

**PRODUCT BRIEF**

# MM5600

## DC to 40 Gbps DPDT Differential Switch with Integrated Driver and Loopback

Menlo Micro has developed a DPDT switch for high-speed differential signal switching applications. The MM5600 is based on Menlo's Ideal Switch™ technology and can operate to greater than 40 Gbps and up to 24 GHz for high-performance signaling applications.

The MM5600 has low insertion loss, fast switching speed and can operate with greater than 3 billion switching cycles. The MM5600's integrated driver can be controlled by a serial-to-parallel interface that drives the high voltage gate lines of the switches.

The design has full ESD protection on all ports and also offers a considerable 90% reduction in size when compared with comparable EM relay solutions.

**FEATURES**

- 8mm x 8mm QFN package
- DC to 40 Gbps/24 GHz range
- Low Insertion Loss: 0.75 dB @ 12 GHz
- Integrated driver eliminates the requirement for an external driver
- Two independent loopback ports
- High Reliability: Greater than 3 billion switching operations

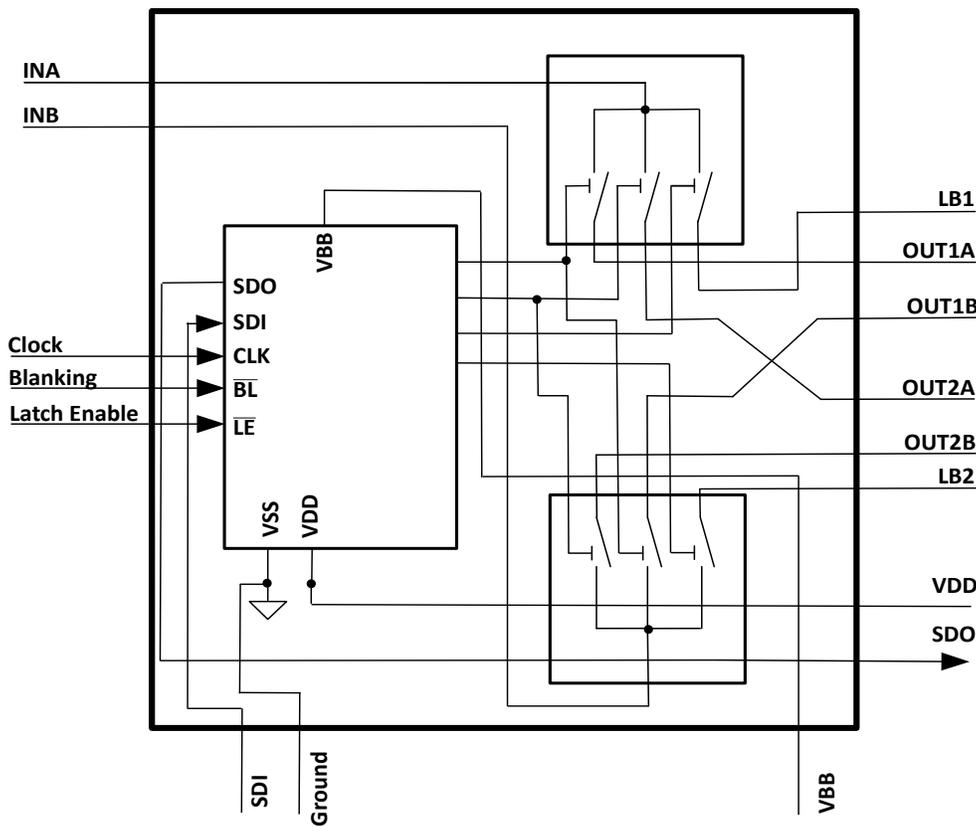
**APPLICATIONS**

- Differential High-Speed Switching
- ATE-Device Interface Boards
- High-Speed Computer Peripheral Interfaces

**MARKETS**

- Differential Component Testing
- Differential Signal Routing
- Test and Measurement

**FIG. 1** Functional Block Diagram



**DESIGN ADVANTAGES**

- 90% reduction in volume over traditional EM relays
- Ultra-high reliability switching operations
- Optimized differential input/output simplifies board layout
- Integrated driver and ESD diodes on the input/output ports
- Independently controlled dual loopback ports

**FIG. 2** 40 Gbps Eye Diagram (Measured single-ended on MM5130 EVK)

