



UH277

LINEAR INTEGRATED CIRCUIT

COMPLEMENTARY OUTPUTS HALL EFFECT LATCH IC

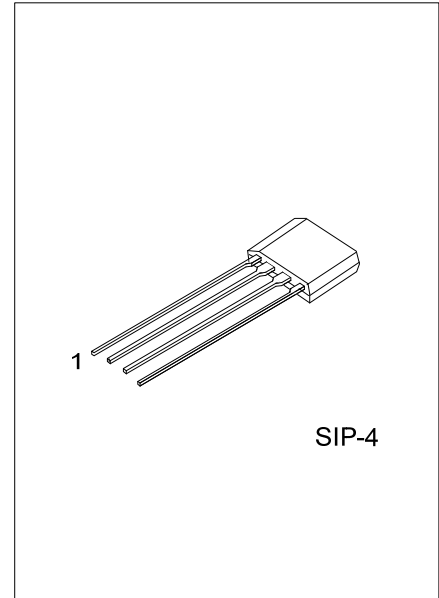
DESCRIPTION

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

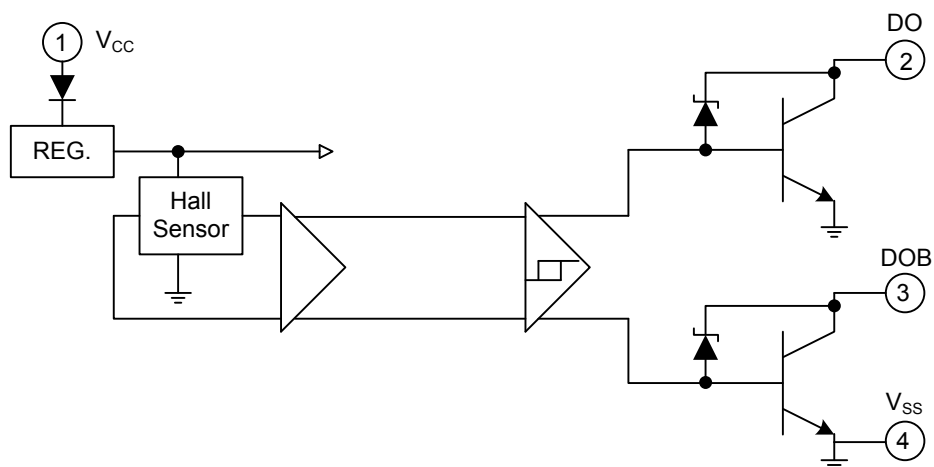
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UH277L-G04-K	UH277G-G04-K	SIP-4	Bulk

UH277L-G04-K	(1)Packing Type (2)Package Type (3)Lead Free	(1) B: Bulk (2) G04: SIP-4 (3) G: Halogen Free, L: Lead Free
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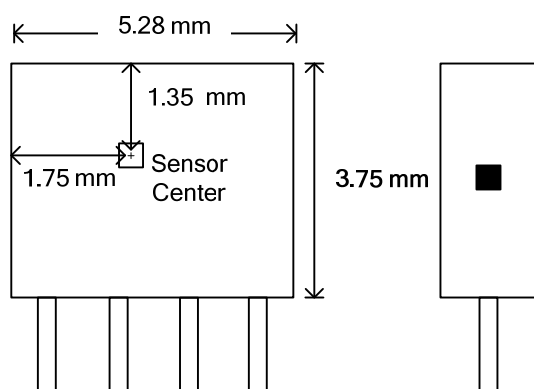
PIN DESCRIPTION

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 (Ta=25°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	°C
Operating Temperature		T _{OPR}	-20 ~ +85	°C
Storage Temperature		T _{STG}	-65 ~ +150	°C

Note 1: Output Zener protection voltage

■ ELECTRICAL CHARACTERISTICS (Ta =25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Low Supply Voltage	V _{CE}	V _{CC} =3.5V, I _L =100mA			0.6	V
Supply Voltage	V _{CC}		3		20	V
Output Saturation Voltage	V _{CE(SAT)}	V _{CC} =14V, I _L =300mA		0.3	0.6	V
Output Leakage Current	I _{CEX}	V _{CE} =14V, V _{CC} =14V		<0.1	10	μA
Supply Current	I _{CC}	V _{CC} =20V, Output Open		15	25	mA
Output Rise Time	t _R	V _{CC} =14V, R _L =820Ω, C _L =20pF		0.3	3	μS
Output Falling Time	t _F	V _{CC} =14V, R _L =820Ω, C _L =20pF		0.04	1	μS
Switch Time Differential	Δt	V _{CC} =14V, R _L =820Ω, C _L =20pF		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

