

General Description

HL118 is a single-channel DC motor driver designed by COMS technology. It integrates H bridge circuit inside. Through different input logic of two signal input terminals, It can realize four functions of motor including positive rotation, reverse rotation, brake and standby. Mainly for toys, electric toothbrush, intelligent lock and other consumer motor applications.

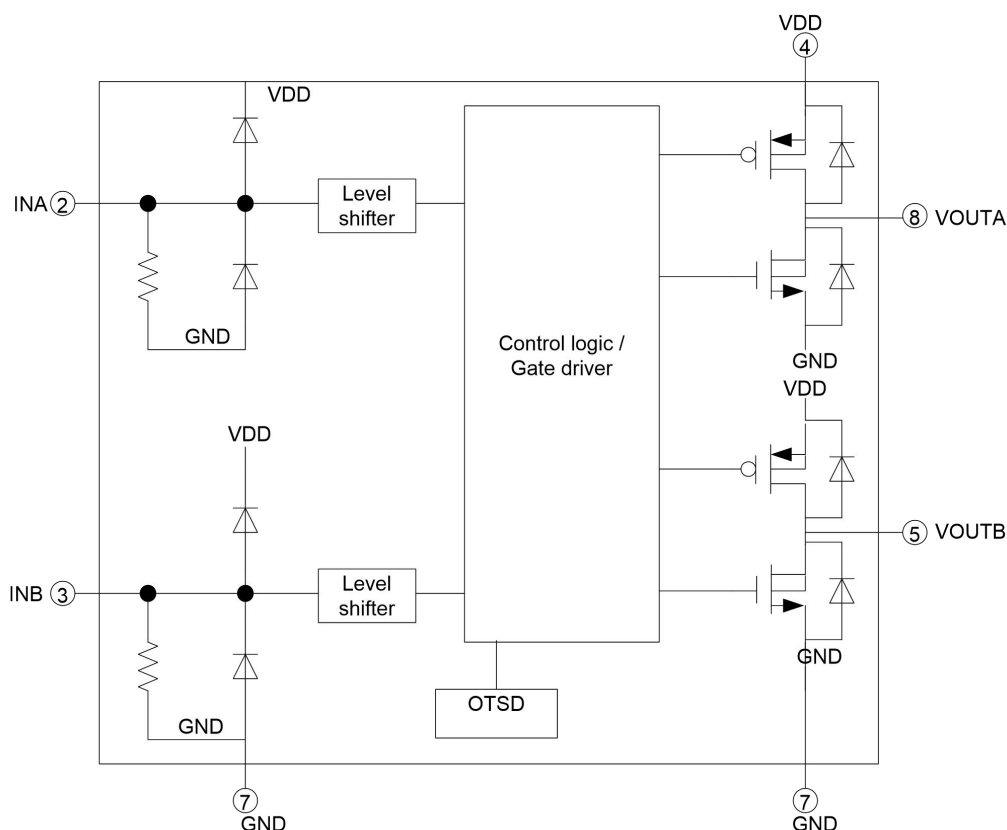
Features

Wide operation voltage: $V_{DD}=1.8 \sim 8.5V$
 Continuous current: **1.8A**, peak current: **3A**
 Low standby current : 0.1uA (Typical)@ $V_{DD}=5V$
 Over-temperature protection(OTSD)
 Low on resistance $\sim 0.5\Omega$
 ESD **8KV** (HBM)

