► Sensorless position control of DC-motors, with drivers

coming soon E910.71

FEATURES

- ► 6 Half Bridges configurable to drive 3, 4, or 5 DC Motors
- ► Half Bridges not needed for Motor Control may drive other kinds of loads
- ► Output Current max. 400 mA per Half Bridge
- ► Three independend Pulse Detectors and Counters
- ► Servo Control Positioning of Actuators
- ► Excellent Positioning Performance
- ► SPI for communication with µC
- ► Short Circuit Protection
- ► Over Temperature Protection
- ► Battery Supply and 5V Monitor
- ► Diagnostic Data via SPI
- ► QFN 7 × 7 32 package

APPLICATION

- ► Positioning of HVAC Flaps (according to US patent 5,203,499 owned by BHTC)

DESCRIPTION

The IC features 6 configurable half bridges to drives up to 3 DC motors simultaneously or up to 5 motors sequentially. 3 independent pulse detection circuits convert the commutation current of the motors into countable digital signals for positioning especially of HVAC flap actuators.
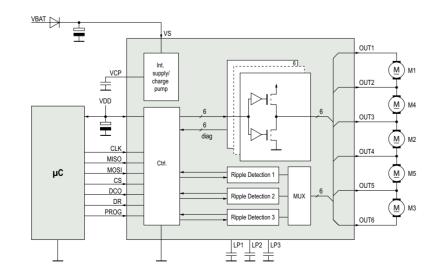
Via an SPI a µC sends motor address, direction, and pulse count command to the device. The corresponding motor will then be driven to the desired position, and the actual number of counts is sent back to the µC.

Diagnostic data such as over current, over temperature, and motor stall is also transmitted via the SPI.
An open drain low side output indicates when a required motor position is reached or diagnostic data is available.
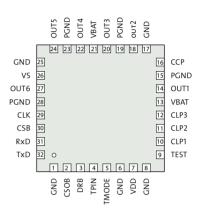ICs can be connected in a daisy chain.

PINNING

Pin	Name	Description
1	GND	Ground
2	CSOB	Chip select input/daisy chain out
3	DRB	Data ready flag output, open drain
4	TPIN	Test input, connect to GND
5	TMODE	Test input, connect to GND
6	GND	Ground
7	VDD	5V supply input
8	GND	Ground
9	TEST	Test mode, connect to ground
10	CLP1	Low pass filter capacitor for ripple detection 1
11	CLP2	Low pass filter capacitor for ripple detection 2
12	CLP3	Low pass filter capacitor for ripple detection 3
13	VBAT	Battery supply
14	OUT1	Output half bridge 1
15	PGND	Power ground
16	CCP	External charge pump capacitor
17	GND	Ground
18	OUT2	Output half bridge 2
19	PGND	Power ground
20	OUT3	Output half bridge 3
21	VBAT	Battery supply
22	OUT4	Output half bridge 4
23	PGND	Power ground
24	OUT5	Output half bridge 5
25	GND	Ground
26	VS	Battery supply
27	OUT6	Output half bridge 6
28	PGND	Power ground
29	CLK	Clock input of SPI
30	CSB	Chip select input
31	RxD	Receive data input of SPI
32	TxD	Transmit data output of SPI

PACKAGE

AVAILABILITY

Samples	Q4/2005
Series	Q2/2006

BLOCK DIAGRAM