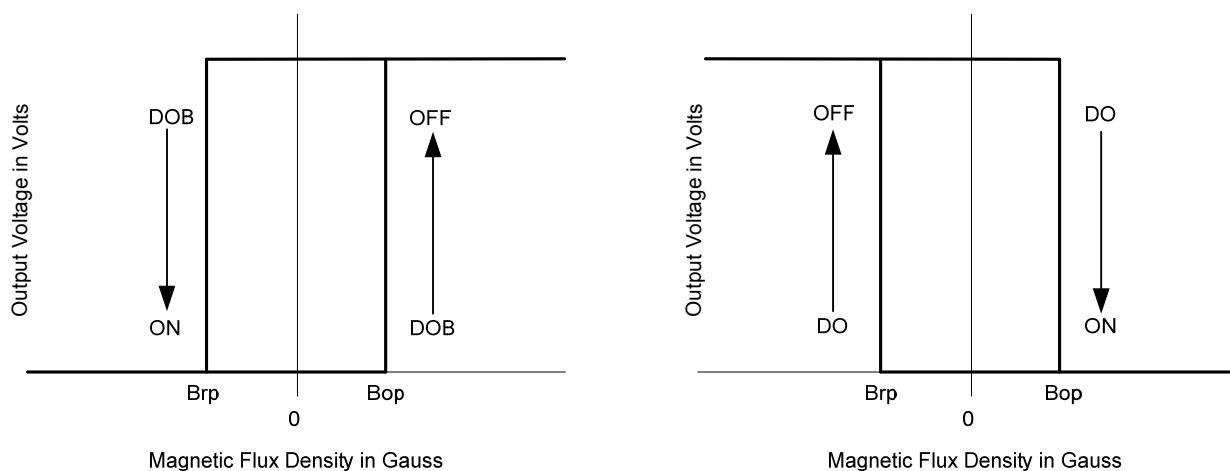
B grade

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

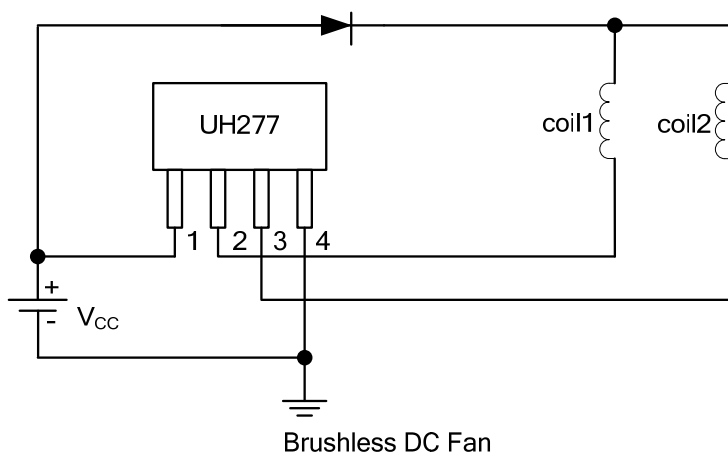
C grade

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

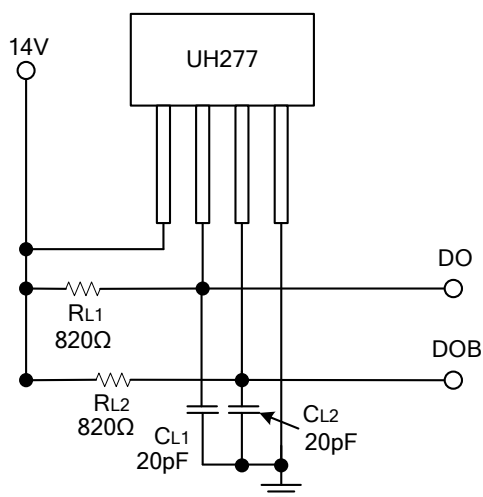
■ CHYSTERESIS CHARACTERISTICS



