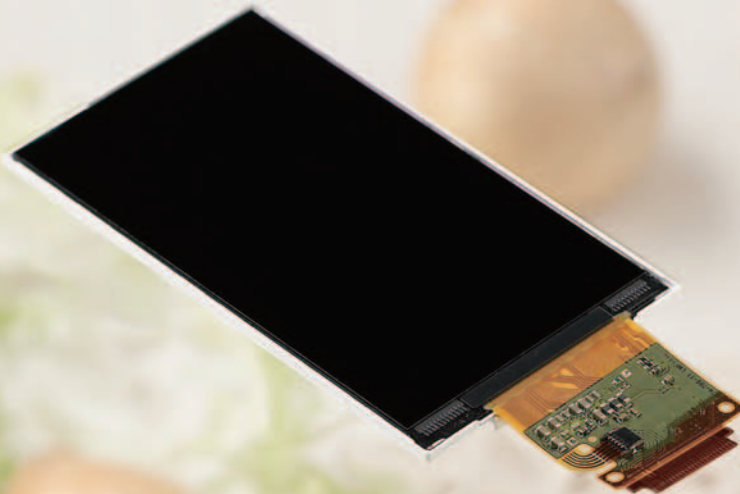


ACX383AKM

Transmissive 2.74-Type Full Widescreen WVGA Low-Temperature Polycrystalline Silicon TFT LCD Panel for Mobile Phones



The ACX383AKM is an ultrahigh resolution full widescreen WVGA (480 × RGB × 864) transmissive active matrix LCD panel with a pixel size of 23.5 μm × 70.5 μm.

This device achieves the industry's highest level of picture quality and features the high color reproducibility of a 74% NTSC ratio, 24-bit full color, high contrast, and a wide viewing angle.

The ACX383AKM is an optimal display for a wide range of mobile applications.

- High resolution: 23.5 μm × 70.5 μm dot pitch
- 2.74-type full widescreen display (480 × RGB × 864)
- Fast response time: 8.5 ms (single side)
- High 1000:1 contrast ratio
- High color reproducibility: NTSC ratio 74%
- 24-bit full color
- Wide viewing angle: 160° (CR > 10)

Ultrahigh Resolution 2.74-Type WVGA with the Industry's Smallest Pixel Size Class

With the increasing availability of public wireless LANs, the expanding area of One Seg broadcasting, and the popularity of GPS-based in-car navigation systems, there is an increasingly wide range of content available for mobile applications. The needs for displays that provide TV or PC class resolution despite compact size are growing rapidly, and it is the ACX383AKM that can meet these needs. In this device, Sony has achieved an ultrahigh resolution full widescreen WVGA (480 × RGB × 864) with the industry's smallest pixel size class of 23.5 μm × 70.5 μm. The number of pixels is four times that of WQVGA displays,

and despite being a small display, high-resolution maps, images, and text are easy to read, allowing this device to support a wide range of content. (See figure 1.)

High-Contrast, High Color Reproducibility 24-Bit Full Color for Faithful Image Reproduction

With the increasingly high pixel counts in cameras, users are now demanding high picture quality that can provide excellent image display, even in mobile devices. The ACX383AKM achieves a contrast of 1000:1 and a high color reproducibility NTSC ratio of 74%. Furthermore, the ACX383AKM holds the color shift in intermediate colors to lower levels than even the existing ACX359AKM by adjusting the color filters and by independently controlling the individual R, G, and B voltages. By adopting 24-bit full color (display of 16,777,216 colors), this panel can reproduce colors sharply and even more faithfully and achieves the industry's highest level of image quality.

Optimal for Video Display Due to Fast Response and Wider Viewing Angle for Easy Viewing

To support applications such as video and One Seg, areas in which more and more content is becoming available, even for mobile devices, Sony doubled the response speed from that of

the ACX359AKM to 8.5 ms (single side) by optimizing the LCD materials. As a result, the ACX383AKM achieves even more natural moving picture display. Furthermore, with a viewing angle of over 160°, the ACX383AKM provides even easier viewing.

