

## OCB Mode Thin Film Transistor LCDs Fact Sheet

Toshiba Matsushita Display Technology Co., Ltd. (TMD) is a leader in the development of small, high performance advanced displays for mobile phones, handheld GPS, portable media players, and other portable devices. TMD's award-winning technology has enabled innovative products in many markets.

To develop a sharp, clear, motion blur-free mobile display well suited for 3D viewing, TMD started with its advanced thin film transistor (TFT) LCD technology, available in either amorphous silicon or low temperature polysilicon, and used Optically Compensated Bend (OCB) mode to provide a faster response time and higher contrast ratio than conventional LCDs, with a wide viewing angle to achieve near CRT-like image quality.

For the 3D technology demonstration at CES 2009, a 3D film has been integrated into the backlight module of 3-inch and 9-inch OCB mode LCD displays. Through directional backlight technology, left and right eye images are focused sequentially into the viewer's eyes, allowing for full resolution of the display panel. Only one panel and modified backlight are required.

### OCB Technology

By optimizing the liquid crystal cell structure, improving the bend alignment of the liquid crystal molecules, and using special optical compensation films, OCB technology greatly improves response time and achieves much wider and up and down viewing angles, without color inversion. TMD's latest OCB technology can achieve a motion picture response time of approximately 2ms, thus eliminating motion blur.

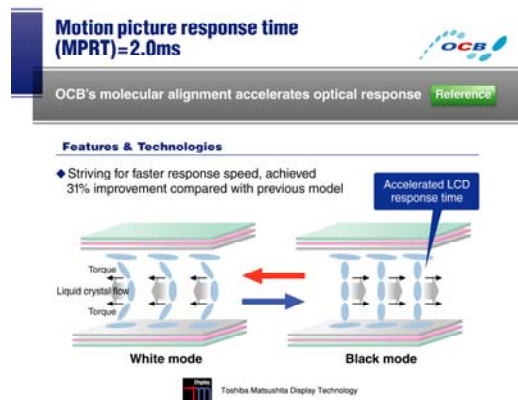


Figure 1. In OCB mode, voltage is applied to control the orientation of molecules in the bend state, to switch between white and black states. Using dynamic LCD driving technology, TMD can achieve both higher contrast and faster response time.

**CES Virtual Press Kit**

<http://www.virtualpressooffice.com/public/kit/TAECCES2009>

**Internet Address**

<http://www.toshiba.com/taec>

**Media Resource Center**

[http://www.toshiba.com/taec/news/media\\_resources/news\\_mr\\_gallery.jsp](http://www.toshiba.com/taec/news/media_resources/news_mr_gallery.jsp).

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