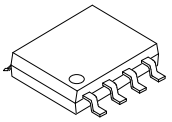
LOW-SATURATION, LOW-VOLTAGE 1.5 CHANNEL BI-DIRECTIONAL MOTOR DRIVER



SOP-8

■ 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

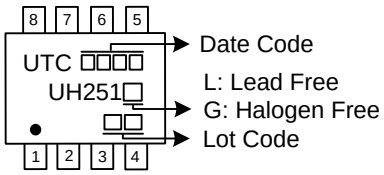
* Low voltage operation (V_{DDMIN}=V_{SMIN}=1.5V)
* Low saturation voltage (Upper transistor + low transistor residual voltage; 0.4V typ. at 300mA, V_{DD}=V_S=3V)
* Low input current
* Brake function
* High output sinking and driving capability

■ ORDERING INFORMATION

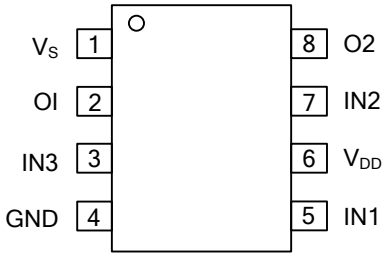
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UH251L-S08-R	UH251G-S08-R	SOP-8	Tape Reel

UH251G-S08-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) S08: SOP-8 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



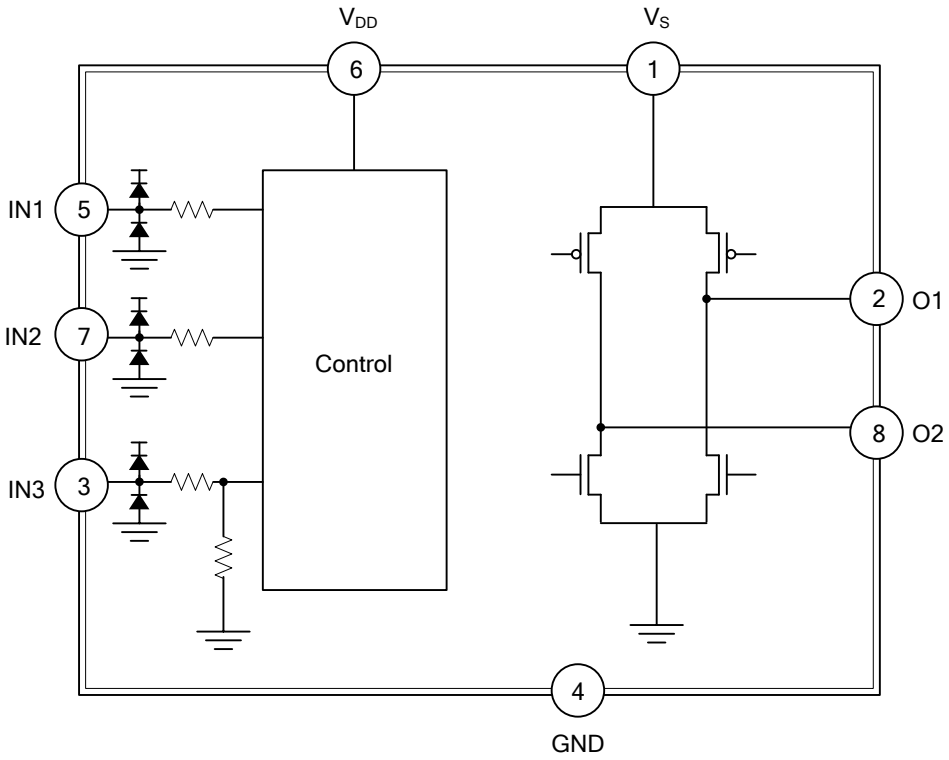
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V_S	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_{DD}	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°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	°C
Storage Temperature Range	T_{STG}	-65 ~ +150	°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=3V, T_A= 25°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}	$V_{IN1, IN2, IN3}$=0V		0.5	10	μA
	I_{DD1}	$V_{IN1, IN2, IN3}$=3V		1	10	μA
IN1/IN2/IN3 Input Terminal (T_J=25°C)						
Input Voltage “H”	V_{IH}		0.8×V_{DD}		V_{DD}+0.4	V
Input Voltage “L”	V_{IL}		-0.4		0.2×V_{DD}	V
Input Current “H”	I_{IH}	V_{IN}=V_{DD}			±5	μA
Input Current “L”	I_{IL}	V_{IN}=0V			±5	μA
O1/O2 Output Terminal (T_J=25°C)						
Output Voltage (Upper+Lower)	V_{OUT1}	I_{OUT}=200mA		0.3	0.45	V
	V_{OUT2}	I_{OUT}=300mA		0.5	0.7	V
	V_{OUT3}	I_{OUT}=600mA		0.9	1.0	V
Output Sustaining Voltage	$V_{O (SUS)}$	I_{OUT}=400mA			V_S	V

■ TYPICAL APPLICATION CIRCUIT