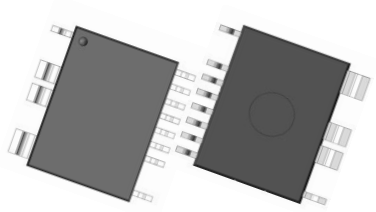
Description

CRM50TE03FA is half-bridge Modules (IPM) designed for advanced appliance motor drive applications such as energy efficient fans and pumps.

CRM50TE03FA Integrated 2 fast recovery MOSFETs and 1 high voltage gate driver in SOP-11 package. The module is optimized for low EMI characteristics.

Features

- 500V half-bridge including high voltage gate driver
- Internal integrated temperature detection output
- Signal high level valid,compatible with 3.3V and 5V MCU
- Built-in Under-voltage Protection
- Built-in bootstrap diode
- Isolation Rating 1500V



SOP-11

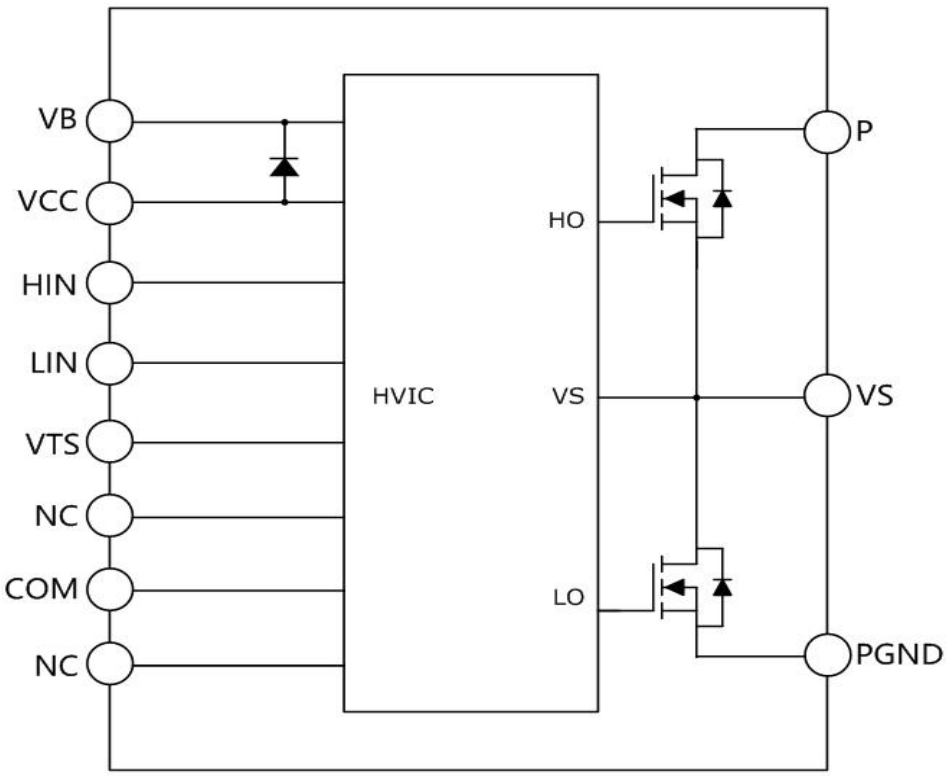
Applications

- Fans
- Pumps

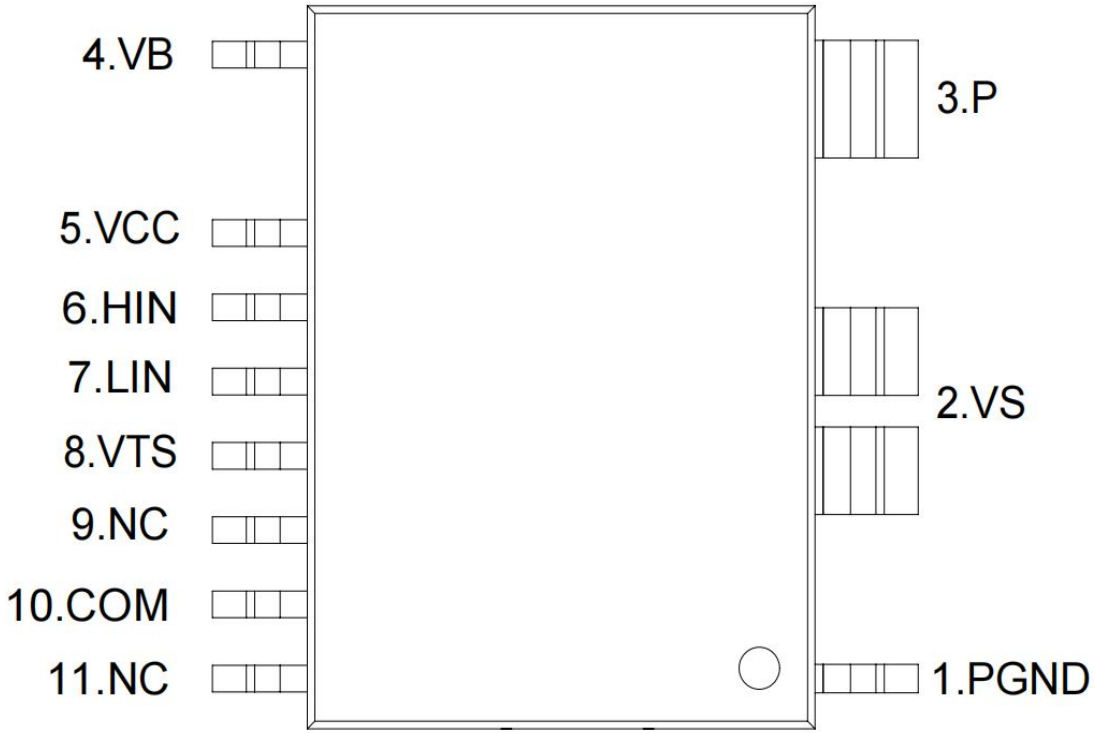
Package Marking and Ordering Information

Part #	Marking	Package	Packing	Quantity	V_{TS}