Application

Electronic lock
 Electric toy
 Electric toothbrush

Block Diagrams



Package Marking and Ordering Information

Device Marking	Device	Device Package	Quantity
1208	HL118	SOP8	4000

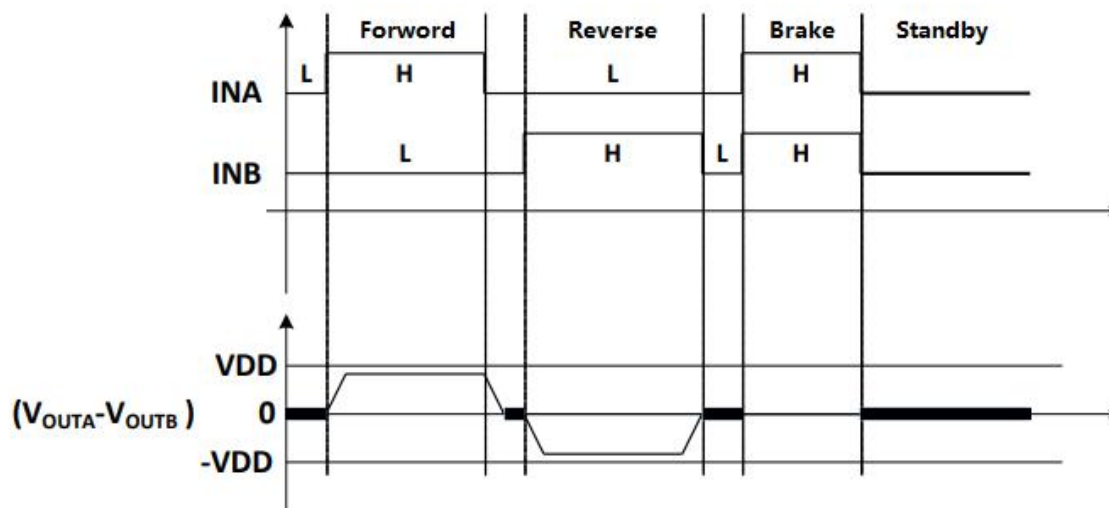
Pin Assignment

SOP8		引脚	符号	I/O	说明
NC	1	1	NC		
INA	2	2	INA	I	信号输入端 A
INB	3	3	INB	I	信号输入端 B
VDD	4	4	VDD	---	电源
		5	OUTB	O	输出端 B
		6	GND	---	地
		7	GND	---	地
		8	OUTA	O	输出端 A

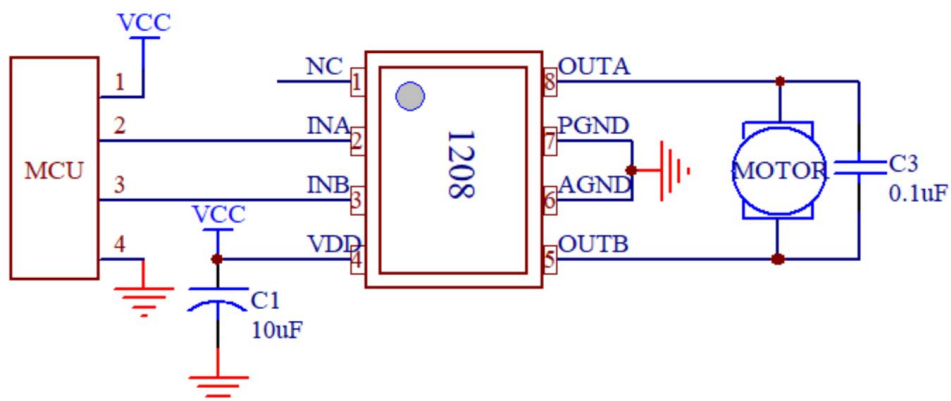
Logic Information

INA	INB	OUTA	OUTB	功能
L	L	Hi-Z	Hi-Z	待机
L	H	L	H	反转
H	L	H	L	正转
H	H	L	L	煞车

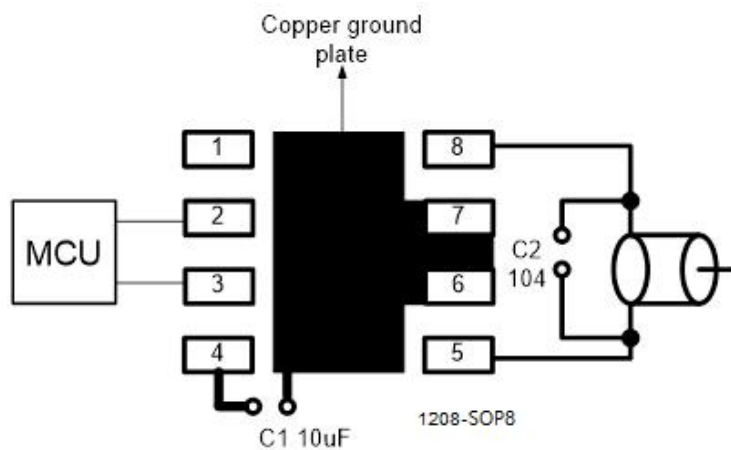
Typical Input Diagram



Typical Application



Layout Guideline



C1 must close to IC

C1 if the voltage is higher than 6V, electrolytic capacitor must be used (stepless SMD capacitor cannot be used)

