



## UH266

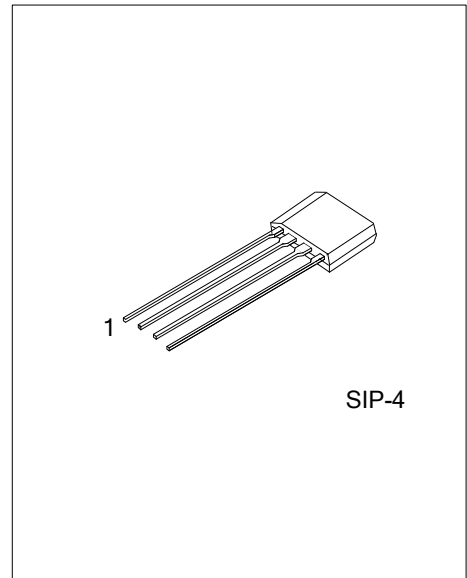
## LINEAR INTEGRATED CIRCUIT

### HIGH VOLTAGE HALL EFFECT LATCH

#### DESCRIPTION

The UTC **UH266** is a one-chip composed of Hall sensor and output coil drivers, applied to two-phase brush-less DC motor. The device includes an on-chip Hall plate for magnetic sensing, a amplifier for Hall voltage, and a Schmitt trigger to provide switching hysteresis, and complementary darlington open-collector drivers for sinking large current loads. An internal bandgap regulator is used to provide temperature compensated supply voltage and allows a wide operating range.

If  $B > B_{op}$ , DO turn on (low) and DOB turn off (high). The outputs state is latched prior to reach release point (Brp). if  $B < B_{rp}$ , DO turn off and DOB turn on. UTC **UH266** is rated for operation over temperature range from  $-20^{\circ}\text{C}$  to  $85^{\circ}\text{C}$  and voltage range from 4V to 28V.



#### FEATURES

- \* Operating voltage: 4V~28V
- \* Output current: 400mA(Continuous, 25°C)
- \* Output protection Zener breakdown  $V_z=62\text{V(Typ)}$
- \* Reverse power protection

#### ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UH266L-G04-K	UH266G-G04-K	SIP-4	Bulk

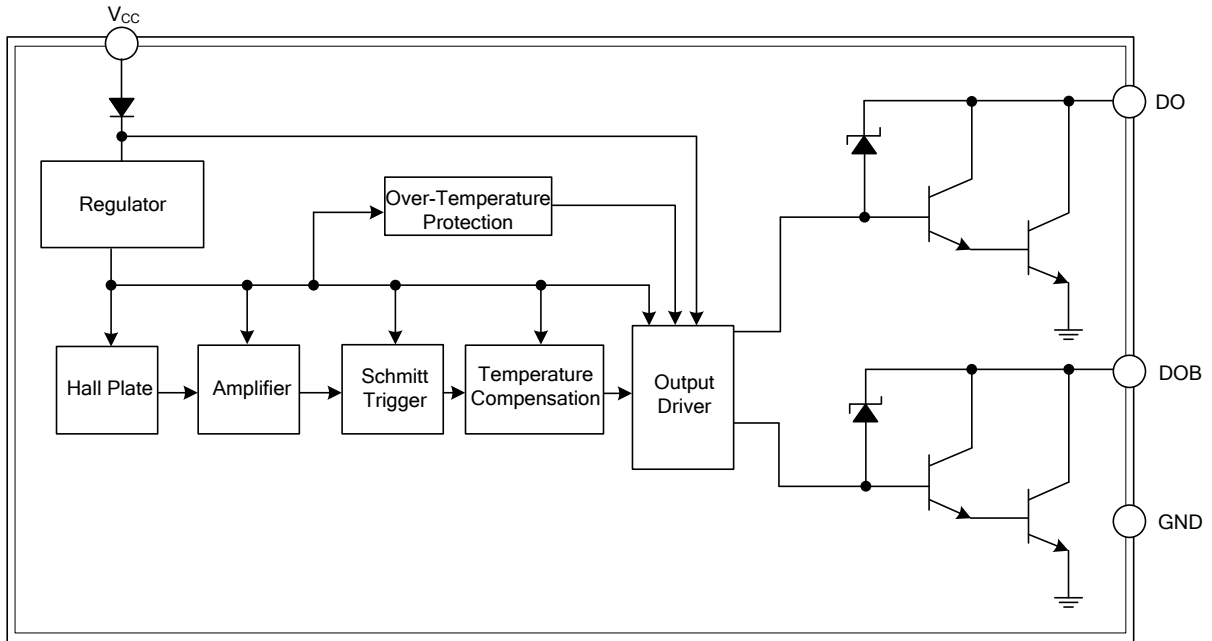
Note: xx: Output Voltage, refer to Marking Information.