CRM50TE03FA	CRM50TE03FA	SOP-11	Taping	3000	Yes

Internal Electrical Schematic

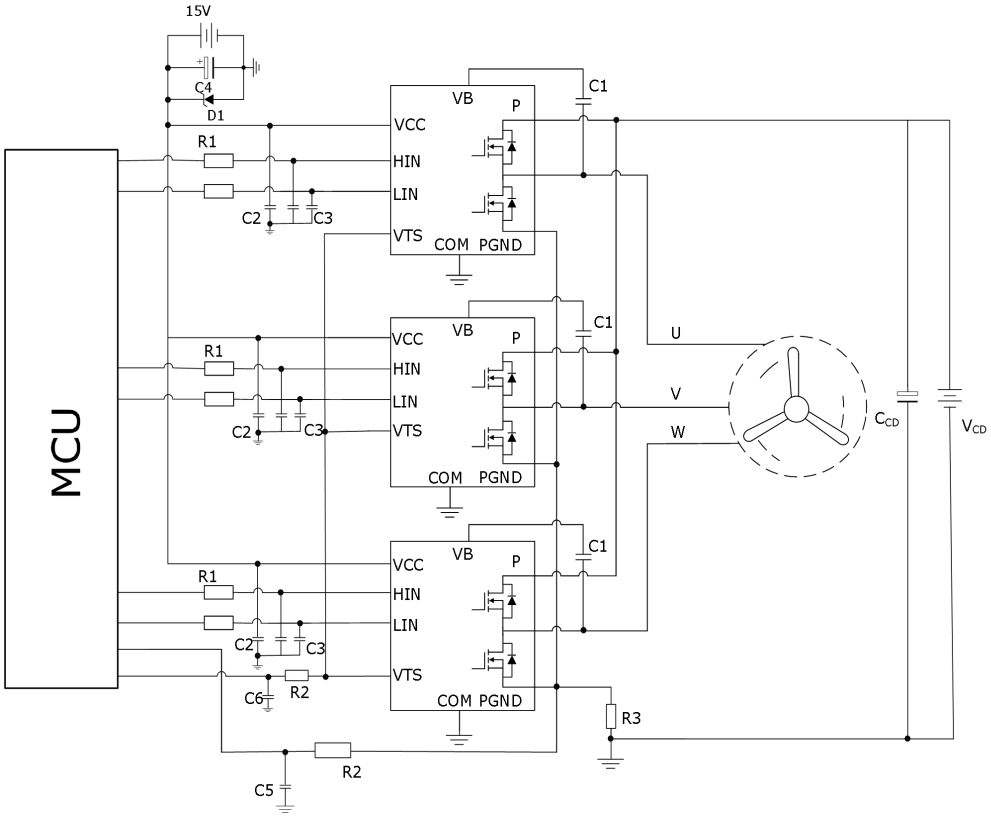


Module Pin-Out Description



Pin Number	Pin Name	Description
1	PGND	Source for low side MOSFET
2	VS	High Side Floating Offset Voltage
3	P	DC Bus Voltage Positive
4	VB	High Side Floating Supply Voltage
5	VCC	Power supply for low side
6	HIN	Logic Input for High Side Gate Driver
7	LIN	Logic Input for Low Side Gate Driver
8	VTS	Temperature-sensing Voltage Output
9	NC	Not Connected
10	COM	Logic Ground
11	NC	Not Connected

Application Circuit



Remark:

1、Input drive is High-Active type.To prevent malfunction, the wiring of each input should be as short as possible.When using RC coupling circuit, make sure the input signal level meet the turn-on and turn-off threshold voltage.

