

High Speed, Dual MOSFET Driver

Features

- ▶ 10ns average rise and fall time with 1000pF load
- ▶ 2.0A peak output source/sink current
- ▶ 1.2V to 5.0V input CMOS compatible
- ▶ 4.5V to 13V total supply voltage
- ▶ Dual matched channels
- ▶ Reduced clock skew
- ▶ Low input capacitance
- ▶ Green packaging

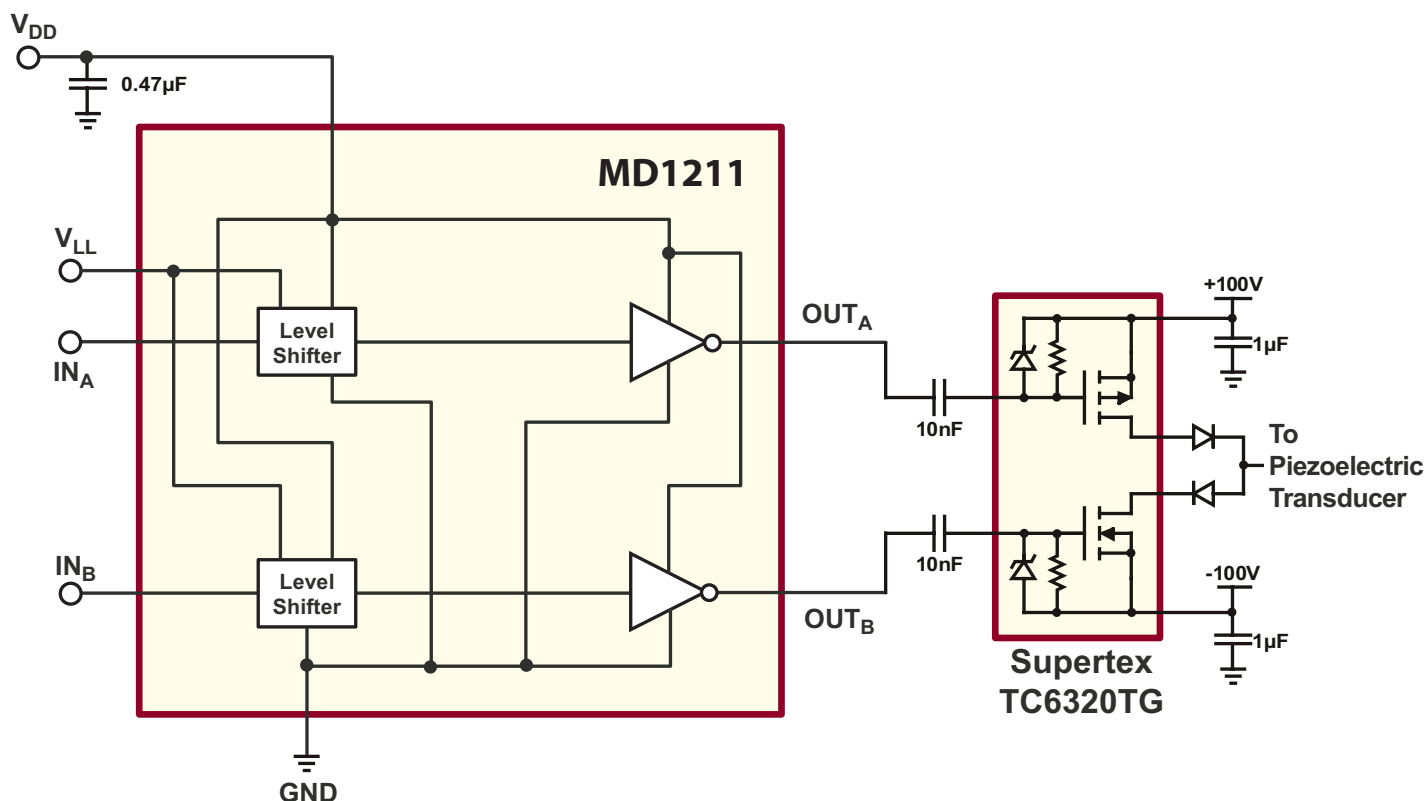
General Description

The Supertex MD1211 is a high speed, dual MOSFET driver. It is designed to drive high voltage N- and P-channel MOSFET transistors for medical ultrasound and other applications requiring a high output current for a capacitive load. The high-speed input stage of the MD1211 can operate from 1.2 to 5.0 volt logic interface with an optimum operating input signal range of 1.8 to 3.3 volts. The level translator uses a proprietary circuit, which provides DC coupling together with high-speed operation.