<p>UH266L-G04-K</p>	<p>(1) B: Bulk (2) G04: SIP-4 (3) L: Lead Free, G: Halogen Free</p>
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## ■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V <sub>CC</sub>	Positive Power Supply
2	DO	Output Pin
3	DOB	Output Pin
4	GND	Ground

## ■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (T<sub>A</sub>=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sub>CC</sub>	28	V
Output "OFF" Voltage	V <sub>OUT(OFF)</sub>	28	V
Output "ON" Current	I <sub>O(con)</sub>	400 (Note 2)	mA
	I <sub>O(hold)</sub>	500	mA
	I <sub>O(peak)</sub>	700	mA
Magnetic Flux Density	B	Unlimited	Gauss
Power Dissipation (Note 3)	P <sub>D</sub>	550	mW
Operating Temperature Range	T <sub>OPR</sub>	-20~+85	°C
Storage Temperature	T <sub>STG</sub>	-65~+150	°C

Notes: 1. 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.

2. I<sub>O(con)</sub> is 150mA at 85°C

3. See Performance Characteristic for other conditions

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ <sub>JA</sub>	227	°C/W

■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V <sub>CC</sub>		4		28	V
Output Zener Breakdown	V <sub>Z</sub>	Output Turn Off	54	62	70	V
Output Saturation Voltage	V <sub>CE(sat)</sub>	V <sub>CC</sub> =24V, I <sub>C</sub> =400mA		1.1	1.5	V
Output Leakage Current	I <sub>CEX</sub>	V <sub>CC</sub> =24V, V <sub>CE</sub> =24V		< 0.1	10	μA
Supply Current	I <sub>CC</sub>	V <sub>CC</sub> =24V, Output Open		5	10	mA
Output Rise Time	t <sub>R</sub>	V <sub>CC</sub> =24V, R <sub>L</sub> =820Ω, C <sub>L</sub> =20pF		1.0	5	μs
Output Falling Time	t <sub>F</sub>			1.0	1.5	μs
Switch Time Differential	Δt			3.0	10	μs

■ MAGNETIC CHARACTERISTICS (T<sub>A</sub>=25°C)

A grade

(1mT=10Gauss)

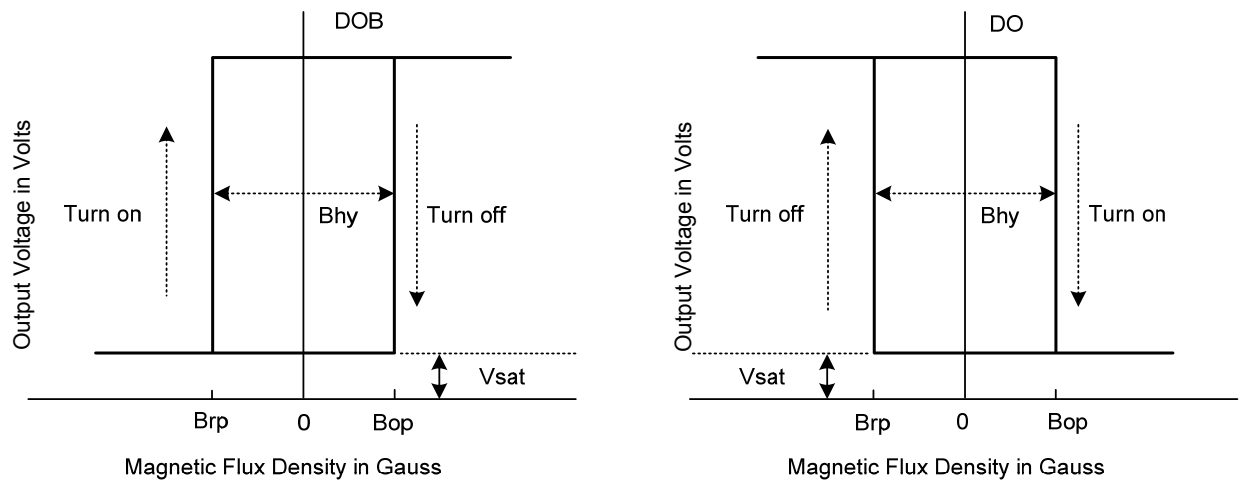
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B <sub>op</sub>	10		70	Gauss
Release Point	B <sub>rp</sub>	-70		-10	Gauss
Hysteresis	B <sub>hy</sub>		80		Gauss