C2 must be welded directly to the motor

Motor internal resistance must be greater than 1.8Ω

**Absolute Maximum Ratings**

	Symbol	Condition	Max	Unit
Power supply	VDD	马达	8.5	V
Logic input voltage			VSS-0.3~VDD+0.3	V
Power dissipation(S08C)	Pd		1.2	W
Output peak current	Ipeak		3*	A
Continuous output current(S08C)	Icon		1.4	A
Operation temperature	Top		-20~60*	°C

* The higher the ambient temperature, the lower the output continuous current

Note:

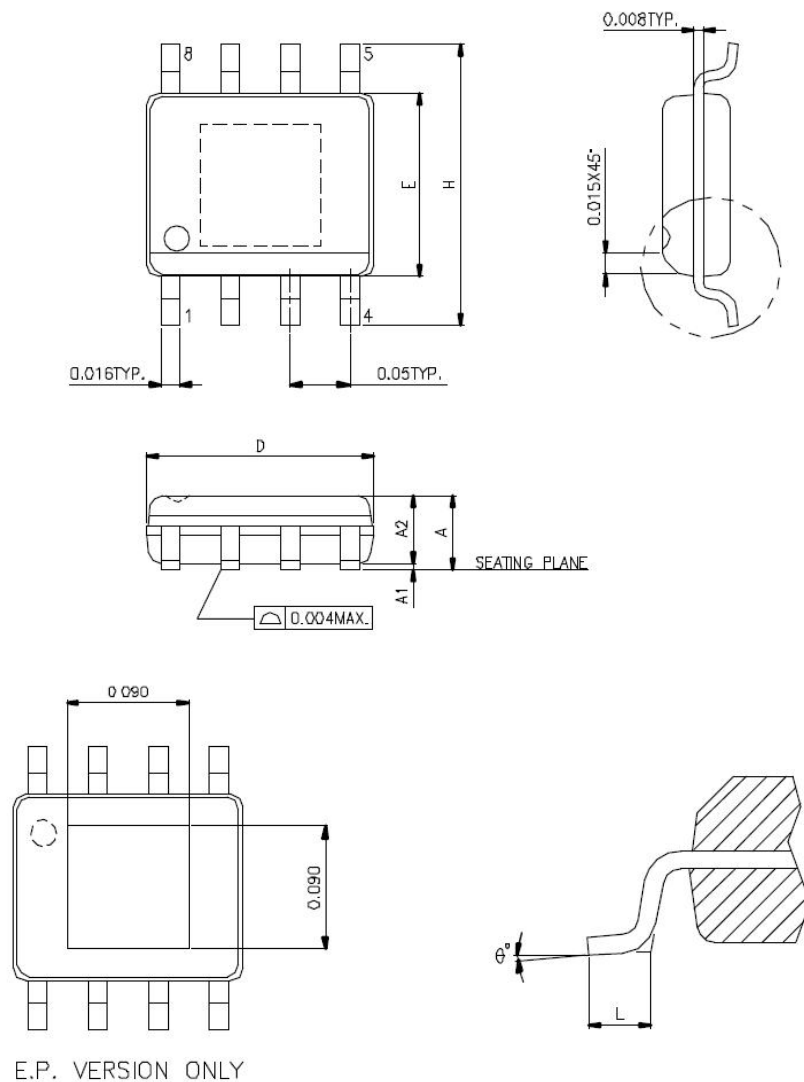
Motor lock-rotor has different peak current because of different motors. If the peak current of motor lock-rotor is too large, it may burn IC

Electrical Characteristics (V_{DD}=6V, T=25°C)

Parameter	Test Conditions	Min.	Typ.	Max	Unit
VDD operation range	motor, -20 ~ 60 °C	1.8	-	8.5	V
I _{IM} Input resistance	INA/INB, VDD=5V		100		KΩ
I _F Input frequency			100		Hz
I _{DD} Input current	No load, Input = 5V		500		uA
I _{SB} Standby current	standby mode INA=INB=0 > 10ms	-	0.1	0.5	uA
R _{on} Output on resistance(S08C)	I _{LOAD} =1000mA		0.5		Ω
V _{Ih} Input logic high voltage			1.8		V
V _{Il} Input logic low voltage			1		V
T _{OTSD} Thermal shutdown temperature	V _{DD} =5V		150		°C
H _{OTSD} Thermal shutdown hysteresis			70		°C



Package Information



Symbols	Dimension In INCH	
	Min.	Max.
A	0.053	0.069
A1	0.004	0.010
A2	-	0.059
D	0.189	0.196
E	0.150	0.157
H	0.228	0.244
L	0.016	0.050
θ°	0°	8°



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