

PRODUCTVIEW

The SS8813 provides a dual channel integrated motor drive solution for printers and other motor integration applications. The SS8813 has two H-bridge drives, each providing a maximum peak current of 2.5A and a root mean square current of 1.75A(at 24V and Ta = 25°C with appropriate cooling conditions), which can drive two brush DC motors, or a bipolar stepper motor, or a solenoid or other inductive load. Bipolar stepper motors can be operated in full step, 2 subdivision, 4 subdivision, or with software for high subdivision.

The power output module of each H-bridge of the SS8813 consists of N-type power MOSFETs. Each H-bridge contains a rectifier circuit and a current limiting circuit. Simple parallel digital control interface, attenuation mode can be selected for fast attenuation, slow attenuation and hybrid attenuation.

The SS8813 provides a low-power sleep mode to turn off the internal circuitry to achieve very low static current. This sleep mode is achieved by setting the nSLEEP pin. The internal shut-off function contains overcurrent protection, short circuit protection, undervoltage lock protection and overtemperature protection, and provides a fault output pin nFAULT pin

The SS8813 is available in an ETSSOP28 package with a bare pad for improved heat dissipation and is lead-free with 100% wuxi plating on the pin frame.

APPLICATIONS

- POS printer
- Security camera
- Office automation equipment
- Game consoles
- Robots

FEATURES

- Two channel H-bridge current controlled motor driver.
 - Single or two brushed DC motors
 - One stepper motor
- EN/PH control interface.
- Current control is optional at fixed frequency - 2 bits current control, providing 4 current steps
 - 2 bits
- A low on-impedance metal-oxide-semiconductor field-effect transistor (MOSFET)
 - 24V · Ta = 25°C, to achieve a maximum drive current of 2.5A
 - 24V · Ta= 25°C, RDS(on)350mΩ (typical value HS + LS)
- 8.2~45V operating voltage range
- Sleep mode Low current
- 3.3V reference voltage built in
- Surface mount package with heat sink
- Protective features
 - Overcurrent Protection (OCP)
 - Thermal shutoff (TSD)
 - Undervoltage Block (UVLO)
 - Fault display Pin (nFAULT)

PRODUCT INFORMATION

Product model number	Encapsulation form	Remarks
SS8813T-ET-TP	ETSSOP28	Roll tape · 3000/pack

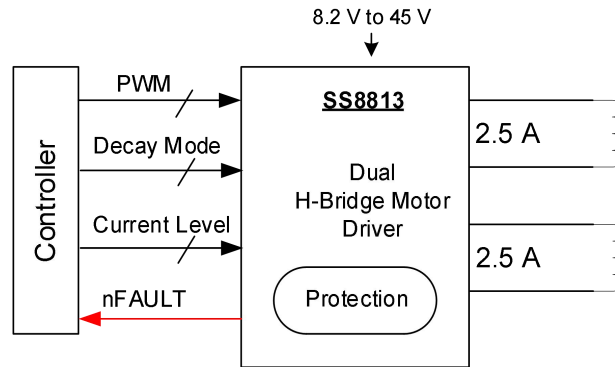
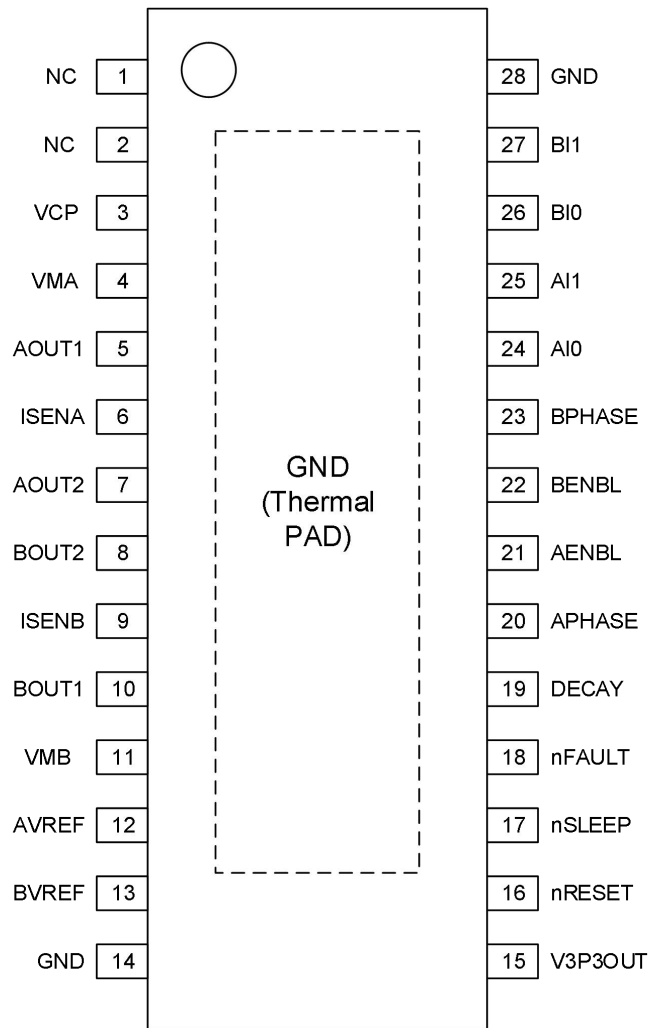