Applications

- ▶ Medical ultrasound imaging
- ▶ Piezoelectric transducer drivers
- ▶ Nondestructive evaluation
- ▶ PIN diode driver
- ▶ High speed level translator
- ▶ Clock/line drivers

Typical Application Circuit



Ordering Information

DEVICE	Package Option
	8-Pin SOIC
MD1211	MD1211LG-G



-G indicates package is RoHS compliant ("Green")

Absolute Maximum Ratings

Parameter	Value
Logic Supply Voltage	-0.5V to +5.5V
Main Supply Voltage	-0.5V to +13.5V
Logic Input Levels	-0.5V to $V_{LL} + 0.5V$
Maximum Junction Temperature	+125°C
Storage Temperature	-65°C to 150°C

Absolute Maximum Ratings are those values beyond which damage to the device may occur. Functional operation under these conditions is not implied. Continuous operation of the device at the absolute rating level may affect device reliability. All voltages are referenced to device ground.

DC Electrical Characteristics

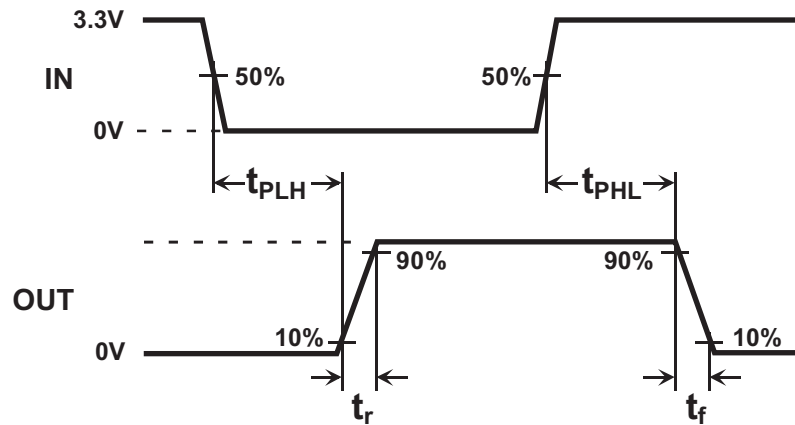
(Over operating conditions unless otherwise specified, $V_{DD} = 12V$, $T_J = 25^\circ C$)

Symbol	Parameter	Min	Typ	Max	Units	Conditions
V_{DD}	Main supply voltage	4.5	-	13	V	---
V_{LL}	Logic supply voltage	1.2	-	5.0	V	---
V_{IH}	Input logic voltage high	$V_{LL} - 0.3$	-	V_{LL}	V	For Logic Inputs IN_A and IN_B
V_{IL}	Input logic voltage low	0	-	0.8	V	
I_{IH}	Input logic current high	-	-	10	μA	
I_{IL}	Input logic current low	-	-	10	μA	
C_{IN}	Logic input capacitance	-	5.0	10	pF	All Inputs
Outputs						
R_{SINK}	Output sink resistance	-	-	12	Ω	$I_{SINK} = 50mA$
R_{SOURCE}	Output source resistance	-	-	12	Ω	$I_{SOURCE} = 50mA$
I_{SINK}	Peak output sink current	-	2.0	-	A	---
I_{SOURCE}	Peak output source current	-	2.0	-	A	---

AC Electrical Characteristics

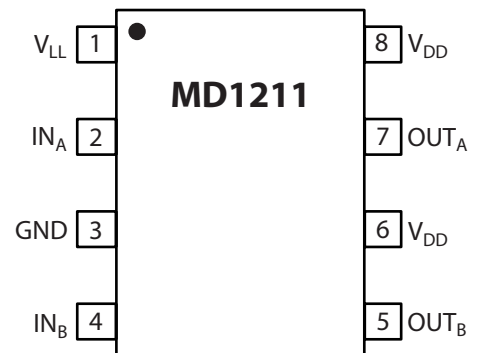
Symbol	Parameter	Min	Typ	Max	Units	Conditions
t_{PLH}	Propagation delay when output is from low to high	-	10	-	ns	$C_{LOAD} = 1000pF$, (see timing diagram) Input signal rise/fall time 2ns
t_{PHL}	Propagation delay when output is from high to low	-	10	-	ns	
t_r	Output rise time	-	10	-	ns	
t_f	Output fall time	-	10	-	ns	
$ t_r - t_f $	Rise and fall time matching	-	2.0	-	ns	For each channel
$ t_{PLH} - t_{PHL} $	Propagation low to high and high to low matching	-	2.0	-	ns	
Δt_{dm}	Propagation delay match	-	3.0	-	ns	Device to device delay match

