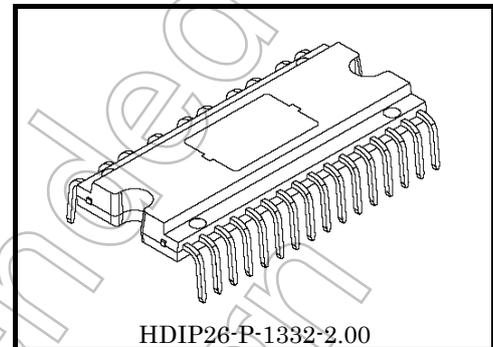


TOSHIBA Intelligent Power Device
High Voltage Monolithic Silicon Power IC

TPD4134K

The TPD4134K is a DC brush less motor driver using high voltage PWM control. It is fabricated by high voltage SOI process. It is three-shunt resistor circuit for current sensing. It contains level shift high-side driver, low-side driver, IGBT outputs, FRDs and protective functions for over-current circuit and under voltage protection circuits and thermal shutdown circuit. It is easy to control a DC brush less motor by just putting logic inputs from a MPU or motor controller to the TPD4134K.



Weight: 3.8 g (typ.)

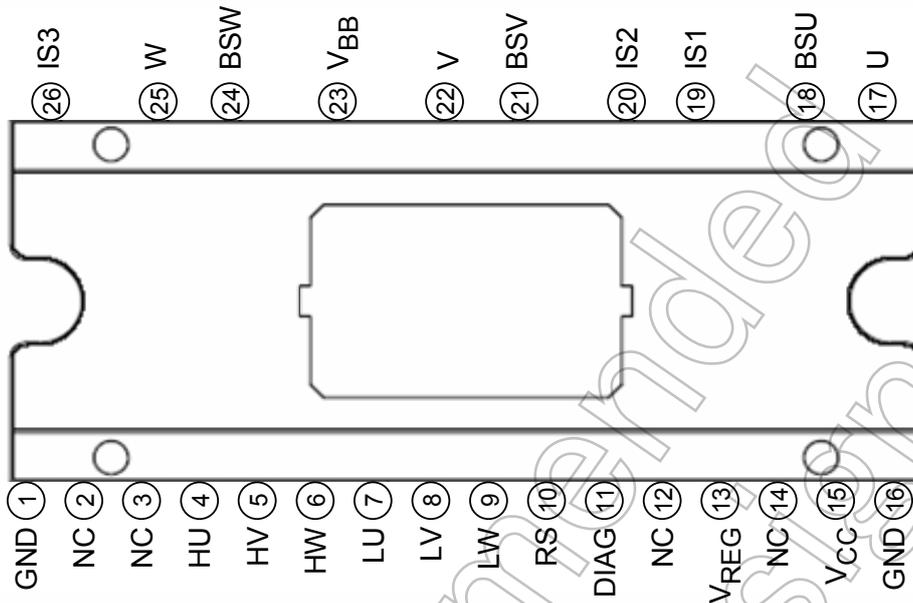
Features

- High voltage power side and low voltage signal side terminal are separated.
- It is the best for current sensing in three shunt resistance.
- Bootstrap circuit gives simple high-side supply.
- Bootstrap diodes are built in.
- A dead time can be set as a minimum of 1.4 μ s, and it is suitable for a Sine-wave from drive.
- 3-phase bridge output using IGBTs.
- FRDs are built in.
- Included over-current and under-voltage protection, and thermal shutdown.
- The regulator of 7 V (typ.) is built in.
- Package: 26-pin DIP.

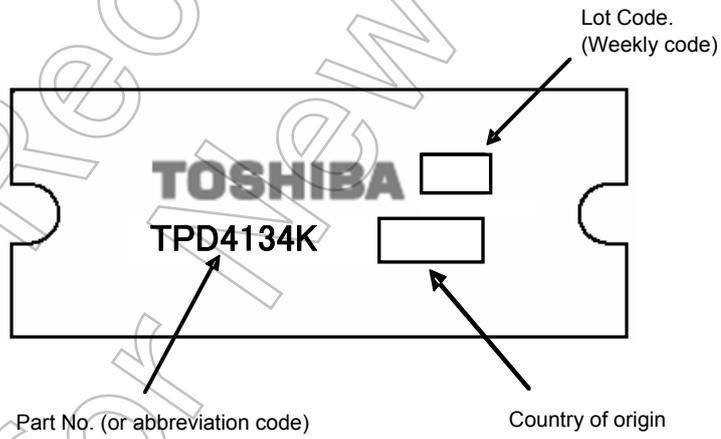
This product has a MOS structure and is sensitive to electrostatic discharge. When handling this product, ensure that the environment is protected against electrostatic discharge.

