



UH277

LINEAR INTEGRATED CIRCUIT

COMPLEMENTARY OUTPUTS HALL EFFECT LATCH IC

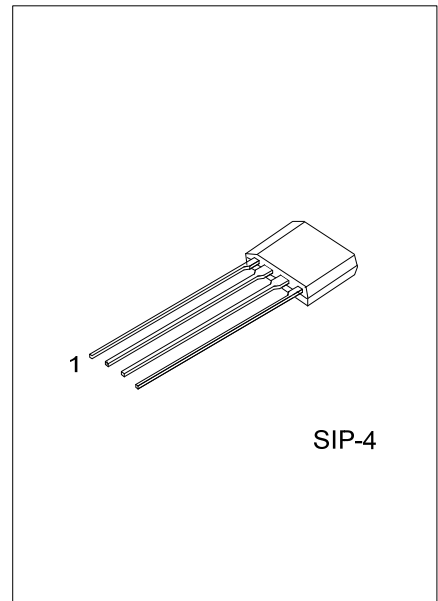
DESCRIPTION

The UTC **UH277** is a Latch-Type Hall Effect sensor with built-in complementary output drivers. It's designed with internal temperature compensation circuit and built-in protection diode prevent reverse power fault. The application is aimed for brush-less DC Fan

The **UH277** Outputs operate as the Hysteresis Characteristics. The Outputs alternately ON and OFF when either the magnetic flux density larger than threshold B_{OP} or the magnetic flux density lower than B_{RP} .

FEATURES

- * Widen Power Supply range from 3V ~ 20V.
- * On-chip Hall sensor with excellent hysteresis.
- * Open Collector outputs had the sinking capability up to 300mA.
- * Output Clamping Diodes reduce the peak output voltages during switching.
- * Build-in reverse protection diode.

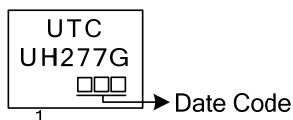


ORDERING INFORMATION

Ordering Number	Package	Packing
UH277G-G04-K	SIP-4	Bulk

<p>UH277G-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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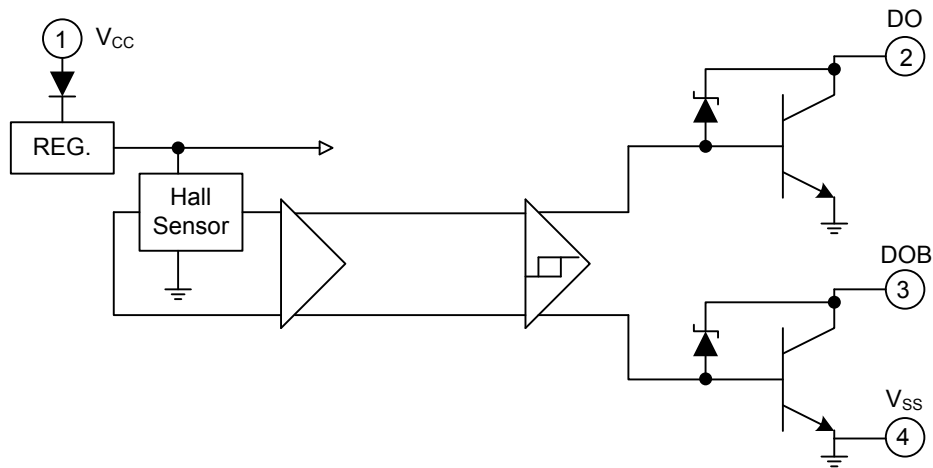
MARKING



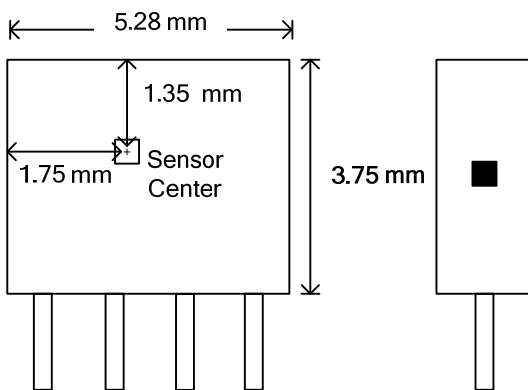
■ PIN DESCRIPTION

PIN NO.	PIN NAME	P/I/O	DESCRIPTION
1	V _{CC}	P	Positive Power Supply
2	DO	O	Output Pin
3	DOB	O	Output Pin
4	V _{SS}	P	Ground

■ BLOCK DIAGRAM



■ SENSOR LOCATIONS



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

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V_{CC}	20	V
Reverse V_{CC} Polarity Voltage		V_{RCC}	-25	V
Output OFF Voltage		V_{CE}	32	V
Magnetic flux density		B	Unlimited	
Output ON Current	Continuous	I_C	0.3	A
	Hold		0.4	
	Peak (Start Up)		0.7	
Power Dissipation		P_D	500	mW
Junction Temperature		T_J	+150	$^{\circ}\text{C}$
Operating Temperature		T_{OPR}	-20 ~ +85	$^{\circ}\text{C}$
Storage Temperature		T_{STG}	-65 ~ +150	$^{\circ}\text{C}$

