

TECHNICAL DATA
DATA SHEET 784, REV. B

3A-Peak Low Side MOSFET Driver
Bipolar/CMOS/DMOS Process

FEATURES:

- CMOS Construction
- Similar to Industry Part Number MIC4424
- Low Output Impedance, 3.5 Ohms
- Latch-Up Protected; Will Withstand > 500mA Reverse Output Current
- Logic Input Withstands Negative Swing of Up to -5V

MAXIMUM RATINGS

RATING	MIN.	TYP.	MAX.	UNITS
Power Dissipation ($T_C = 25^\circ\text{C}$)	-	-	1250	mW
Derating Factors (CerDip)	-	-	12.5	mW/ $^\circ\text{C}$
Storage Temperature	-65	-	+150	$^\circ\text{C}$
Lead Temperature (10sec)	-	-	300	$^\circ\text{C}$
Supply Voltage	-	-	22	Volts
Input Voltage, ($V_S + 0.3\text{V}$ to Ground -5.0)	-	-	-5.0	Volts
Input Current ($V_{IN} > V_S$)	-1.0	-	1.0	mA

ELECTRICAL CHARACTERISTICS

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

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
Logic 1 Input Voltage	V_{IH}	2.4	-	-	Volts
Logic 0 Input Voltage	V_{IL}	-	-	0.8	Volts
Input Voltage Range	V_{IN}	0	-	V_S	Volts
Input Current, ($0\text{V} \leq V_{IN} \leq V_S$)	I_{IN}	-1.0	-	1.0	μA
High Output Voltage	V_{OH}	V_S -0.025	-	-	Volts
Low Output Voltage	V_{OL}	-	-	0.025	Volts
Output Resistance, Output High, ($I_{OUT} = 10\text{mA}$, $V_S = 18\text{V}$)	R_O	-	2.8	5.0	Ohms
Output Resistance, Output Low, ($I_{OUT} = 10\text{mA}$, $V_S = 18\text{V}$)	R_O	-	3.5	5.0	Ohms
Peak Output Current $V_S = 18\text{V}$	I_{PK}	-	3.0	-	Amps
Latch-Up Protection; withstand reverse current.	I_R	>500	-	-	mA
Rise Time, ($C_L = 1800\text{ pF}$)	t_R	-	23	35	ns
Fall Time, ($C_L = 1800\text{ pF}$)	t_F	-	25	35	ns
Delay Time, Rise ($C_L = 1800\text{ pF}$)	t_{d1}	-	33	75	ns
Delay Time, Fall ($C_L = 1800\text{ pF}$)	t_{d2}	-	38	75	ns
Power Supply Current, ($V_{IN} = 3.0\text{V}$)	I_S	-	1.5	2.5	mA
($V_{IN} = 0\text{V}$)		-	0.15	0.25	mA
Operating Input Voltage	V_S	4.5	-	18	Volts

ELECTRICAL CHARACTERISTICS

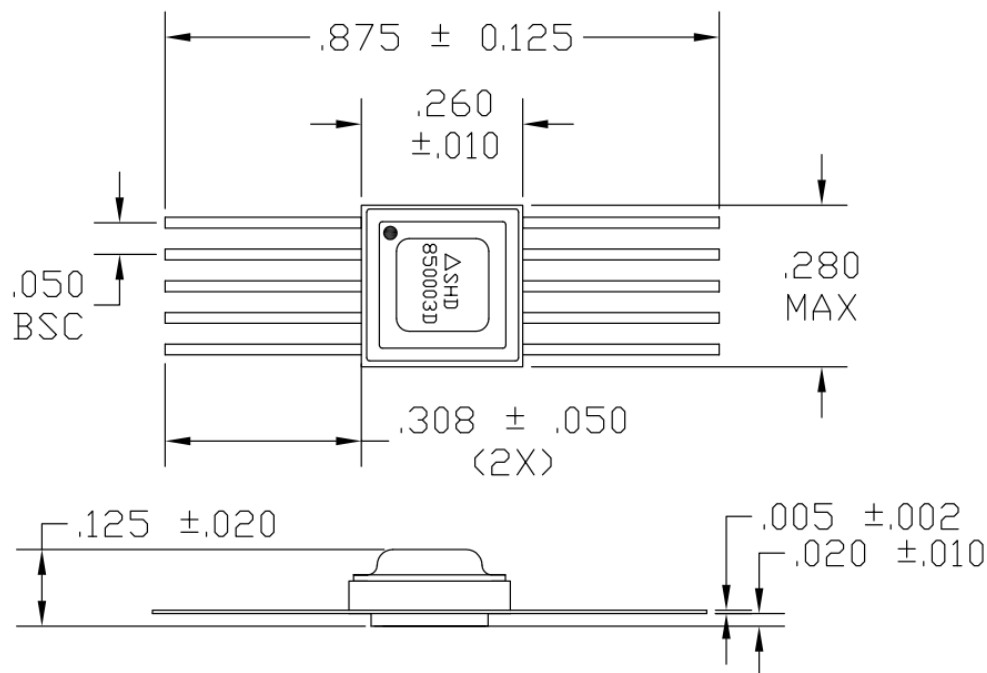
$T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$ with $4.5\text{V} \leq V_S \leq 18\text{V}$ otherwise specified.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
Logic 1 Input Voltage	V_{IH}	2.4	-	-	Volts
Logic 0 Input Voltage	V_{IL}	-	-	0.8	Volts
Input Voltage Range	V_{IN}	0	-	V_S	Volts
Input Current, ($0\text{V} \leq V_{IN} \leq V_S$)	I_{IN}	-10	-	10	μA
High Output Voltage	V_{OH}	V_S -0.025	-	-	Volts
Low Output Voltage	V_{OL}	-	-	0.025	Volts

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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 High, $V_{IN} = 0.8$ ($I_{OUT} = 10\text{mA}$, $V_s = 18\text{V}$)	R_o	-	3.7	8.0	Ohms
Output Resistance, Output Low, $V_{IN} = 2.4$ ($I_{OUT} = 10\text{mA}$, $V_s = 18\text{V}$)	R_o	-	4.3	8.0	Ohms
Rise Time, ($C_L = 1800\text{ pF}$)	t_R	-	28	60	ns
Fall Time, ($C_L = 1800\text{ pF}$)	t_F	-	32	60	ns
Delay Time, Rise ($C_L = 1800\text{ pF}$)	t_{d1}	-	32	100	ns
Delay Time, Fall ($C_L = 1800\text{ pF}$)	t_{d2}	-	38	100	ns
Power Supply Current, ($V_{IN} = 3.0\text{V}$) ($V_{IN} = 0\text{V}$)	I_s	-	2.0 0.20	3.5 0.3	mA
Operating Input Voltage	V_s	4.5	-	18	Volts

MECHANICAL DIMENSIONS: in Inches / mm
CerPack-10

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 DRIVER CERPACK-10	N/C	Input A	Gnd.	Input B	N/C	N/C	Output B	V_s	Output A	N/C

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