

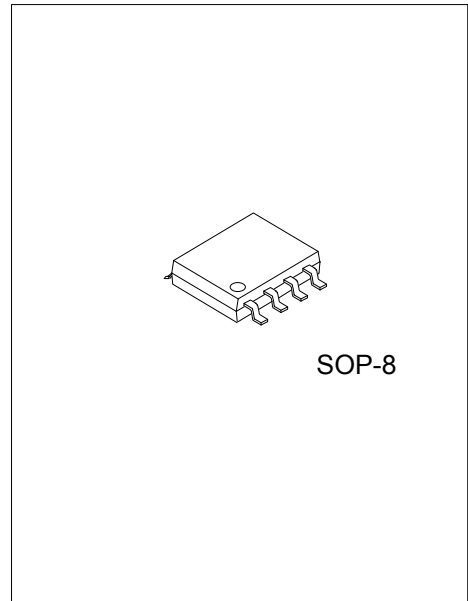


## UH251

Preliminary

CMOS IC

### LOW-SATURATION, LOW-VOLTAGE 1.5 CHANNEL BI-DIRECTIONAL MOTOR DRIVER



#### DESCRIPTION

The device is a 1.5-channel low-saturation bi-directional motor driver IC. The design is optimal for motor applications, such as cameras, printers, FDDs, or other portable devices with forward, reverse, brake and stand-by function.

#### FEATURES

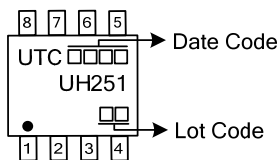
- \* Low voltage operation ( $V_{DDMIN}=V_{SMIN}=1.5V$ )
- \* Low saturation voltage (Upper transistor + low transistor residual voltage; 0.4V typ. at 300mA,  $V_{DD}=V_S=3V$ )
- \* Low input current
- \* Brake function
- \* High output sinking and driving capability

#### ORDERING INFORMATION

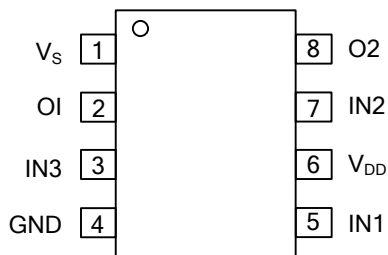
Ordering Number	Package	Packing
UH251G-S08-R	SOP-8	Tape Reel

<p>UH251G-S08-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) S08: SOP-8</p> <p>(3) G: Halogen Free and Lead Free</p>
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#### MARKING



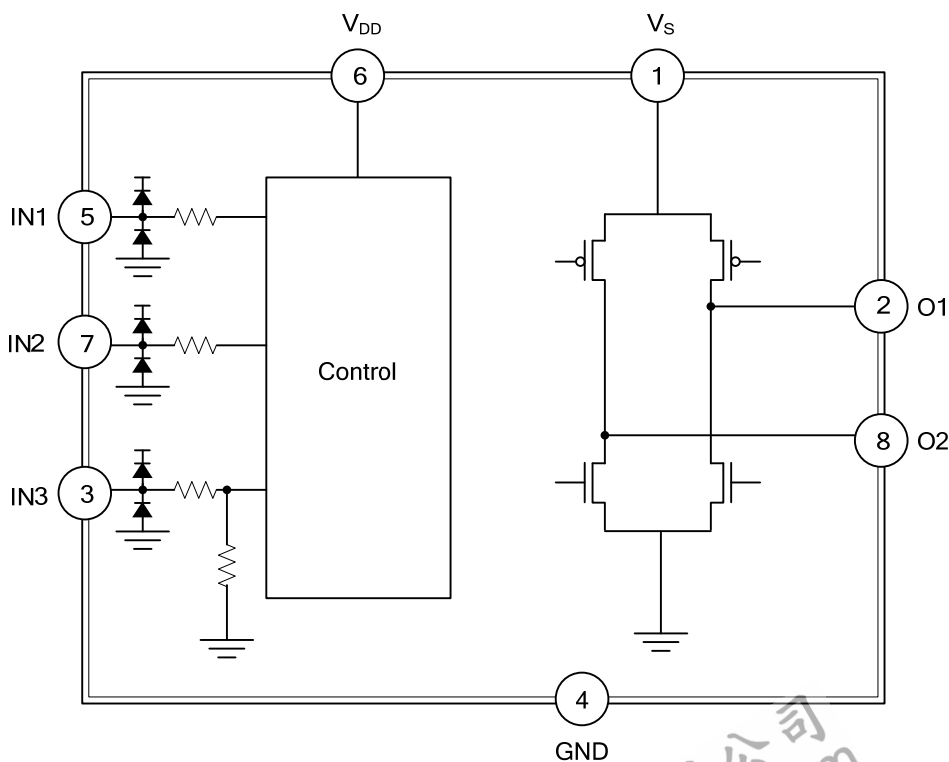
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V <sub>S</sub>	Power supply pin for output driver
2	O1	Output sinking/driving pin
3	IN3	Input pin 3 that determines driving mode
4	GND	Ground pin
5	IN1	Input pin 1 that determines driving mode
6	V <sub>DD</sub>	Power supply pin for controller.
7	IN2	Input pin 2 that determines driving mode
8	O2	Output sinking/driving pin

