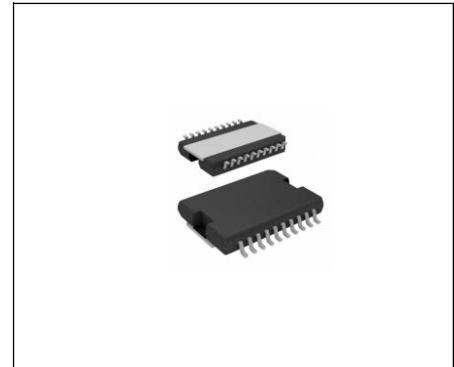


Preliminary Datasheet

1 Overview

Features

- Operating supply voltage 5 V to 28 V
- Typical $R_{DSon} = 150\text{ m}\Omega$ for each output transistor (at 25 °C)
- Continuous DC load current 3.5 A ($T_C < 100\text{ }^\circ\text{C}$)
- Output current limitation at typ. $6.6\text{ A} \pm 1.1\text{ A}$
- Short circuit shut-down for output currents over 8 A
- Logic- inputs TTL/CMOS-compatible
- Output switching frequency up to 30 kHz
- Rise and fall times optimized for 0.5-2 kHz
- Over-temperature protection
- Short circuit protection
- Undervoltage disable function
- Diagnostic by SPI or Status-Flag (configurable)
- Enable and Disable input
- P-DSO-20-12 power package



Type	Ordering Code	Package
30348	on request	P-DSO-20-12

Functional Description

The 30348 is an intelligent full H-Bridge, designed for the control of DC and stepper motors in safety critical applications and under extreme environmental conditions.

The H-Bridge is protected against over-temperature and short circuits and has an under voltage lockout for all the supply voltages “ V_S ” (main DC power supply). All malfunctions cause the output stages to go tristate.

The device is configurable by the DMS pin. When grounded, the device gives diagnostic information via a simple error flag. When supplied with $V_{CC} = 5\text{ V}$, the device works in SPI mode. In this mode, detailed failure diagnosis is available via the serial interface.

