NEW Product Brief

MXED203

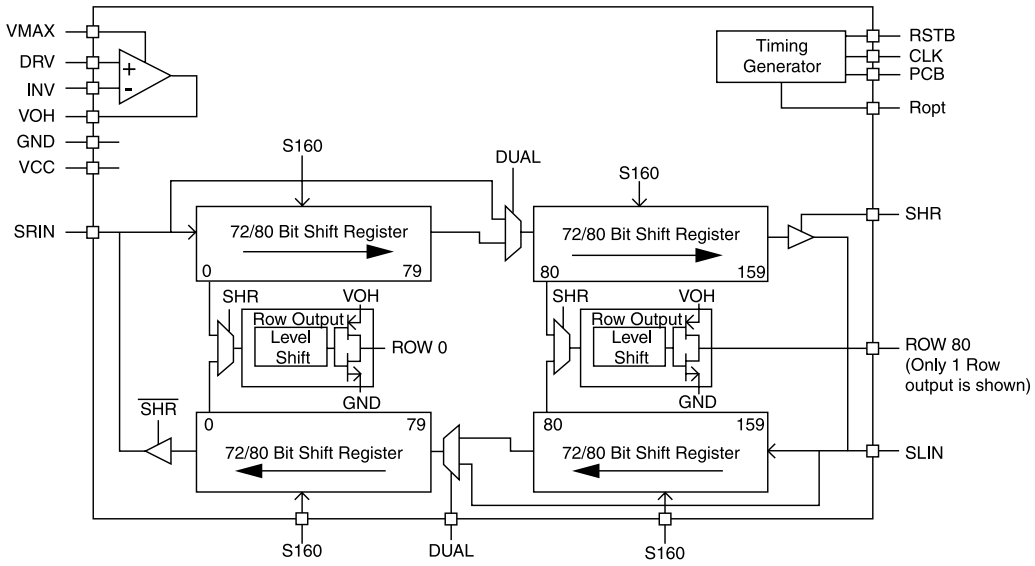
Clare Micronix MXED203 160-Channel OLED Row Driver

For All Passive-Matrix Organic-Light-Emitting-Diode (OLED) Displays

- Monochrome and Color
- Small-Molecule and Polymer
- Common-Cathode Row Switching

FEATURES

- CMOS High Voltage Process: 5V-30V Display Panel Supply Compatible
- 160 Output Channels, Cascadable; Configurable 144-Output Mode
- 150mA Maximum Current Capability per Channel (two channels maximum active simultaneously)
- 20 Ohm Maximum Row Switch "On" Resistance Token-Based Control; Bidirectional data transfer; Single- and Dual-Token Modes
- 3V to 5.5V logic supply
- Up to 100 kHz Clock Frequency
- Gold-Bumped Die @ ~60 micron Output Pitch
- TCP packaging
- Compatible with **Clare Micronix** 100-Series Column Drivers



OVERVIEW

Clare Micronix's MXED203 is a row-multiplexed display driver for OLED panel displays. The **MXED203** directly supports up to 160-row OLED panel displays, or can be cascaded for controlling additional rows. The **MXED203's** low "on" switch resistance, and support of voltage precharge options, ensure uniform luminance at rapid row scan rates. This is the first production row driver for OLED display OEM's, enabling the development and manufacture of this new standard in flat-panel display technology.

FUNCTIONAL DESCRIPTION

The **MXED203** is capable of sinking current for up to 160 rows (LED cathodes) of an OLED display. For single-scan displays, one output may be active at a time. For dual-scan (split-screen) displays, two outputs may be active at a time. For displays requiring more than 150mA sink current per row, multiple **MXED203's** may be placed in parallel. All control is done via dedicated pads.

Each row output has two possible connections: ground, to turn the LED on, and VOH (Voltage Output High) to turn the LED off. To begin a scan of the rows, the user inputs a token bit so that it is high at the rising edge of CLK, which is typically provided by the **MXED102** or similar column driver. In "normal mode" (single token), the token may be entered at either end of the **MXED203** row shift register (SRIN or SLIN), depending on the shift direction selection control "Shift Right" (SHR). The token bit is shifted one row (one channel) per clock cycle (CLK), during which time only one row maximum is active at a time. In "dual mode" (DUAL), the token bit is entered at one end and automatically in the center, and again the token are shifted at the CLK rate, during which time two rows are active at a time.

The **MXED203** is fully compatible with all methods of precharge, including column driver precharge.

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Ordering and Packaging Information

Product	Part Number	Description
MXED203-00	15701-00	Bumped Die
MXED203-10	15735-00	TCP (tape carrier package)
MXED203-20	15739-00	BGA
MXED203-30	15726-00	Bumped Wafer

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