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

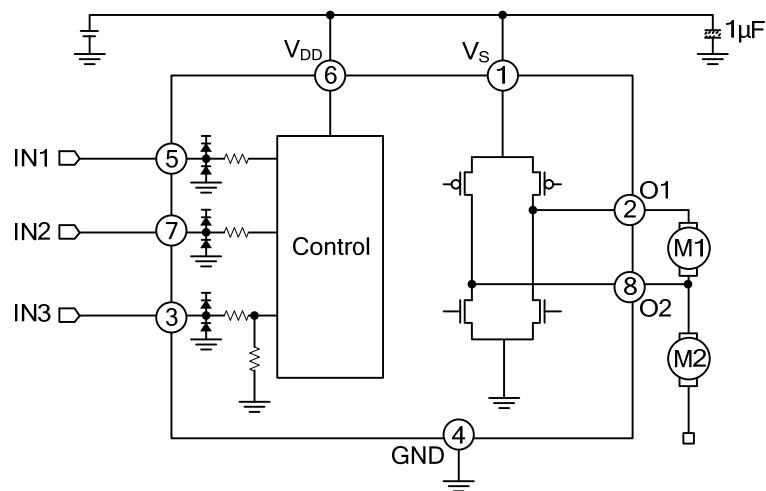
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	$V_{DD}$	5.5	V
	$V_S$	5.5	V
Input Voltage	$V_{IN}$	$V_{DD}+0.4$	V
$I_O$ Peak Current	$I_{OPEAK}$	2	A
$I_{ODC}$ Current	$I_{ODC}$	0.75	A
Power Dissipation	$P_D$	680	mW
Operating Temperature Range	$T_{OPR}$	-40 ~ +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ( $V_{DD}=V_S=3\text{V}$ ,  $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	$V_{DD}$		1.5	3	5.5	V
	$V_S$		1.5	3	5.5	V
Supply Current ( $I_{DD}+I_S$ )	$I_{DD0}$	$V_{IN1, IN2, IN3}=0\text{V}$		0.5	10	$\mu\text{A}$
	$I_{DD1}$	$V_{IN1, IN2, IN3}=3\text{V}$		1	10	$\mu\text{A}$
IN1/IN2/IN3 Input Terminal ( $T_J=25^\circ\text{C}$ )						
Input Voltage "H"	$V_{IH}$		$0.8 \times V_{DD}$		$V_{DD}+0.4$	V
Input Voltage "L"	$V_{IL}$		-0.4		$0.2 \times V_{DD}$	V
Input Current "H"	$I_{IH}$	$V_{IN}=V_{DD}$			$\pm 5$	$\mu\text{A}$
Input Current "L"	$I_{IL}$	$V_{IN}=0\text{V}$			$\pm 5$	$\mu\text{A}$
O1/O2 Output Terminal ( $T_J=25^\circ\text{C}$ )						
Output Voltage (Upper+Lower)	$V_{OUT1}$	$I_{OUT}=200\text{mA}$		0.3	0.45	V
	$V_{OUT2}$	$I_{OUT}=300\text{mA}$		0.5	0.7	V
	$V_{OUT3}$	$I_{OUT}=600\text{mA}$		0.9	1.0	V
Output Sustaining Voltage	$V_{O(SUS)}$	$I_{OUT}=400\text{mA}$			$V_S$	V

■ TYPICAL APPLICATION CIRCUIT



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