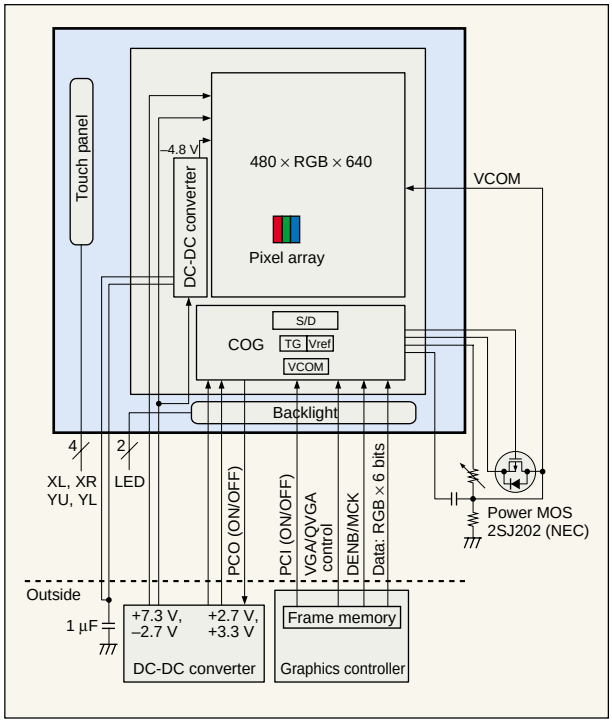
This panel includes a newly-developed thin film type touch panel. Even with a backlight included, Sony was able to create an ultrathin module with a thickness of 3.4 mm (typical). (See figure 2.) This technology contributes greatly to improved ability to withstand mechanical shock and lower weight as compared to conventional glass touch panels, and makes the ACX526AKM an optimal display module for high-performance PDAs that place an emphasis on portability.

High Display Performance

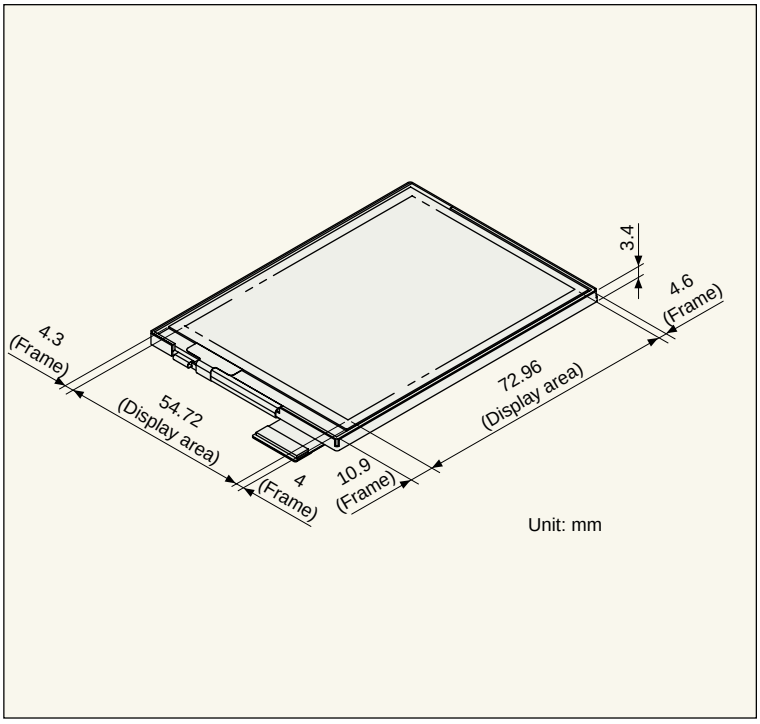
To achieve this ultrahigh resolution, Sony optimized the LCD cell optical design and the pixel device structure. Even though this panel adopts a high-resolution pixel pitch that makes assuring an adequate aperture ratio extremely difficult, this device assures a 6% (typical) reflectivity. Sony also achieved at the same time the high brightness of 80 nit (typical), thus achieving overwhelming display performance, whether indoors or outdoors.
This is an LCD display that allows mobile tools to exhibit their full potential and charisma to the utmost, regardless of the user's environment.

V O I C E

In all aspects of the specifications, high resolution, high brightness, wide color reproducibility, and light weight, this is a product that we can be extremely proud of. Although it was particularly difficult to achieve both higher resolution and good optical characteristics at the same time, all the members of the development team worked together as one to create a truly superb LCD product.



■ **Figure 1 System Block Diagram**



■ **Figure 2 External Dimensions**

■ **Table 1 Main Specifications**

Number of pixels	480 × RGB × 640
Size (diagonal)	8.8 cm (3.6-type)
Pixel pitch	114 micron
Display mode	Transflective mode type
Interface	RGB, 18 bits
Number of colors	260K colors
Reflectivity	6 %
Brightness	80 nit
Contrast ratio (transmittance mode/reflective mode)	80:1 / 6:1
Power consumption in VGA mode (backlight on/off)	720 mW / 60 mW

VGA mode

QVGA mode

■ **Photograph 1 VGA/QVGA Switching Function**