

Constant Current LED Driver With Silent Error Detection

Macroblock has expanded its line of constant current LED drivers, with the MBI5039 which is targeted at LED panel applications.

The MBI5039 is a 16-channel constant current LED driver with smart error detection functions. The device supports constant output current from 3mA to 90mA and also sustains up to 17V at the output ports. Additionally, the high clock frequency (30MHz) satisfies system requirements for high volume data transmission. The MBI5039 includes two error detection functions: "In-Message Error Detection" and "Silent Error Detection". The "In-Message Error Detection" performs the online detection as data-in and error-out sequentially, making it easy to identify the LED open and short errors and report the exact position of the broken LED simultaneously. The "Silent Error Detection" mode features full LED panel detection in order to detect dark pixels in real time, and moreover, the "Silent Error Detection" can diagnose the LED at low current (0.1mA) within a short time period (500ns), in order to avoid flicker or noise on the LED

panel. A thermal detection function has also been added to the MBI5039 to protect the system from over heating. The MBI5039 also delivers fast response of output current with minimum output pulse at 35ns, which greatly enhances the grey scale and the visual refresh rate of the LED panel.

As a result of Macroblock's patented Share-I-O™ technique, the MBI5039 can be a "drop-in replacement" for the MBI5025, MBI5026, MBI5027, MBI5028 or MBI5029 devices. The MBI5039 enhances the display quality while achieving the full LED panel detection and real-time online error report to reduce the maintenance cost. The MBI5039 fulfils the demanding requirements of LED panel applications. Please contact Plus Opto for further details.



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