



UH200

Preliminary

LINEAR INTEGRATED CIRCUIT

2-PHASE DC MOTOR DRIVE IC

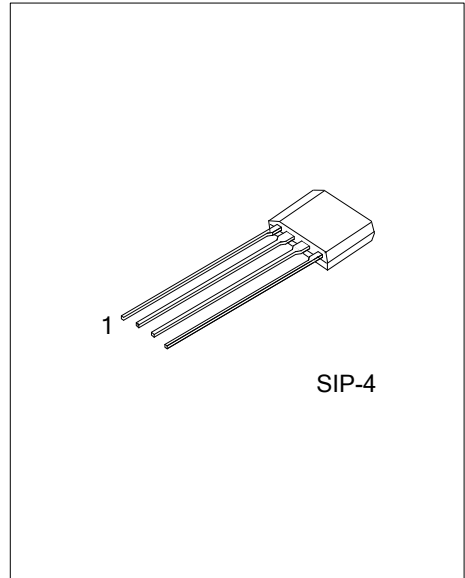
DESCRIPTION

The UTC **UH200** is a Latch-Type Hall Effect sensor with built-in output drivers. An internal bandgap voltage regulator is used to provide temperature compensated source and allows a wide operating supply range.

Open-collector drivers can provide a large sinking current for brush-less DC fan and Motor Driver.

FEATURES

- * Wide power supply range: 2.0V~20V
- * Built-in hall sensor/ drivers
- * Excellent hysteresis with temperature compensation
- * Output sink current up to 0.45A
- * Reverse power protection

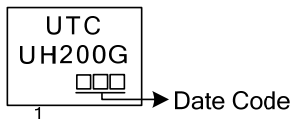


ORDERING INFORMATION

Ordering Number	Package	Packing
UH200G-G04-K	SIP-4	Bulk

<p>UH200G-G04-K</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) K: Bulk (2) G04: SIP-4 (3) G: Halogen Free and Lead Free</p>
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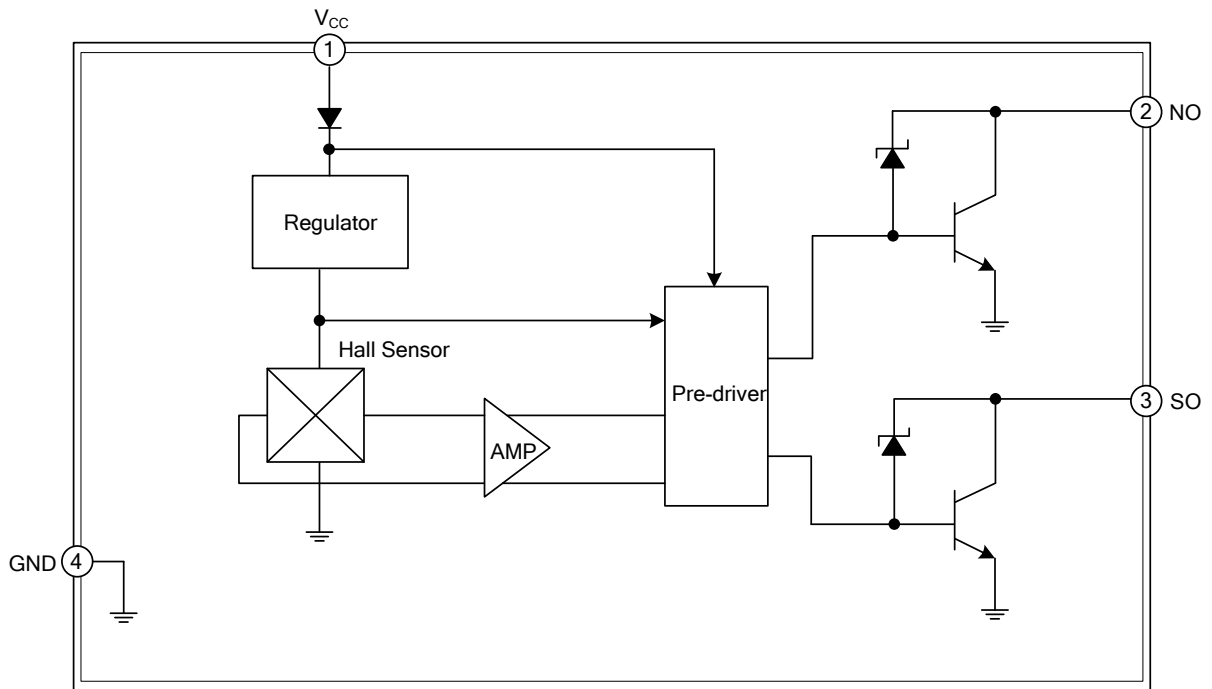
MARKING



