PRODUCT OVERVIEW

The SS8844T offers four independently controlled 1/2 H-bridge starters. It can be used to drive two DC motors, a stepper motor, four solenoids, or other loads. The output driver channel for each channel consists of an N-channel power MOSFETs configured in a 1/2 H-bridge configuration.

The SS8844T delivers up to 2.5A peak current or 1.75A root mean square (RMS) output current (with appropriate printed circuit board (PCB) heat dissipation at 24V and 25°C) on each bridge channel.

The SS8844T internal shut-off feature includes overcurrent protection, short circuit protection, undervoltage lock protection, and overtemperature protection, and provides a fault output pin nFAULT pin.

The SS8844T is available in an ETSSOP28 package with a bare pad for improved heat dissipation. It is lead-free and the pin frame is 100% wuxi plated.
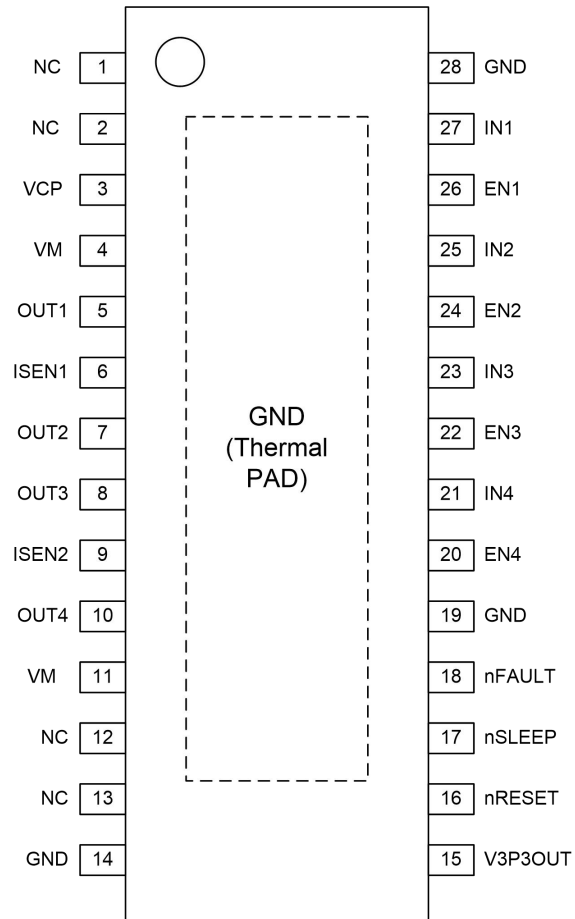
FEATURES

- Dual channel H-bridge current control motor driver
    - Single or two brushed DC motors
    -- One stepper motor
    - Fully independent half-bridge control
- Industry standard IN/IN digital control interface
- Metal oxide semiconductor field effect transistor (MOSFET) with low on-impedance
    - 24V, Ta = 25°C to achieve a maximum drive current of 2.5A
    - 24V, Ta= 25°C R_{DS}(on) 350mΩ (typical value HS + LS)
- 8.2~40V operating voltage range
- 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	Package form	Remarks
SS8844T-ET-TP	ETSSOP28	No short circuit protection self-recovery function

APPLICATIONS

- Textile machines
- Industrial automation
- Office automation equipment
- Game consoles
- Robots

PIN CONFIGURATION AND FUNCTION

NC	1			28	GND
NC	2			27	IN1
VCP	3			26	EN1
VM	4			25	IN2
OUT1	5			24	EN2
ISEN1	6			23	IN3
OUT2	7	GND (Thermal PAD)		22	EN3
OUT3	8			21	IN4
ISEN2	9			20	EN4
OUT4	10			19	GND
VM	11			18	nFAULT
NC	12			17	nSLEEP
NC	13			16	nRESET
GND	14			15	V3P3OUT

PIN LIST

Pin names	Pin serial number	Pin description	External component or connection description
Power and ground			
GND	14,19,28	chip-wise	All GND pins and chip bare pads are connected to the power supply.
PPAD	-	Chip on chip	
VM	4,	H-bridge power supply	Motor power supply, all VM pins need to be connected together.
V3P3OUT	15	3.3V rectified output	External 0.47uF capacitor to ground for filtering.
NC	1,2,12,13	Undefined	
VCP	3	High side grid drive	Add 0.1uF capacitor to VM.
Controls			
IN1	27	1 Half bridge logic input	The logic input signal controls the state of OUT1, which has a pull-down resistor inside.
EN1	26	1 Half bridge enable input	Enable the input signal to control the state of OUT1, which has a pull-down resistor inside.
IN2	25	2 Half bridge logic input	The logic input signal controls the state of the OUT2, which has a pull-down resistor inside.
EN2	24	2 Half bridge enable input	Enable the input signal to control the status of OUT2 with an internal pull-down resistor.
IN3	23	3 Half bridge logic input	The logic input signal controls the state of the OUT3, which has a pull-down resistor inside.
EN3	22	3 Half bridge Enable input	Enable the input signal to control the state of OUT3, which has a pull-down resistor inside.
IN4	21	4 Half bridge logic input	The logic input signal controls the state of the OUT4, which has a pull-down resistor inside.
EN4	20	4 Half bridge Enable input	Enable the input signal to control the status of OUT4 with a pull-down resistor inside.
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
nRESET	16	Reset input	High level, the chip is working; Low level, the chip enters the reset state.
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			
ISEN1	6	1&2 half bridge ground/Isense	1&2 half bridge power ground, directly connected to GND.
ISEN2	9	3&4 Half bridge ground/Isense	3&4 half bridge power ground, directly connected to GND.
OUT1	5	1 Half bridge output	Connect the load
OUT2	7	2 Half bridge output	
OUT3	8	3 Half bridge output	
OUT4	10	4 Half bridge output	