Start of commercial production
2010-03

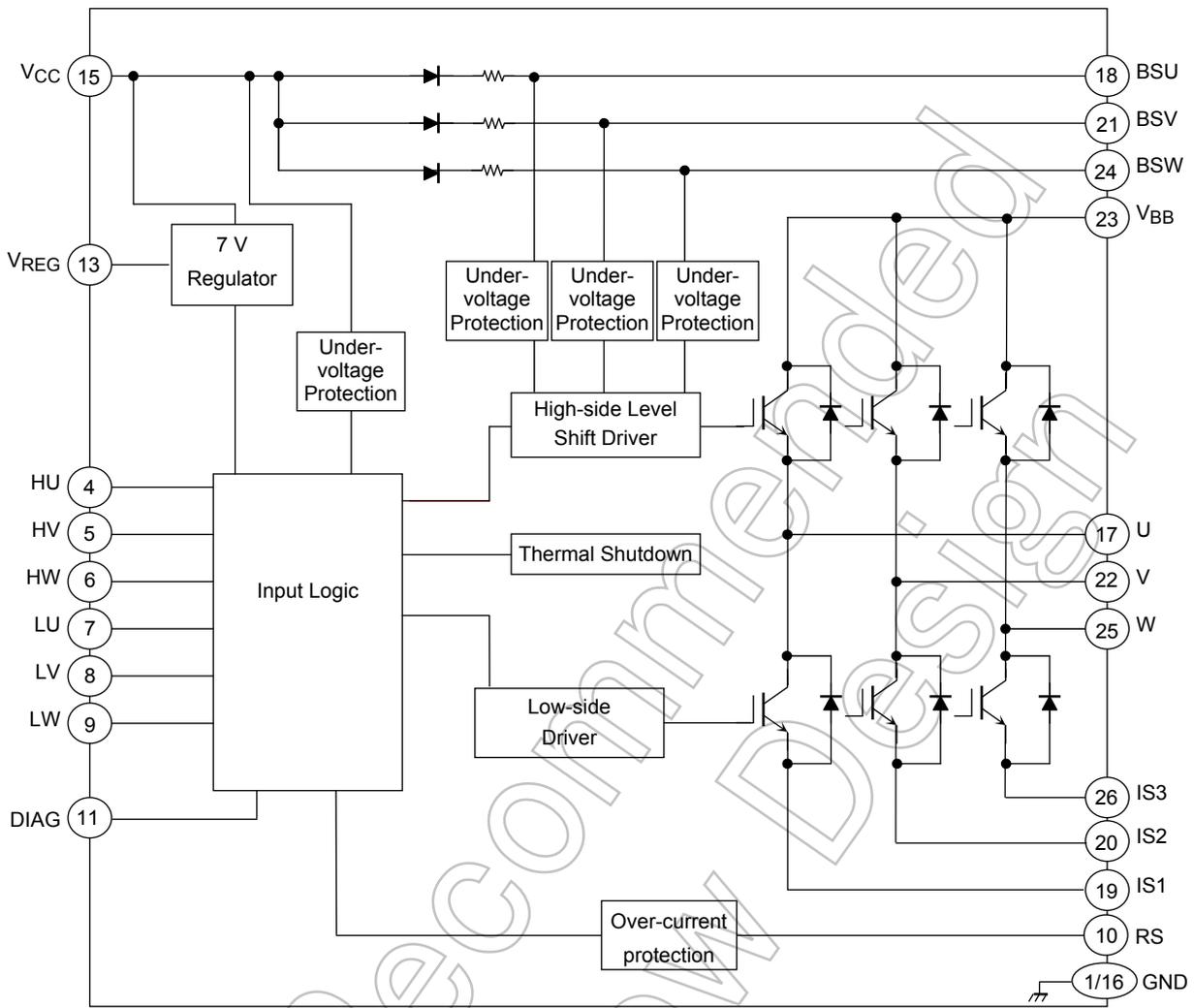
Pin Assignment



Marking



Block Diagram



Not Recommended for New

Pin Description

Pin No.	Symbol	Pin Description
1	GND	Ground pin.
2	NC	Unused pin, which is not connected to the chip internally.
3	NC	Unused pin, which is not connected to the chip internally.
4	HU	The control terminal of IGBT by the high side of U. It turns off less than 1.5 V. It turns on more than 2.5 V.
5	HV	The control terminal of IGBT by the high side of V. It turns off less than 1.5 V. It turns on more than 2.5 V.
6	HW	The control terminal of IGBT by the high side of W. It turns off less than 1.5 V. It turns on more than 2.5 V.
7	LU	The control terminal of IGBT by the low side of U. It turns off less than 1.5 V. It turns on more than 2.5 V.
8	LV	The control terminal of IGBT by the low side of V. It turns off less than 1.5 V. It turns on more than 2.5 V.
9	LW	The control terminal of IGBT by the low side of W. It turns off less than 1.5 V. It turns on more than 2.5 V.
10	RS	Over current detection pin.
11	DIAG	With the diagnostic output terminal of open drain , a pull-up is carried out by resistance. It turns on at the time of unusual.
12	NC	Unused pin, which is not connected to the chip internally.
13	VREG	7 V regulator output pin.
14	NC	Unused pin, which is not connected to the chip internally.
15	VCC	Control power supply pin. (15 V typ.)
16	GND	Ground pin.
17	U	U-phase output pin.
18	BSU	U-phase bootstrap capacitor connecting pin.
19	IS1	U-phase IGBT emitter and FRD anode pin.
20	IS2	V-phase IGBT emitter and FRD anode pin.
21	BSV	V-phase bootstrap capacitor connecting pin.
22	V	V-phase output pin.
23	VBB	High-voltage power supply input pin.
24	BSW	W-phase bootstrap capacitor connecting pin.
25	W	W-phase output pin.
26	IS3	W-phase IGBT emitter and FRD anode pin.

Not for