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V _{CC}	Power Supply
2	NO	Output pin
3	SO	Output pin
4	GND	Ground

■ BLOCK DIAGRAM



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

PARAMETER		SYMBOL	RATINGS	UNIT
Zener Breakdown Voltage		V_Z	35	V
NO/SO Pin Voltage			30	V
VCC Pin Voltage			20	V
Peak Sink Current	Peak Current	I_O	$1A \leq 100\mu s$	
	Continuous Current		450	mA
Power Dissipation		P_D	500	mW
Junction Temperature		T_J	+150	$^{\circ}\text{C}$
Operating Temperature Range		T_{OPR}	-20~+85	$^{\circ}\text{C}$
Storage Temperature		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.

■ THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	0.15	$^{\circ}\text{C}/\text{mW}$

■ DC ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Minimum Operating Voltage	V_{CC}	No Use Pin is Open (Fig 1)		2.0		V
Maximum Operating Voltage	V_{CC}	$I_{CC} < 20\text{ mA}$, No Use Pin is Open (Fig 1)		20.0		V
Quiescent Supply Current	I_{CC}	No Use Pin is Open V_{CC} , 2.0V~20V (Fig 1)	4	16	20	mA
NO/SO Saturation Voltage	V_{SAT}	$I_O=450\text{mA}$ (Fig 1)			1.1	V

■ NO/SO SATURATION VOLTAGE V_S . OUTPUT CURRENT (I_O)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
NO/SO Saturation Voltage		$V_{CC}=5\text{V}$, $T_{EMP.}=25^{\circ}\text{C}$	$I_O=250\text{mA}$			0.37	V
			$I_O=300\text{mA}$			0.48	V
			$I_O=350\text{mA}$			0.55	V
			$I_O=400\text{mA}$			0.65	V
			$I_O=450\text{mA}$			0.76	V
			$I_O=500\text{mA}$			0.86	V

Note: Fig 1 The IC output state is under N magnetic field.

■ AC ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Rise Time	t_R	$R_L=100\Omega(5W)$ $C_L=20\text{pF}$ (Fig 1)			10	μS
Fall Time	t_F	$R_L=100\Omega(5W)$ $C_L=20\text{pF}$ (Fig 1)			300	nS

■ MAGNETIC CHARACTERISTICS ($T_A = -20^{\circ}\text{C} \sim +85^{\circ}\text{C}$, unless otherwise specified)

A grade

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B_{OP}	5		65	G
Release Point	B_{RP}	-65		-5	G
Hysteresis	B_{HYS}	10		130	G

B grade

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B_{OP}	5		80	G
Release Point	B_{RP}	-80		-5	G
Hysteresis	B_{HYS}	10		160	G

