

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

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

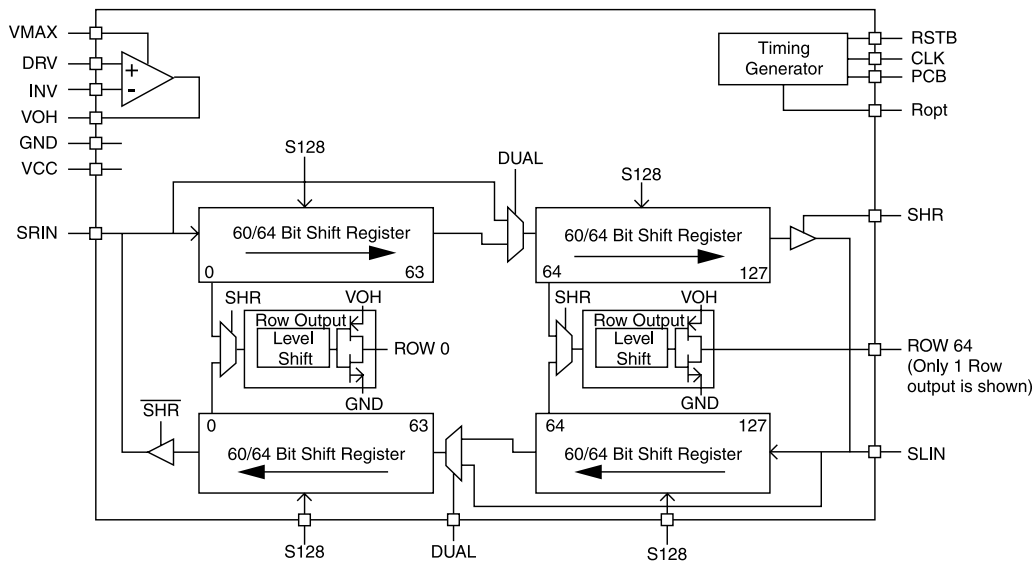
## FEATURES

- CMOS High Voltage Process: 5V-30V Display Panel Supply Compatible
- 128 Output Channels, Cascadable; Configurable 120-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



# MXED202

## Clare Micronix MXED202 128-Channel OLED Row Driver



### OVERVIEW

Clare Micronix's **MXED202** is a row-multiplexed display driver for OLED panel displays. The **MXED202** directly supports up to 128-row OLED panel displays, or can be cascaded for controlling additional rows. The **MXED202'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 **MXED202** is capable of sinking current for up to 128 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 **MXED202'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 **MXED202** 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 **MXED202** is fully compatible with all methods of precharge, including column driver precharge.

Product	Part Number	Description
MXED202-00	14101-00	Bumped Die
MXED202-10	14135-00	TCP (tape carrier package)
MXED202-20	14139-00	BGA
MXED202-30	14126-00	Bumped Wafer

## WORLDWIDE SALES OFFICES

### THE AMERICAS

#### Headquarters

#### Clare Micronix

145 Columbia  
 Aliso Viejo, CA 92656-1490  
 Tel: 949-831-4622  
 Fax: 949-831-4628

### ASIA PACIFIC

#### Asian Headquarters

#### Clare

Room N1016,  
 Chia-Hsin, Bldg. II,  
 10F, No. 96, Sec. 2  
 Chung Shan North Road  
 Taipei, Taiwan R.O.C.  
 Tel: 886-2-2523-6368  
 Fax: 886-2-2523-6369

#### Japan

#### Unidux

5-1-21, Kyonan-cho  
 Musahino-Shi  
 Tokyo, 180-8611  
 Tel: 81-422-32-4500  
 Fax: 81-422-31-2050

#### Korea

#### Lumitech

Kumho Livingstel 606  
 Sungnam-si, Kyounggi-Do  
 Pundang, 463-050  
 Tel: 82-31-709-6513  
 Fax: 82-31-709-6514

### EUROPE

#### European

#### Headquarters

**CP Clare nv  
 (Belgium)**  
 Bampslaan 17  
 B-3500 Hasselt  
 Tel: 32-11-300868  
 Fax: 32-11-300890

#### France

#### Clare France Sales

#### Lead Rep

99 route de Versailles  
 91160 Champlan  
 Tel: 33 1 69 79 93 50  
 Fax: 33 1 69 79 93 59

#### Germany

#### ELrep

Kieshofstrasse 26  
 D-71522 Backnang  
 Tel: 49 7191 7333 05  
 Fax: 49 7191 7333 04

#### Italy

#### C.L.A.R.E.s.a.s.

Via C. Colombo 10/A  
 1-20066 Melzo (Milano)  
 Tel: 39-02-95737160  
 Fax: 39-02-95738829

#### Sweden

#### Clare Sales

#### Comptronic AB

Box 167  
 S-16329 Spanga  
 Tel: 46-862-10370  
 Fax: 46-862-10371

#### United Kingdom

#### Clare UK Sales

Marco Polo House  
 Cook Way  
 Bindon Road  
 Taunton  
 UK-Somerset TA2 6BG  
 Tel: 44-1-823 352541  
 Fax: 44-1-823 352797



Visit Clare Micronix Online at: [www.claremicronix.com](http://www.claremicronix.com)