

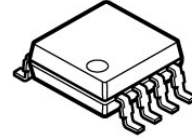
## Single-phase DC Brushless Motor Driver IC

### ■ GENERAL DESCRIPTION

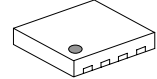
The NJU7364 is a single phase motor driver IC. It features a MOS FET motor driver, hall bias output, FG output and thermal shutdown circuit.

The driver is capable of 600mA maximum output current and continuous current of 250mA.

### ■ PACKAGE OUTLINE



NJU7364RB1

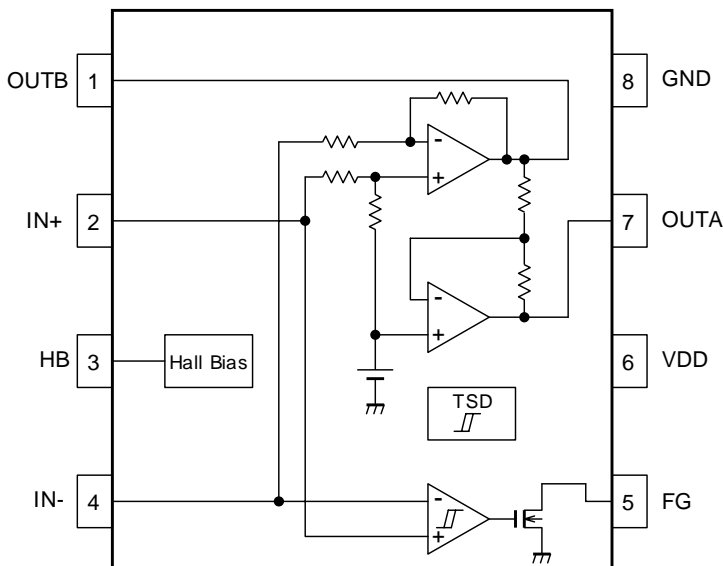


NJU7364KU1

### ■ FEATURES

- Supply Voltage  $V_{DD}=2.0$  to  $5.5V$
- Low Quiescent Current  $I_{DD}=1mA$  typ.
- Output Voltage  $V_{OM}=\pm 0.30V$  typ. @  $I_o=\pm 250mA$
- Hall Bias Terminal
- FG Output
- Thermal Shutdown Circuit
- CMOS Technology
- Package Outline TVSP8 / ESON8-U1

### ■ BLOCK DIAGRAM



# NJU7364

## ■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS		UNIT
Supply Voltage	V <sub>DD</sub>	+7		V
Input Voltage	V <sub>ID</sub>	-0.3 to V <sub>DD</sub>		V
Output Current (Peak)	I <sub>OPEAK</sub>	600		mA
FG Output Current	I <sub>FG</sub>	10		mA
FG Output Voltage	V <sub>FG</sub>	+7		V
Power Dissipation (TVSP8)	P <sub>D</sub>	Device itself	400	mW
Power Dissipation (ESON8-U1)	P <sub>D</sub>	(*1) Mounted on 2Layer Board	450	mW
		(*2) Mounted on 4Layer Board	1,200	
Operating Temperature	Topr	-40 to +85		°C
Junction Temperature	Tjmax	150		°C
Storage Temperature	Tstg	-50 to +150		°C

(\*1): Mounted on glass epoxy board based on EIA/JEDEC. (101.5 × 114.5 × 1.6mm: 2-Layers FR-4)

(\*2): Mounted on glass epoxy board based on EIA/JEDEC.

(101.5 × 114.5 × 1.6mm: 4-Layers FR-4 Internal foil area: 99.5 × 99.5mm)

## ■ RECOMMENDED OPERATING CONDITIONS

(Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V <sub>DD</sub>	-	2.0	5	5.5	V
Input Common mode Voltage Range	V <sub>ICM</sub>	-	0.4	-	4.0	V

## ■ ELECTRICAL CHARACTERISTICS

(V<sub>DD</sub>=5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
<b>■ GENERAL</b>						
Quiescent Current	I <sub>DD</sub>	IN+=4V, IN-=0.4V	-	1.0	2.0	mA
Thermal Shutdown Operating Temperature	T <sub>TSD</sub>	No-load	-	180	-	°C
Thermal Shutdown Hysteresis	T <sub>HYS</sub>	No-load	-	50	-	°C
<b>■ HALL AMP BLOCK</b>						
Input Offset Voltage	V <sub>IO</sub>	No-load	-10	-	10	mV
Close-loop Gain	A <sub>V</sub>	No-load	-	44	-	dB
<b>■ OUTPUT BLOCK</b>						
Output Voltage	V <sub>OH</sub>	I <sub>O</sub> = -250mA	4.55	4.7	-	V
	V <sub>OL</sub>	I <sub>O</sub> =250mA	-	0.3	0.45	V
FGL Output Voltage	V <sub>FG</sub>	I <sub>FG</sub> =3mA	-	-	0.3	V
FGH Leak Current	I <sub>FG-LEAK</sub>	V <sub>FG</sub> =5V	-	-	5.0	uA
<b>■ HALL BIAS BLOCK</b>						
Hall Bias Voltage	V <sub>HB</sub>	I <sub>HB</sub> = -5mA	1.1	1.3	1.5	V

## ■ TRUTH TABLE

IN+	IN-	OUTA	OUTB	FG
H	L	H	L	L (FET Output: ON)
L	H	L	H	Z (FET Output: OFF)

※ Z : High-impedance