Figure 1, Schematic diagram of typical application

PIN CONFIGURATION AND FUNCTION



PIN LIST

Pin names	Pin serial number	Pin description	External component or connection description
Power and ground			
GND	14,28	Chip-ground	All GND pins and chip bare pads are connected to the power source
PPAD	-	Chip-ground	
VMA	4	Channel A H-bridge power supply	Motor power supply, all VMx pins need to be connected together.
VMB	11	Channel B H-bridge power supply	
V3P3OUT	15	3.3V rectified output	The external 0.47uF capacitor is connected to the ground for filtering, which can supply power to the reference voltage xVREF.
NC	1, 2	undefined	
VCP	3	High side grid drive	Add 0.1uF capacitor to VM
control			
AENBL	21	Enable channel A	Logical high level H-bridge A is enabled. Internal drop-down.
APHASE	20	A-channel phase	Logical High Set AOUT1 to high and AOUT2 to low. Internal pull-down
Ai0	24	Channel A H-bridge current set input 0	Ai1,Ai0=0,0→100%, Ai1,Ai0=0,1→71%, Ai1,Ai0=1,0→38%, Ai1,Ai0=1,1→0%
Ai1	25	Channel A H-bridge current set up input 1	
BENBL	22	Enable channel B	Logical high level H-bridge B is enabled. Internal pull-down.
BPHASE	23	B-channel phase	Logical Height Set BOUT1 to high and BOUT2 to low. Internal pull-down
Bi0	26	B Channel H-bridge current set input 0	For logic high power, the chip works normally; If the logic level is low, the chip enters the low-power sleep mode
Bi1	27	B Channel H-bridge current setup input 1	
nSLEEP	17	Sleep mode input	For logic high power, the chip works normally; If the logic level is low, the chip enters the low-power sleep mode
DECAY	19	Attenuation mode select input	Low=Slow attenuation ; hanging =mixed attenuation ; High =fast attenuation
nRESET	16	Reset input	High level, the chip is working; Low level, the chip enters the reset state.
AVREF	12	Channel A H-bridge reference voltage input	Reference voltage input, to set the drive current. An external programmable DAC can be connected for high subdivision or to a fixed reference voltage (e.g. V3P3OUT)
BVREF	13	B channel H-bridge reference voltage input	
Status			
nFAULT	18	Error status Output	Open drain output, if used requires an external pull-up resistor. When overtemperature or overcurrent occurs, the output is low.
Output			
ISENA	6	Channel A H-bridge ground/Isense	Channel A H-bridge detects the current end, connect the detection current resistor to the ground, if no current

			limiting is required, ground directly.
ISENB	9	Channel B H-bridge ground/Isense	Channel B H-bridge detects the current end, connect the detection current resistor to the ground, if there is no need to limit the current, ground directly.
AOUT1	5	Channel A H-bridge output 1	Channel A H-bridge output, define the forward current as AOUT1 → AOUT2
AOUT2	7	Channel A H-bridge output 2	
BOUT1	10	Channel B H-bridge output 1	Channel B H-bridge output, define the forward current as BOUT1 → BOUT2
BOUT2	8	Channel B H-bridge output 2	