B grade

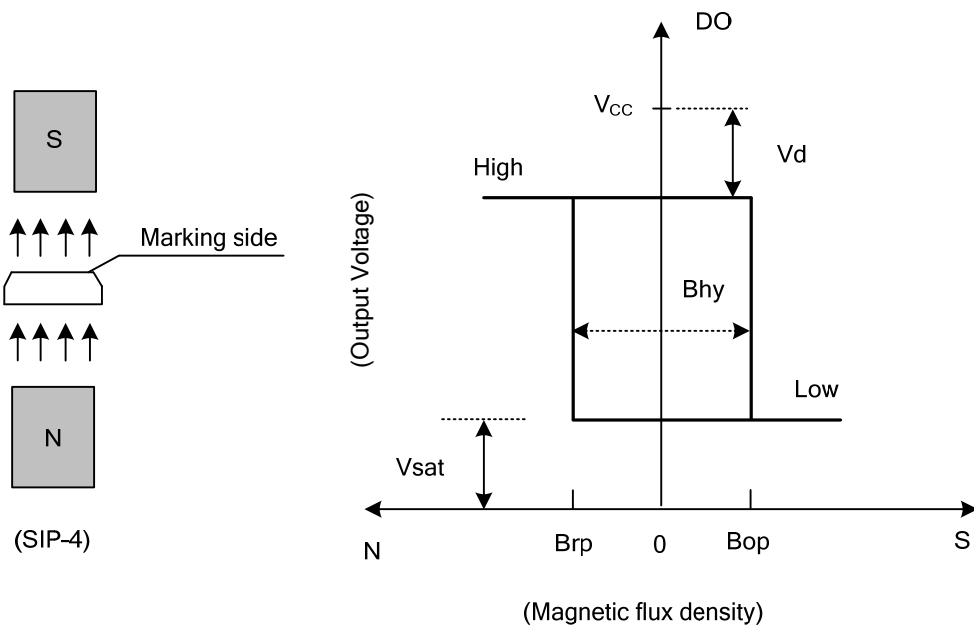
(1mT=10Gauss)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B <sub>op</sub>			100	Gauss
Release Point	B <sub>rp</sub>	-100			Gauss
Hysteresis	B <sub>hy</sub>		80		Gauss

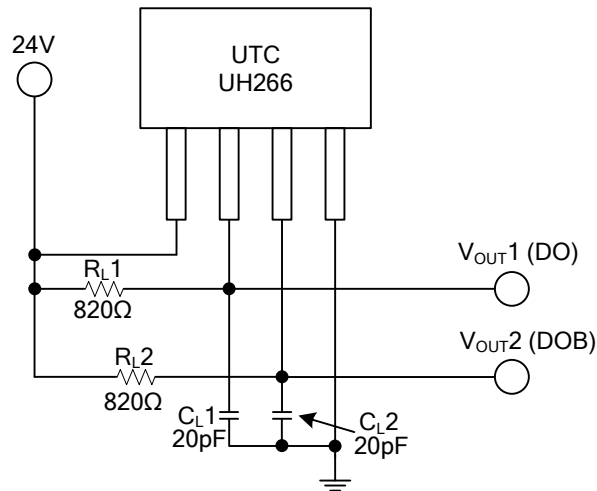
■ CHYSTERESIS CHARACTERISTICS



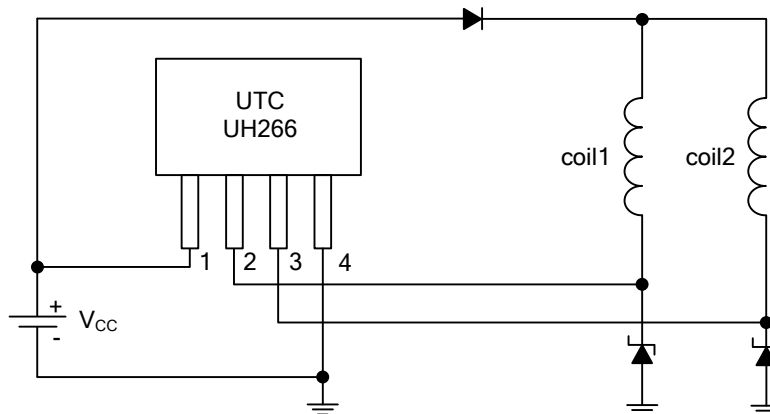
■ OPERATION CHARACTERISTICS



## ■ TEST CIRCUIT



## ■ TYPICAL APPLICATION CIRCUIT



Brush-less DC Fan

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