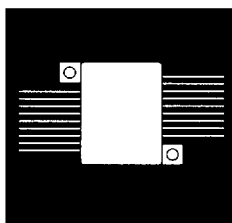


FULL BRIDGE SERVO DRIVER



15A High Efficiency H-Bridge And Driver For Servo Applications

FEATURES

- 100V Power MOSFETs
- Output Current Up To 15 Amps
- TTL Or CMOS Inputs
- 95% Efficiency Over Temperature
- Schmitt Trigger Input
- Up To 100 kHz Operation
- Available Hi-Rel Screened

DESCRIPTION

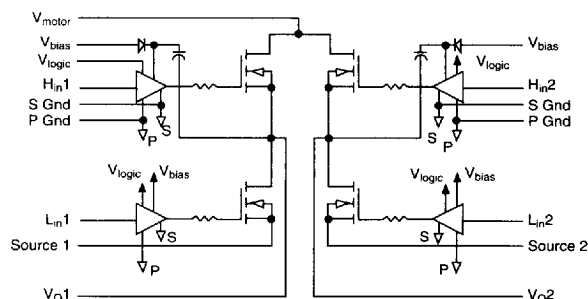
The OM9360SF uses all N-Channel power MOSFETs coupled with high and low side gate driver circuitry to achieve a high efficiency H-bridge for use in servo applications. The OM9360SF can be configured by the user to accept either TTL or CMOS input signals. The OM9360SF is contained in a hermetic metal package providing excellent thermal characteristics. In addition, the OM9360 features mechanical mounting tabs and performable leads.

ABSOLUTE MAXIMUM RATINGS

Motor Supply Voltage, V_{Motor}	75 V
Continuous Output Current, I_m	15 A
Pulsed Output Current (<1% Duty Cycle), I_{mp}	25 A
15 Volt CMOS/Bootstrap Supply Voltage, V_{bias}	16.5 V
Logic Supply Voltage, V_{logic}	16.5 V
Operating Temperature Range, Temp	-55 to +125°C

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BLOCK DIAGRAM

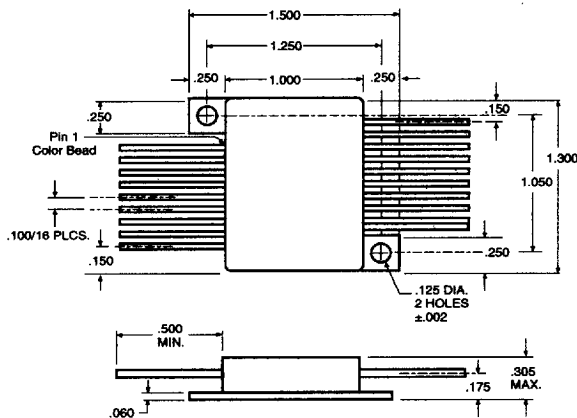


ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Input Power					
+15 V Bias Supply, V_{bias}		10	-	15	V
+5V Logic Supply, V_{logic}		4	-	15	V
+15V Supply Current, I_{cc}		-	1.8	2.1	mA
+5V Supply Current, I_{dd}		-	0.1	1	μ A
Logic Input Signals					
Logic Input Positive Going Threshold, V_{th+}	Pins 1 & 7 = 15V, Pin 2 = 5/15V, Pins 10, 11, 15 & 16 = 0V	2.5/7.5	2.67/8.0	2.83/8.5	V
Logic Input Negative Going Threshold, V_{th-}		1.83/5.5	1.97/5.9	2.1/6.3	V
Under voltage Positive Going Threshold U_{V+}		2.24/6.8	2.77/8.3	3.28/9.85	V
Under voltage Negative Going Threshold, U_{V-}		2.1/6.3	2.73/8.2	3.17/9.5	V
Output					
Continuous Output Current, I_{Motor}	-40 to +125°C	-	7.5	10	A
Motor Voltage, V_{Motor}		-	50	75	V
On-Resistance (Per FET), R_{DS}		-	-	0.055	Ω
Forward Voltage Drop (Intrinsic Diode), V_f		-	-	1.8	V
Reverse Recovery Time (Intrinsic Diode), t_r		-	500	-	ns
High Side Channel					
Turn On Propagation Delay, t_{on}	$V_{Motor} = 28V,$ $I_q = 15A,$ Pin 1 & 7 = 15V, Pin 2 = 5V	450	550	600	ns
Turn Off Propagation Delay, t_{off}		500	600	700	ns
Rise Time, t_r		-	-	175	ns
Fall Time, t_f		-	-	425	ns
Low Side Channel					
Turn On Propagation Delay, t_{on}	$V_{Motor} = 28V,$ $I_q = 15A,$ Pin 1 & 7 = 15V, Pin 2 = 5V	450	550	600	ns
Turn Off Propagation Delay, t_{off}		500	600	700	ns
Rise Time, t_r		-	-	175	ns
Fall Time, t_f		-	-	425	ns
Thermal					
Maximum Thermal Resistance, θ_{jc}		-	-	2	$^{\circ}C/W$
Junction Temperature Range, T_j		-55	-	150	$^{\circ}C$
Junction Temperature Range, T_{cc}		-55	-	125	$^{\circ}C$
Junction Temperature Range, T_{ca}		-55	-	150	$^{\circ}C$

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MECHANICAL OUTLINE



Pin Connection

- | | |
|--------------------|-------------------|
| Pin 1: V_{bias} | Pin 18: L_{in2} |
| Pin 2: V_{logic} | Pin 17: H_{in2} |
| Pin 3: V_{O2} | Pin 16: S Gnd |
| Pin 4: V_{Motor} | Pin 15: P Gnd |
| Pin 5: V_{O1} | Pin 14: Source 2 |
| Pin 6: NC | Pin 13: Source 1 |
| Pin 7: V_{bias} | Pin 12: NC |
| Pin 8: H_{in1} | Pin 11: S Gnd |
| Pin 9: L_{in1} | Pin 10: P Gnd |



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