2、Thanks for HVIC inside modules, direct coupling to MCU without any opto-coupler or transformer isolation is possible.

3、 The terminals of VTS is used to temperature detection, if you don't want to use it, please pull-down the terminal with a 100 KΩ resistor to GND. No connection is forbidden.

4、All capacitors should be mounted as close to the terminals of the IPM as possible.

5、The HIN and LIN have internal pull-down resistors. Additional pull-down resistors can be connected if necessary.

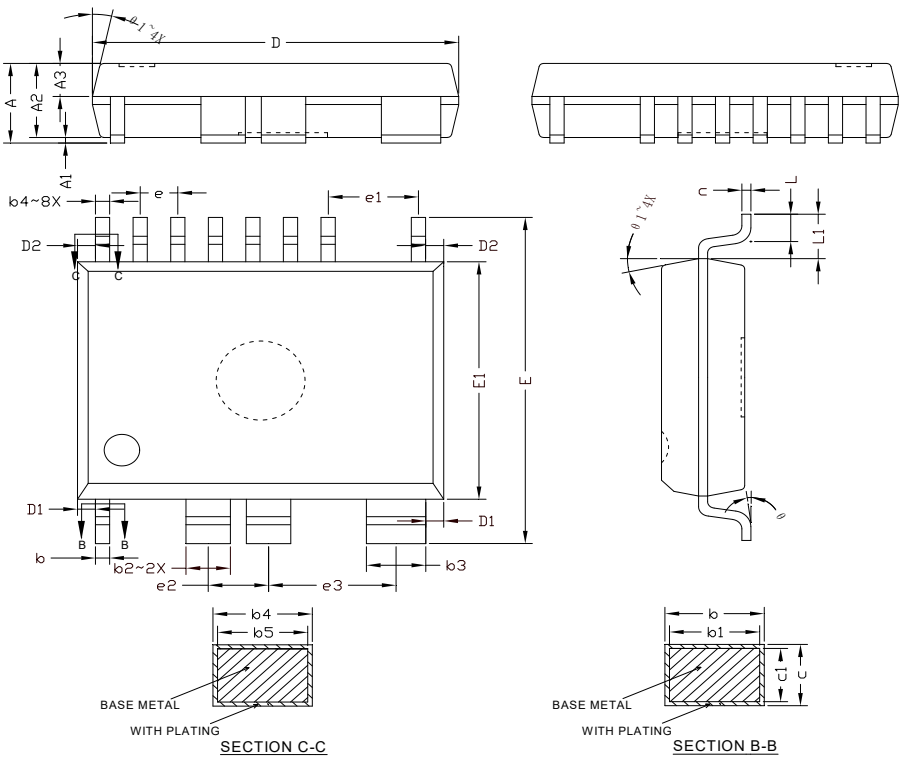
6、Bootstrap negative electrodes should be connected to U, V, W terminals directly and separated from the main output wires.

7、High frequency capacitor C1(greater than 2.2μF) is used as the bootstrap-up capacitor to absorb high frequency ripple.

Package Outline

SOP-11

UNIT:mm



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	--	--	2.615
A1	0.125	--	0.225
A2	2.29	2.34	2.39
A3	0.993	1.043	1.093
b	0.37	--	0.47
b1	0.36	0.40	0.46
b2	--	--	1.25
b3	--	--	1.67
b4	0.35	--	0.45
b5	0.34	0.38	0.44
c	0.25	--	0.29
c1	0.24	0.25	0.26
D	10.20	10.30	10.40
D1	0.502(BSC)		
D2	0.515(BSC)		
E	10.106	10.306	10.506
E1	7.40	7.50	7.60
e	1.058(BSC)		
e1	2.54(BSC)		
e2	1.69(BSC)		
e3	3.60(BSC)		
L	0.75	--	0.97
L1	1.403(REF)		
θ	0°	~	8°
θ1	6°	~	15°