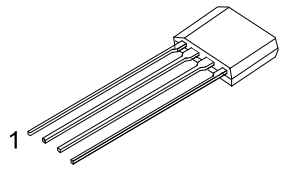
SINGLE PHASE HALL EFFECT FAN DRIVER WITH REVERSE BATTERY PROTECTION



SIP-4

■ DESCRIPTION

The UTC **UHC479** is a full-bridge motor driver for the single coil brushless DC motor. It is designed by advanced CMOS process, could worked in high voltage up to 20V Besides, this device has extremely low power dissipation, the quiescent current only 3.0mA.

The UTC **UHC479** includes the Hall sensor, Chopper for offset cancellation, Hall temperature compensation, voltage regulator, thermal shutdown and the output full bridge.

The UTC **UHC479** is optimized for vibration motor applications in single coil brushless direct current motor or fan.

■ FEATURES

* On-Chip High sensitivity Hall-effect Sensor
* H-Bridge Output Drivers for Single Coil
* Operating Voltage: 3.5V~20V
* Thermal Shutdown Protection
* Low Output Switching Current Noise

■ ORDERING INFORMATION

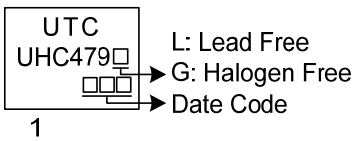
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UHC479L-G04-K	UHC479G-G04-K	SIP-4	Bulk

UHC479G-G04-K

(1) Packing Type
(2) Package Type
(3) Green Package

(1) K: Bulk
(2) G04: SIP-4
(3) G: Halogen Free and Lead Free, L: Lead Free

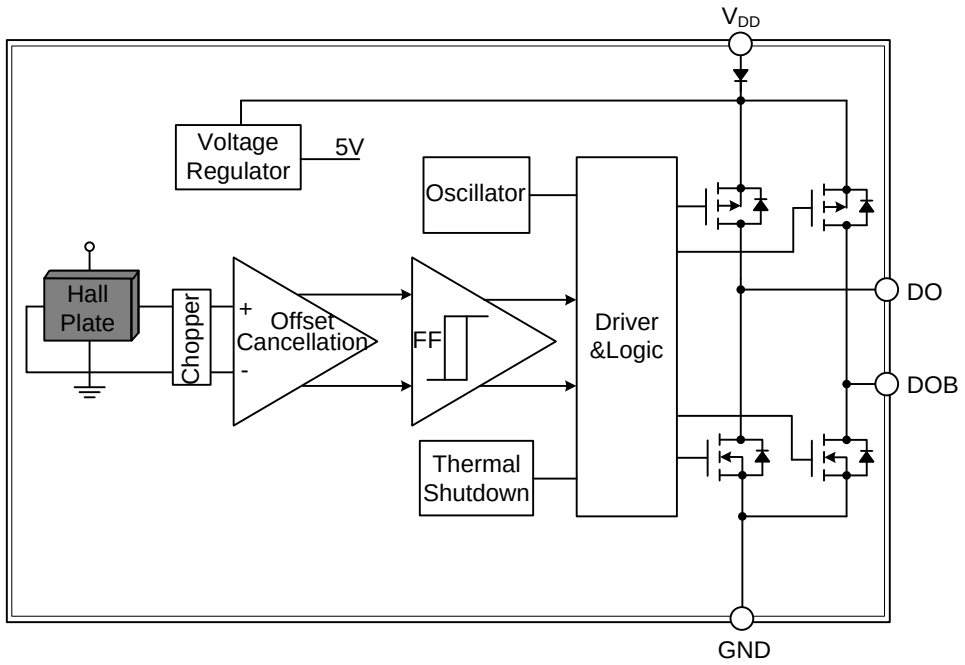
■ MARKING



■ PIN DESCRIPTION

PIN NO.	PIN NAME	P/I/O	DESCRIPTION
1	V_{DD}	P	Positive Power Supply
2	DO	O	Output 1
3	DOB	O	Output 2
4	GND	P	Ground

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (at T_A=25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V_{DD}	20	V
Reverse V_{CC} Polarity Voltage		V_{RCC}	-20	V
Magnetic Flux Density		B	Unlimited	Gauss
Output Current	Continuous	I_O	300	mA
	Hold		400	mA
	Peak (start up)		800	mA
Power Dissipation		P_D	400	mW
Ambient Temperature		T_A	-40 ~ +85	°C
Storage Temperature Range		T_{STG}	-50 ~ +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.