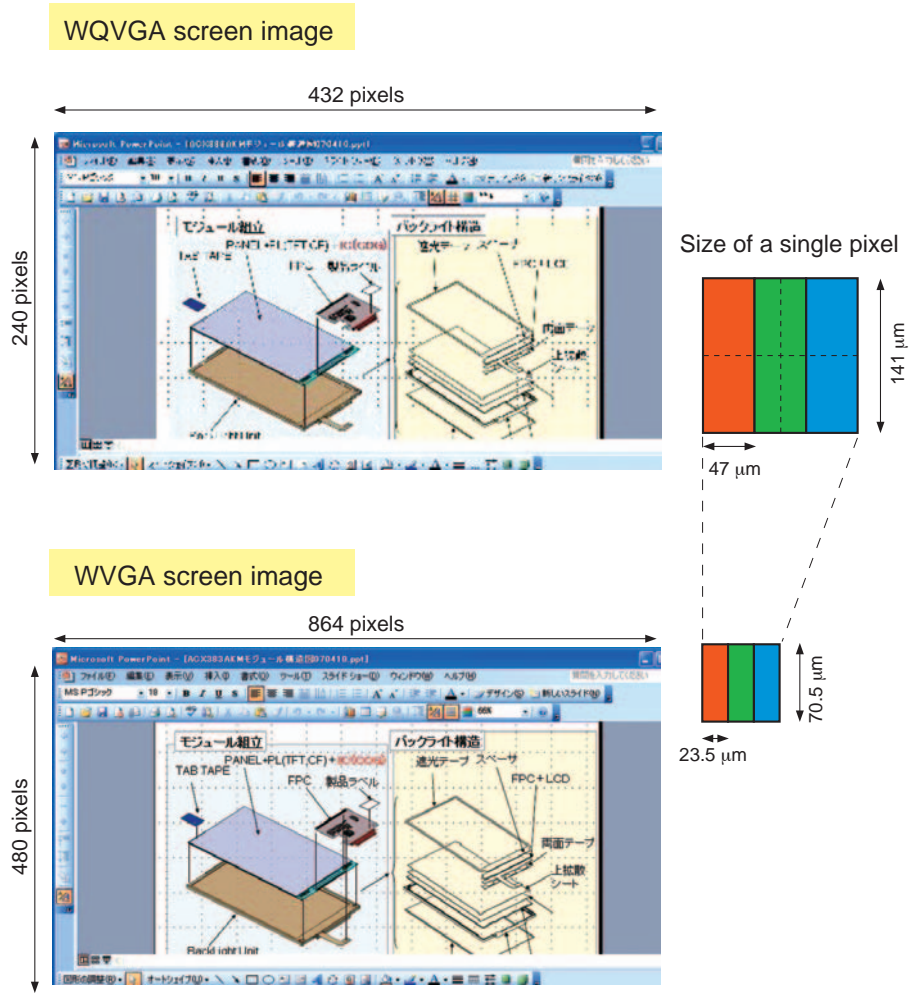
Compact Size

The ACX383AKM houses its 2.74-type screen in a compact 70.77 × 40.24 × 1.7 mm module. (See figure 2.) The thickness of the glass is held to a mere 0.4 mm to assure enough space for the backlight. The ACX383AKM thus achieves a total thickness of 1.7 mm while still maintaining even brightness across the screen.

V O I C E

We used the industry's smallest class of pixel in this 2.74-type screen and achieved an ultrahigh-resolution WVGA panels. These pixels are less than 1/4 the size of those used in typical PC LCD panels. Since we also achieved a high 1000:1 contrast and fast response with 24-bit full color, PC screen images can be displayed directly. Thus the ACX383AKM can respond to the increasing needs for high-resolution moving images for public wireless LANs, One Seg, and GPS mobile content. I strongly recommend this panel for use in mobile products that need superb display quality to achieve market differentiation.

Figure 1 Comparison between WQVGA and WVGA



WVGA achieves clearer images with four times as many pixels of 1/4 the size

Figure 2 Module External Dimensions

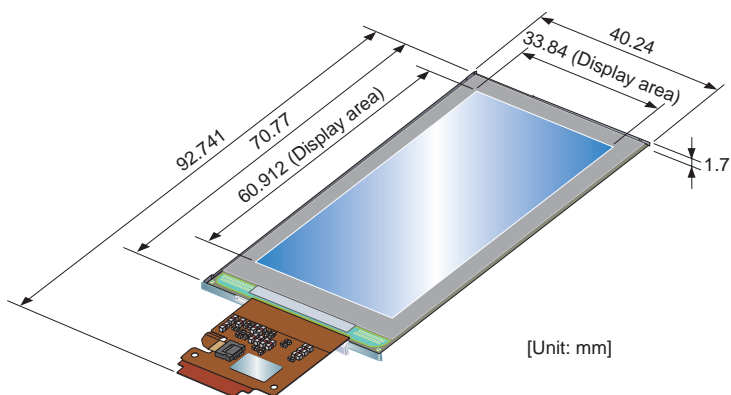


Table 1 Main Characteristics

Item	ACX383AKM
Number of pixels	480 × RGB × 864 (WVGA)
Diagonal size	6.96 cm (2.74 type)
Package dimensions	70.77mm × 40.24mm × 1.7mm
Display mode	Transmissive mode wide viewing angle LCD
Number of colors	16,777,216 colors
Viewing angle	160 degrees or higher
Module surface brightness	280 cd/m ² (with four 20 mA LEDs)
Interface	RGB
Contrast (transmissive/reflective)	1000:1
Power consumption	36 mW (excluding the backlight power consumption)