Pin Configuration

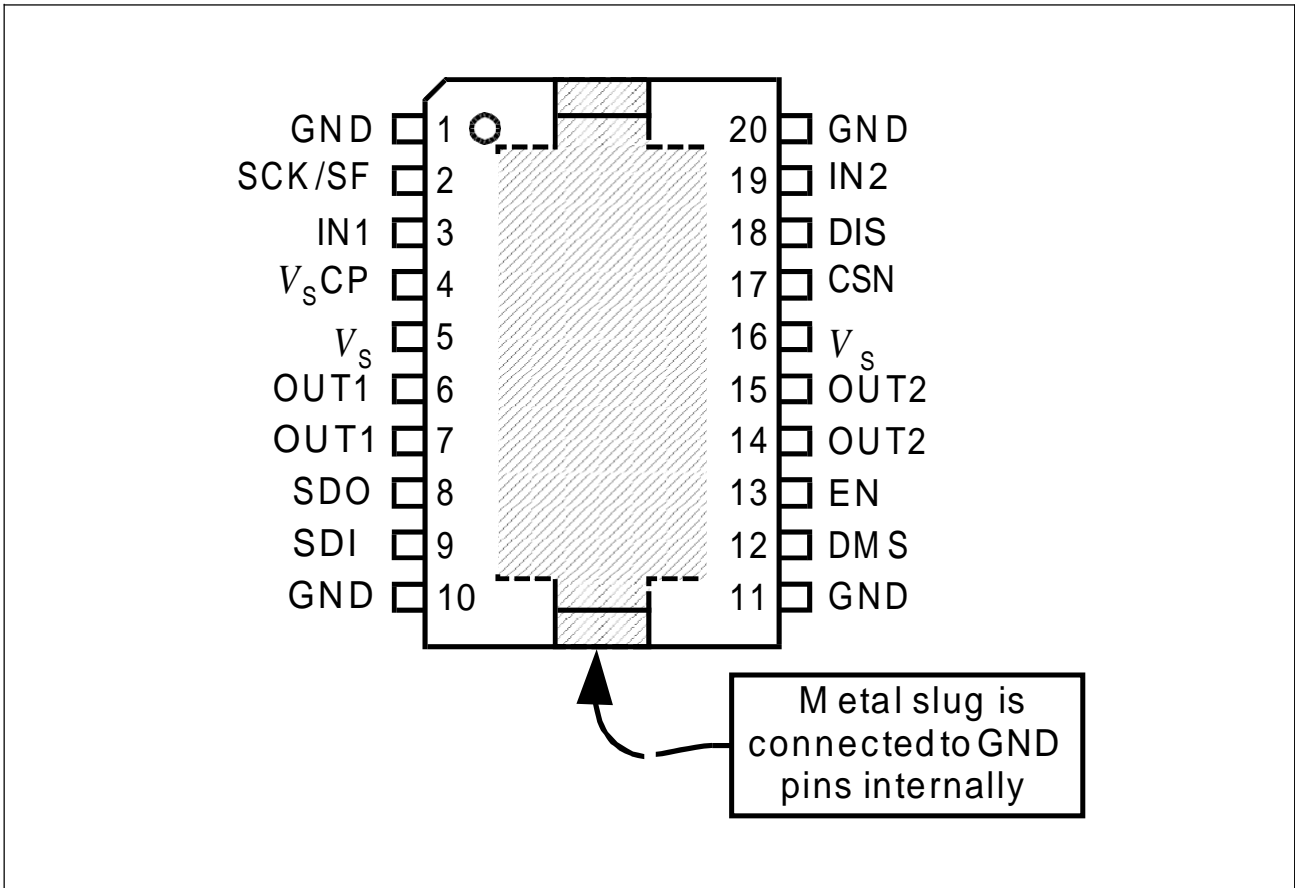


Figure 1 Pinout 30348

Table 1 Pin Definitions and Functions

Pin. No.	Symbol	Function
1	GND	Ground
2	SCK/SF	SPI-Clock/Status-flag
3	IN1	Input 1
4	$V_{S\text{CP}}$	Supply voltage for internal charge pump
5, 16	V_S	Supply voltage; connect pins externally
6, 7	OUT1	Output 1; connect pins externally
8	SDO	Serial data out
9	SDI	Serial data in
10	GND	Ground
11	GND	Ground

Table 1 Pin Definitions and Functions (cont'd)

Pin. No.	Symbol	Function
12	DMS	Diagnostic-Mode selection (+ Supply voltage for SPI-Interface)
13	EN	Enable
14, 15	OUT2	Output 2; connect pins externally
17	CSN	Chip Select (low active)
18	DIS	Disable
19	IN2	Input 2
20	GND	Ground

Block Diagram

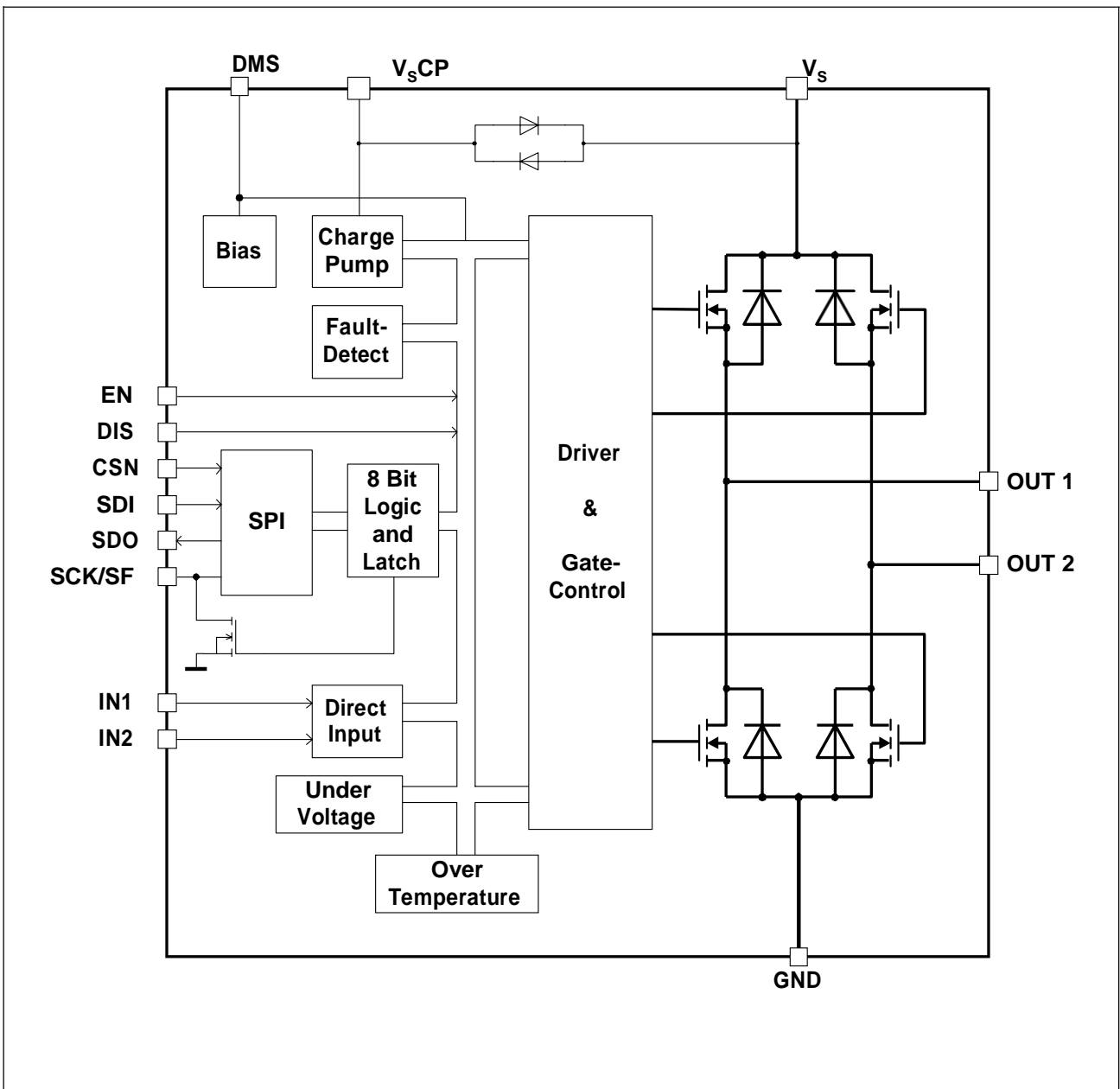


Figure 2 Block Diagram 30348