Timing Diagram

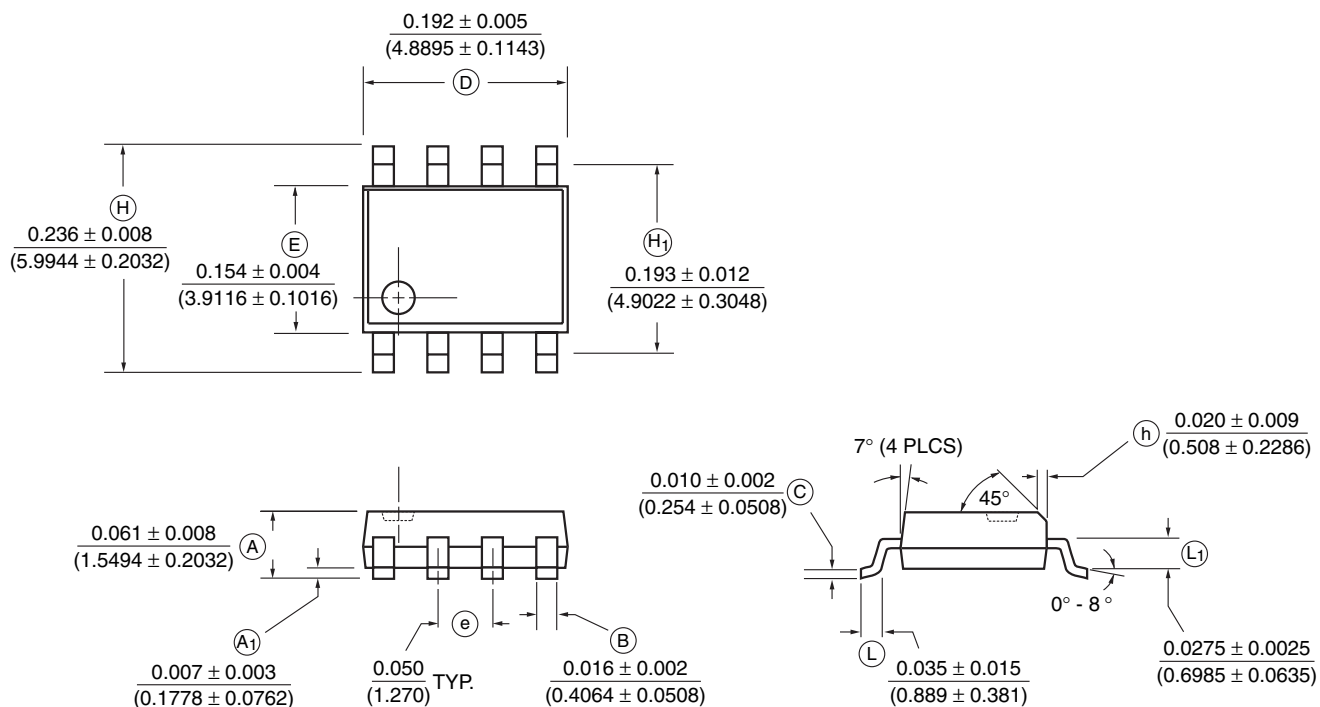


Pin Description

Pin #	Function	Description
1	V_{LL}	Logic supply voltage
2	IN_A	Logic input
3	GND	Device ground
4	IN_B	Logic input
5	OUT_B	Output driver
6	V_{DD}	Main supply voltage
7	OUT_A	Output driver
8	V_{DD}	Main supply voltage



8-LEAD SMALL OUTLINE PACKAGE (SOIC) (LG)



Note: Circle (e.g. (B)) indicates JEDEC Reference.

Measurement Legend = $\frac{\text{Dimensions in Inches}}{\text{(Dimensions in Millimeters)}}$

Supertex inc. does not recommend the use of its products in life support applications, and will not knowingly sell its products for use in such applications, unless it receives an adequate "product liability indemnification insurance agreement". **Supertex** does not assume responsibility for use of devices described and limits its liability to the replacement of the devices determined defective due to workmanship. No responsibility is assumed for possible omissions or inaccuracies. Circuitry and specifications are subject to change without notice. For the latest product specifications, refer to the **Supertex** website: <http://www.supertex.com>.

©2005 **Supertex inc.** All rights reserved. Unauthorized use or reproduction is prohibited.

Supertex inc.

1235 Bordeaux Drive, Sunnyvale, CA 94089
TEL: (408) 222-8888 / FAX: (408) 222-4895

www.supertex.com

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru

www.lifeelectronics.ru