Note 1: Output Zener protection voltage

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Low Supply Voltage	V_{CE}	$V_{CC}=3.5\text{V}$, $I_L=100\text{mA}$			0.6	V
Supply Voltage	V_{CC}		3		20	V
Output Saturation Voltage	$V_{CE(SAT)}$	$V_{CC}=14\text{V}$, $I_L=300\text{mA}$		0.3	0.6	V
Output Leakage Current	I_{CEX}	$V_{CE}=14\text{V}$, $V_{CC}=14\text{V}$		<0.1	10	μA
Supply Current	I_{CC}	$V_{CC}=20\text{V}$, Output Open		15	25	mA
Output Rise Time	t_R	$V_{CC}=14\text{V}$, $R_L=820\Omega$, $C_L=20\text{pF}$		0.3	3	μS
Output Falling Time	t_F	$V_{CC}=14\text{V}$, $R_L=820\Omega$, $C_L=20\text{pF}$		0.04	1	μS
Switch Time Differential	Δt	$V_{CC}=14\text{V}$, $R_L=820\Omega$, $C_L=20\text{pF}$		0.3	3	μS

■ MAGNETIC CHARACTERISTICS

A grade

PARAMETR	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B_{OP}	5		50	G
Release Point	B_{RP}	-50		-5	G
Hysteresis	B_{HYS}	20		100	G

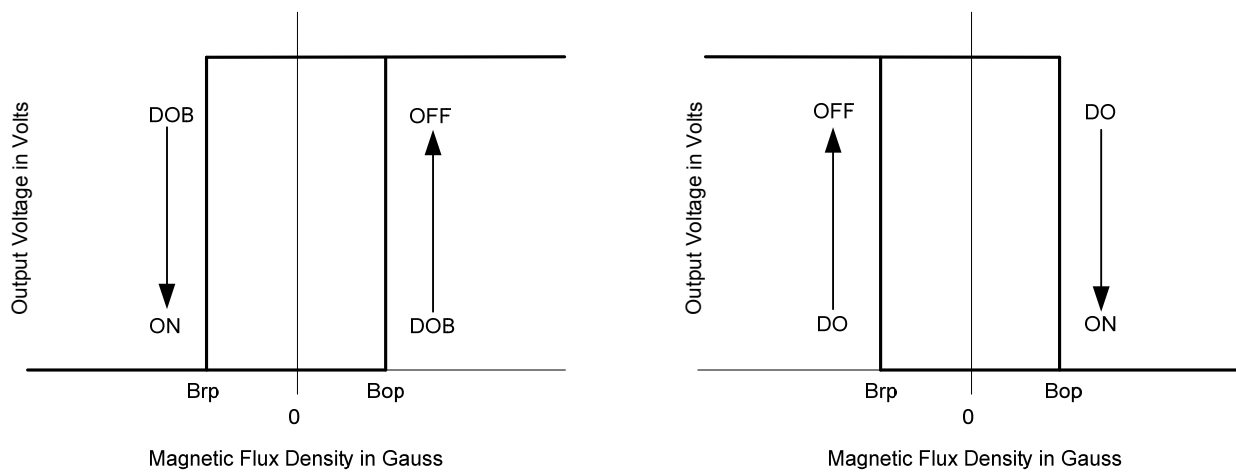
B grade

PARAMETR	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B_{OP}	5		70	G
Release Point	B_{RP}	-70		-5	G
Hysteresis	B_{HYS}	20		140	G

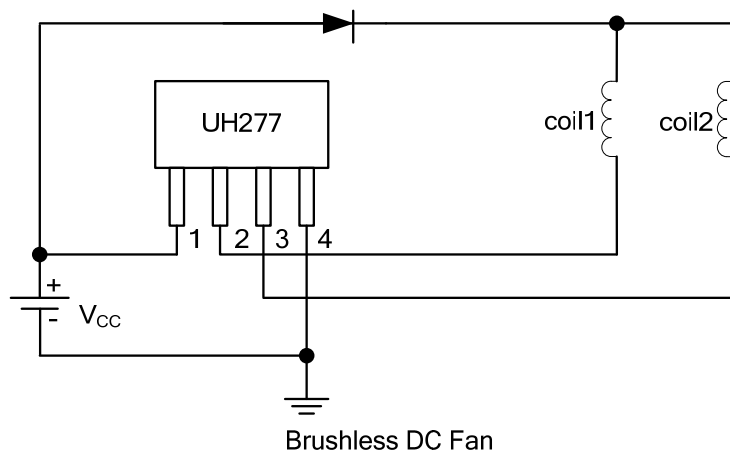
C grade

PARAMETR	SYMBOL	MIN	TYP	MAX	UNIT
Operate Point	B_{OP}			100	G
Release Point	B_{RP}	-100			G
Hysteresis	B_{HYS}	20		200	G