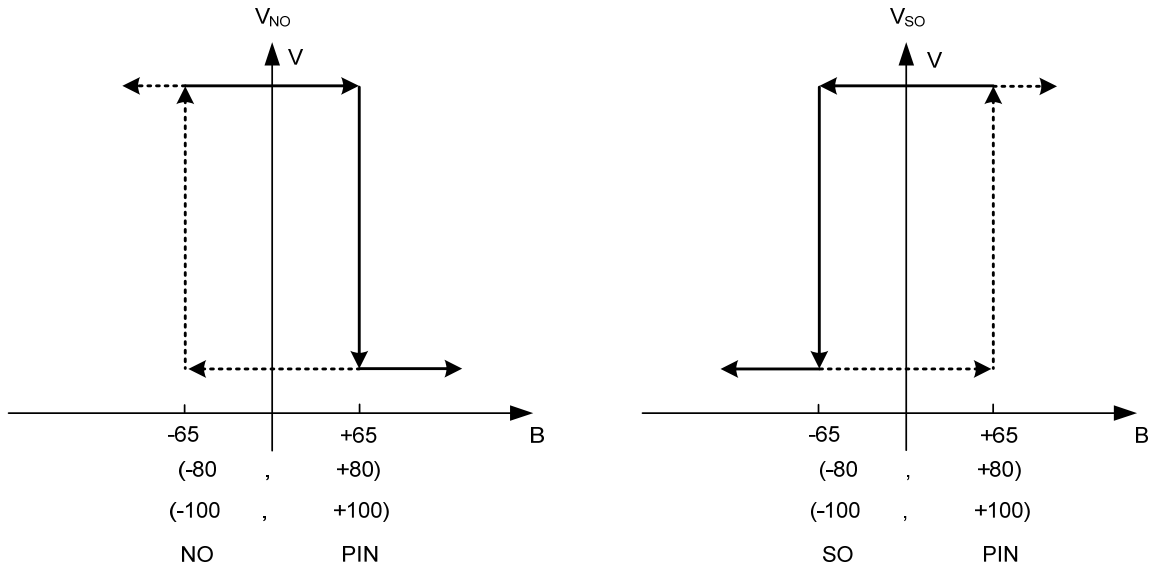
Bu grade

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B_{OP}			80	G
Release Point	B_{RP}	-80			G
Hysteresis	B_{HYS}			160	G

C grade

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B_{OP}			100	G
Release Point	B_{RP}	-100			G
Hysteresis	B_{HYS}			200	G

■ HYSTERESIS CHARACTERISTICS



■ TEST CIRCUIT

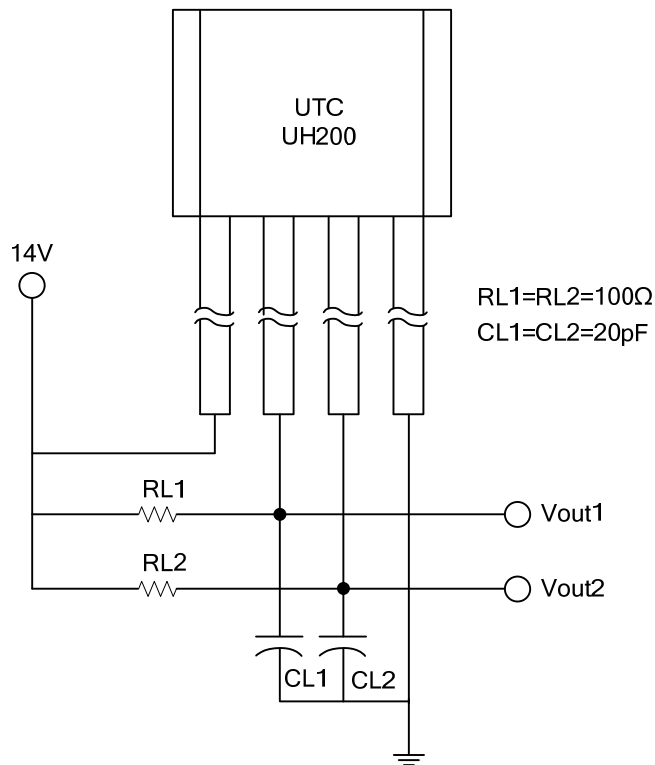
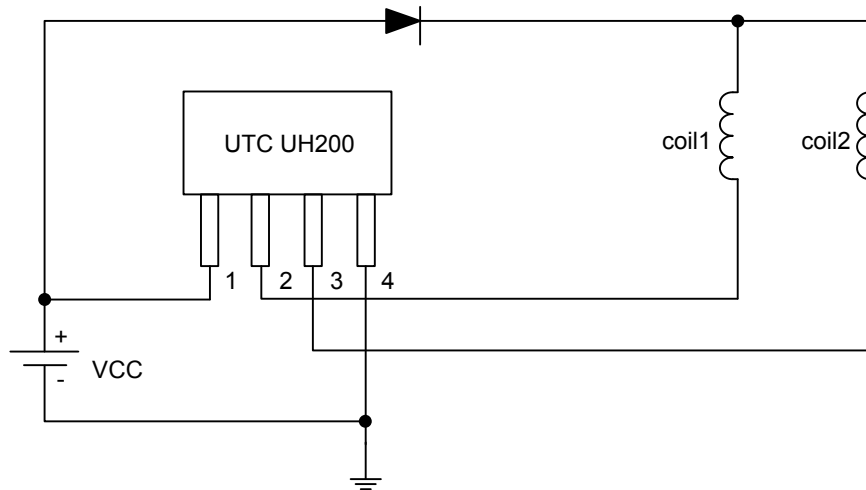


Fig 1

■ TYPICAL APPLICATION CIRCUIT



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