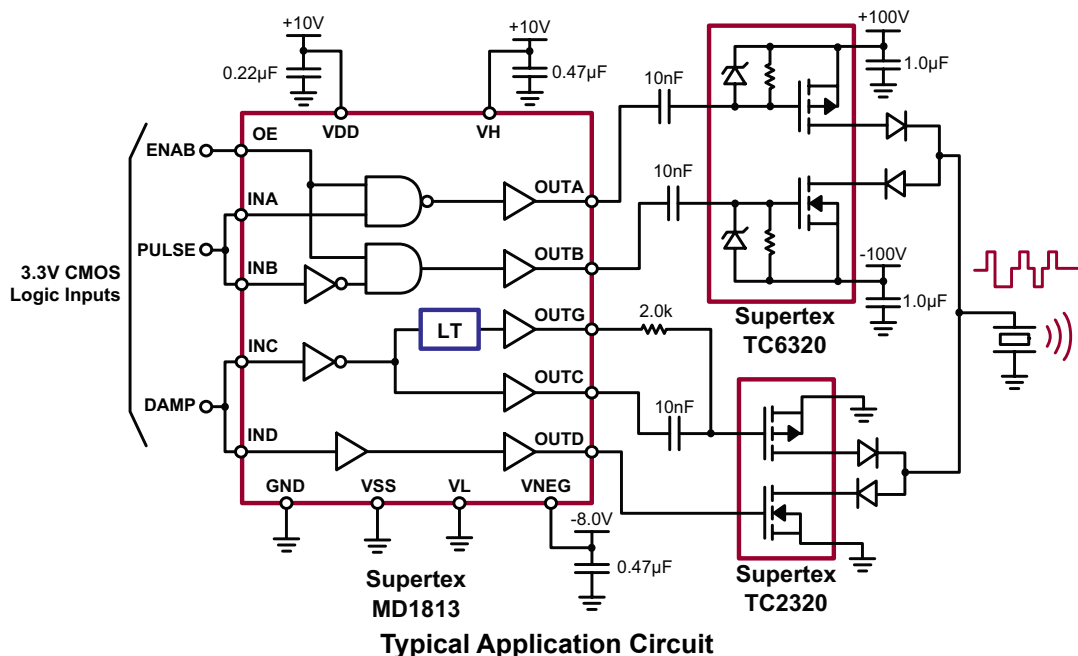


# Product Summary Sheet

## High Speed Quad MOSFET Driver

### Applications:

- ▶ Medical Ultrasound Imaging
- ▶ Piezoelectric Transducer Drivers
- ▶ Non-Destructive Testing (NDT)
- ▶ High Speed Level Translator



### Product Overview:

The Supertex MD1813 is a high-speed quad MOSFET driver. It is designed to drive two P- and two N-channel, high voltage, DMOS FETs for medical ultrasound applications, but may be used in any application that needs a high output current for a capacitive load. The input stage of the MD1813 is a high-speed level translator that is able to operate for logic input signals of 1.2 to 5.0V amplitude. An adaptive threshold circuit is used to set the level translator threshold to the average of the input logic 0 and logic 1 levels. The level translator uses a proprietary circuit, which provides DC coupling together with high-speed operation.

The output stage of the MD1813 has separate power connections, enabling the output signal L and H levels to be chosen independently from the driver supply voltages. As an example, the input logic levels may be 0 and 1.8V, the control logic may be powered by +5 and -5V, and the output L and H levels may be varied anywhere over the range of -5 to +5V. The output stage is capable of peak currents of up to ±2A, depending on the supply voltages used and load capacitance. The OE pin serves a dual purpose. First, its logic H level is used to compute the threshold voltage level for the channel input level translators. Secondly, when OE is low, the outputs are disabled, with the A output high and the B output low. This assists in properly pre-charging the coupling capacitors that may be used in series in the gate drive circuit of an external PMOS and NMOS. A built-in level shifter is for PMOS gate negative bias driving. It enables the user-defined damping control to generate return-to-zero bipolar output pulses. The MD1813 has a non-inverting driver OUTD for easy logic

Features:	Benefits:
6ns rise and fall time with 1000pF load	Better imaging
Auxiliary output driver with level translator	Coding and harmonic imaging
Outputs can swing below ground	Simple to drive P & N- Channel MOSFETs
Low jitter design	Accurate Doppler measurement
Dual matched channels	Accurate beam focusing
1.2V to 5V input CMOS compatible	Low power consumption and fast logic



QFN-16 (K6)



011812

## High Speed Quad MOSFET Driver

### Ordering Information / Availability

Part Number	Package Option	Samples	Lead Time
MD1813K6-G	16-Lead 4x4x0.9 QFN (Green)	Now	4-5 Weeks

-G indicates the part is RoHS compliant (Green).



### Product Contact

For any questions regarding the MD1813, please contact your local area Supertex sales office, or contact the main office in the US at:

Telephone: 800-222-9888  
Fax: 408-222-4895  
EMail: [mktg@supertex.com](mailto:mktg@supertex.com)  
Website: [www.supertex.com](http://www.supertex.com)

***Supertex inc.***

1235 Bordeaux Drive, Sunnyvale, CA 94089