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	RATINGS	UNIT
Power Supply Voltage	V_{DD}	3.5 ~ 20	V

■ ELECTRICAL CHARACTERISTICS (V_{DD} =12V, T_A = +25°C, unless otherwise noted.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V_{DD}		3.5		20	V
Operating Current	I_{DD}			3	-	mA
Output VSAT (Sink)	$R_{DS(ON)}$	V_{DD}=14V, I_{OUT}=200mA		0.2		V
Output VSAT (Source)		V_{DD}=14V, I_{OUT}=200mA		V_{DD}-0.7		V
Thermal Shutdown Temp	T_{SD}			150		°C
Thermal Shutdown Hysteresis	T_{SH}			30		°C

■ MAGNETIC PARAMETER

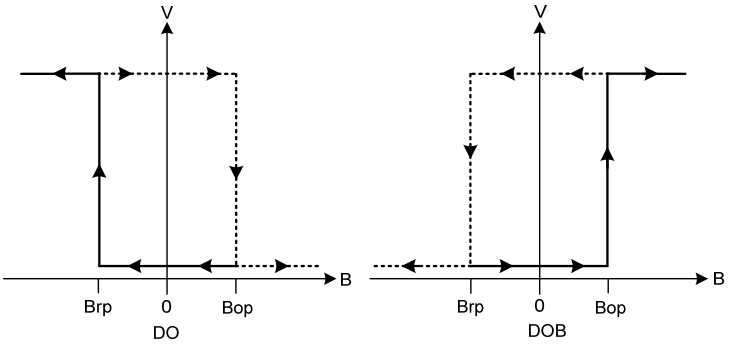
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B_{OP}	5	25	50	Gauss
Release Point	B_{RP}	-50	-25	-5	Gauss
Hysteresis	B_{HYS}		50		Gauss

■ OUTPUT VS. MAGNETIC POLE

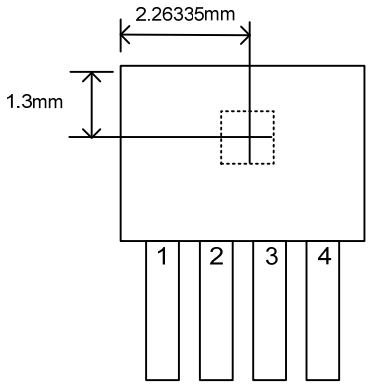
Characteristics	Test Conditions	DO	DOB
North pole	B < Brp	High	Low
South pole	B > Bop	Low	High

Note: The magnetic pole is applied facing the branded side of the package.

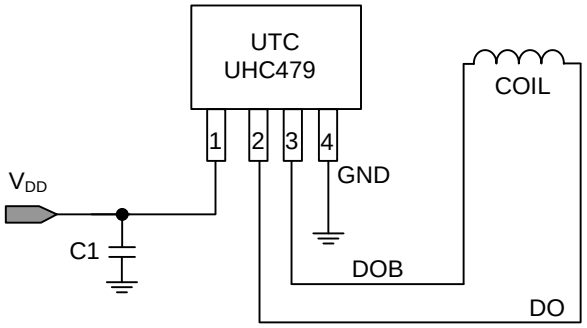
■ CHYSTERESIS CHARACTERISTICS



■ TEST CIRCUIT



■ TYPICAL APPLICATION CIRCUIT



Note1: C1>=1uF (Option)