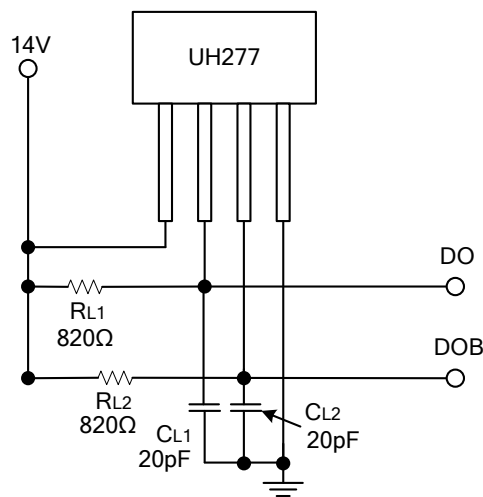
■ CHYSTERESIS CHARACTERISTICS



■ TYPICAL APPLICATION CIRCUIT

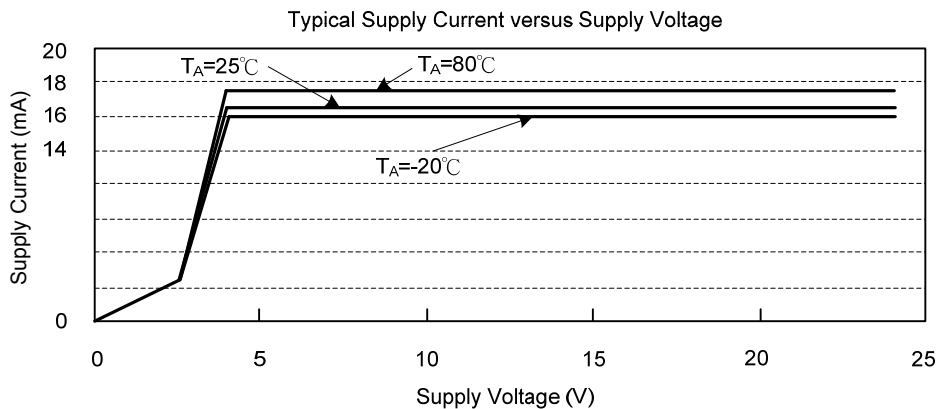
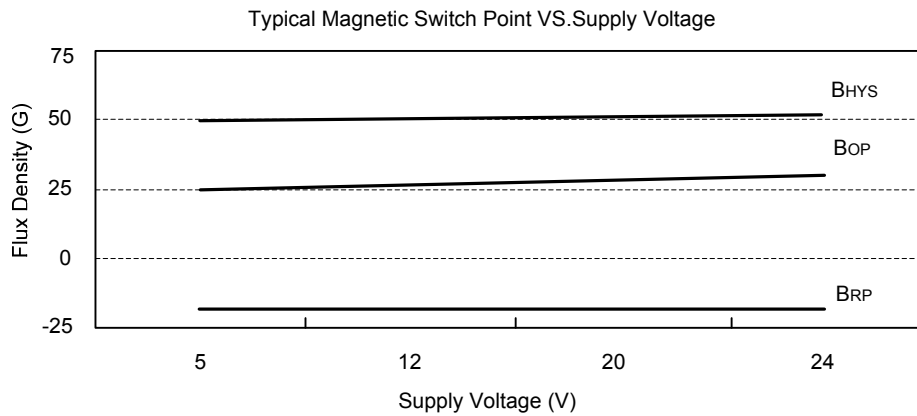
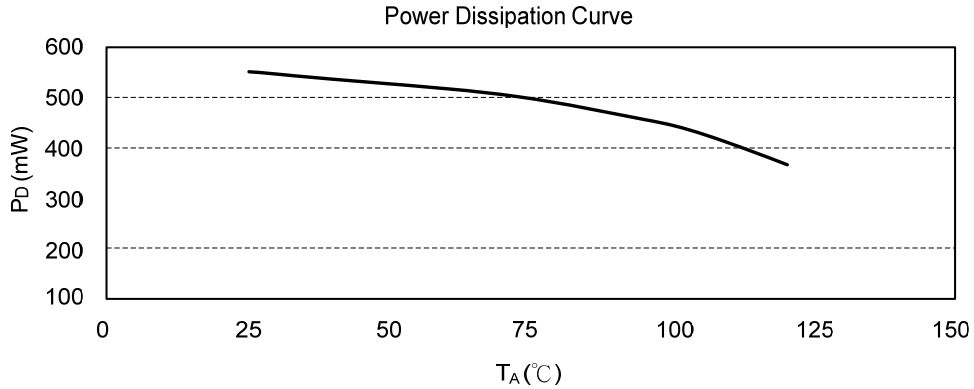


■ TEST CIRCUIT



■ PERFORMANCE CHARACTERISTICS

T _A (°C)	25	50	60	70	80	85	90	95	100	105	110	115	120
P _D (mW)	550	525	515	505	485	475	465	455	445	425	405	385	365



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