

TECHNICAL DATA
DATA SHEET 273, REV. B

12A-Peak Low Side Dual MOSFET Driver
Bipolar/CMOS/DMOS Process

FEATURES:

- High Peak Output Current - 12A
- Wide Operating Range - 4.5V to 18V
- Low Supply Current - 450 μ A w/Logic 1 Input
- Low Output Impedance - 1.0 Ω , Typical

MAXIMUM RATINGS (per driver)

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
Power Dissipation ($T_A \leq 25^\circ\text{C}$)	-	-	-	1,250	mW
Derating Factors (To Ambient)	-	-	-	10	mW/ $^\circ\text{C}$
Storage Temperature	-	-65	-	+150	$^\circ\text{C}$
Lead Temperature (10sec)	-	-	-	300	$^\circ\text{C}$
Supply Voltage	-	-	-	20	Volts
Input Voltage, (to Ground)	-	-5.0V Gnd.	-	$V_S+0.3V$ Gnd.	Volts
Input Current ($V_{IN} > V_S$)	-	-	-	50	mA

ELECTRICAL CHARACTERISTICS (per driver)

$T_A = 25^\circ\text{C}$ with $4.5V \leq V_S \leq 18V$ otherwise specified.

Logic 1 Input Voltage	V_{IH}	2.4	1.3	-	Volts
Logic 0 Input Voltage	V_{IL}	-	1.1	0.8	Volts
Input Voltage Range	V_{IN}	-5.0	-	$V_S+0.3$	Volts
Input Current, ($0V \leq V_{IN} \leq V_S$)	I_{IN}	-10	-	10	μA
High Output Voltage	V_{OH}	V_S -0.025	-	-	Volts
Low Output Voltage	V_{OL}	-	-	0.025	Volts
Output Resistance, Output Low, ($I_{OUT} = 10\text{mA}$, $V_S = 18V$)	R_O	-	0.6	1.5	Ohms
Output Resistance, Output High, ($I_{OUT} = 10\text{mA}$, $V_S = 18V$)	R_O	-	0.8	1.5	Ohms
Peak Output Current ($V_S = 18V$)	I_{PK}	-	12	-	Amps
Latch-Up Protection (Duty Cycle $\leq 2\%$ $t \leq 300\mu\text{s}$)	I_R	>1500	-	-	mA
Rise Time, ($C_L = 15,000\text{ pF}$)	t_R	-	20	40	ns
Fall Time, ($C_L = 15,000\text{ pF}$)	t_F	-	24	50	ns
Delay Time	t_{d1}	-	15	30	ns
Delay Time	t_{d2}	-	35	60	ns
Power Supply Current, ($V_{IN} = 3.0V$)	I_S	-	0.4	1.5	mA
($V_{IN} = 0V$)		-	80	150	μA
Operating Input Voltage	V_S	4.5	-	18	Volts

ELECTRICAL CHARACTERISTICS

$T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$ with $4.5V \leq V_S \leq 18V$ otherwise specified.

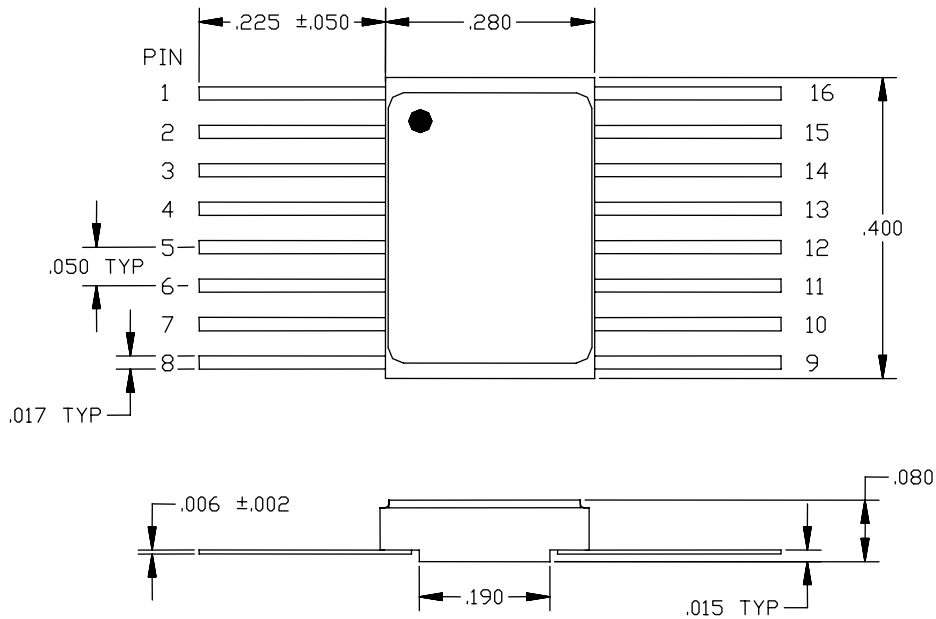
Logic 1 Input Voltage	V_{IH}	2.4	1.4	-	Volts
Logic 0 Input Voltage	V_{IL}	-	1.0	0.8	Volts
Input Voltage Range	V_{IN}	-5.0	-	$V_S+0.3$	Volts
Input Current, ($0V \leq V_{IN} \leq V_S$)	I_{IN}	-10	-	10	μA
High Output Voltage	V_{OH}	V_S -0.025	-	-	Volts
Low Output Voltage	V_{OL}	-	-	0.025	Volts

TECHNICAL DATA
DATA SHEET 273, REV. B

ELECTRICAL CHARACTERISTICS (Continued) $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$ with $4.5\text{V} \leq V_S \leq 18\text{V}$ otherwise specified.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
Output Resistance, Output Low, ($I_{OUT} = 10\text{mA}$, $V_S = 18\text{V}$)	R_O	-	0.8	2.2	Ohms
Output Resistance, Output High, ($I_{OUT} = 10\text{mA}$, $V_S = 18\text{V}$)	R_O	-	1.3	2.2	Ohms
Rise Time, ($C_L = 15,00\text{ pF}$)	t_R	-	23	50	ns
Fall Time, ($C_L = 15,000\text{ pF}$)	t_F	-	30	60	ns
Delay Time	t_{d1}	-	20	40	ns
Delay Time	t_{d2}	-	40	80	ns
Power Supply Current, ($V_{IN} = 3.0\text{V}$)	I_S	-	0.6	3.0	mA
($V_{IN} = 0\text{V}$)		-	0.1	0.4	mA
Operating Input Voltage	V_S	4.5	-	18	Volts

MECHANICAL DIMENSIONS: in Inches
Tolerance $\pm .010$ except where noted



PINOUT TABLE

DEVICE TYPE	Pin- 1	Pin-2	Pin-3	Pin-4	Pin-5	Pin-6	Pin-7	Pin-8	Pin-9	Pin-10
MOSFET CERPACK-16	V_{S1}	Input 1	N/C	Gnd 1	Gnd 2	Output 2	Output 2	V_{S2}	V_{S2}	Input 2
	PIN-11	PIN-12	PIN-13	PIN-14	PIN-15	PIN-16				
	N/C	Gnd 2	Gnd 1	Output 1	Output 1	V_{S1}	-	-	-	-

TECHNICAL DATA
DATA SHEET 273, REV. B

DISCLAIMER:

- 1- *The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).*
- 2- *In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.*
- 3- *In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.*
- 4- *In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.*
- 5- *No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.*
- 6- *The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.*
- 7- *The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.*