■ TYPICAL APPLICATION CIRCUIT

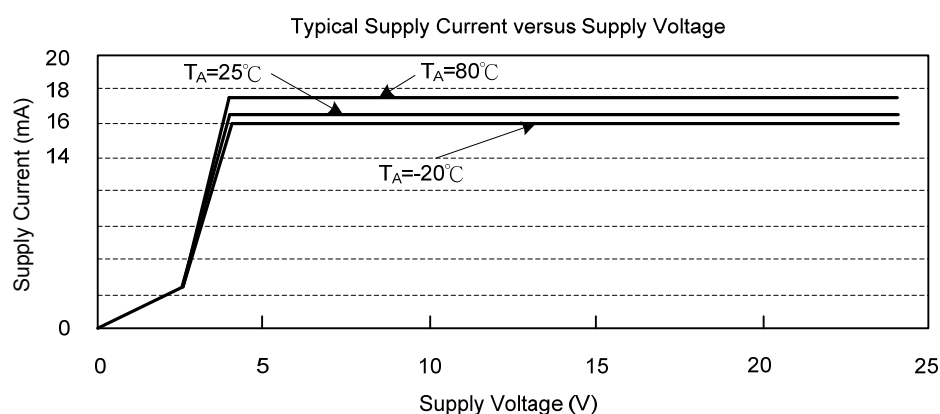
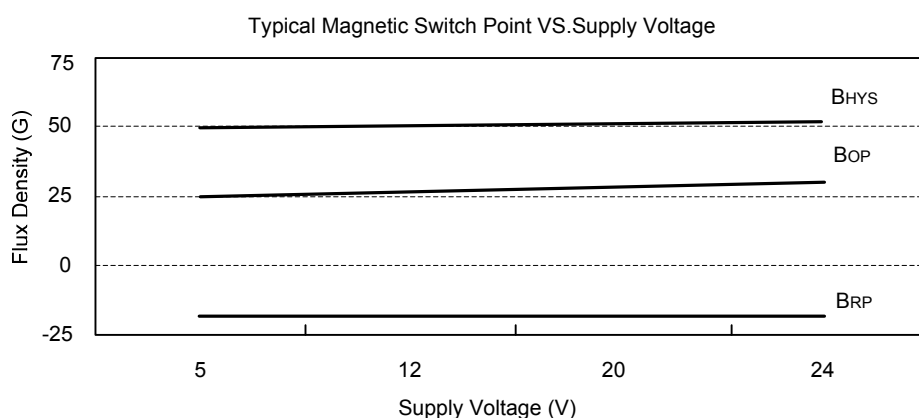
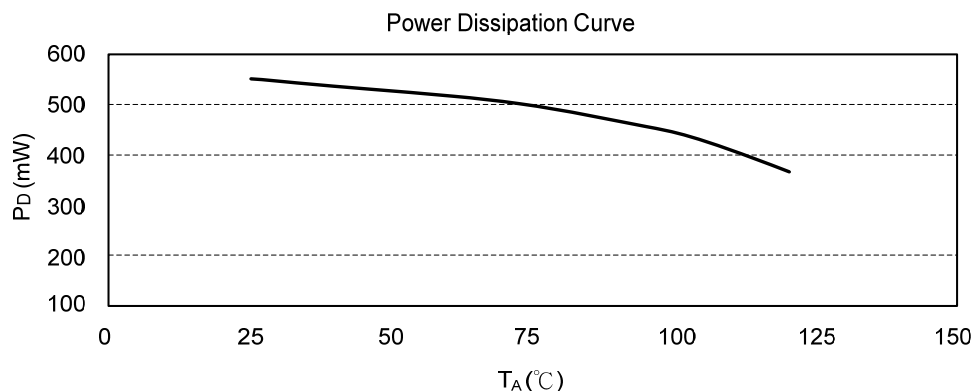


■ TEST CIRCUIT



■ PERFORMANCE CHARACTERISTICS

$T_A(^{\circ}\text{C})$	25	50	60	70	80	85	90	95	100	105	110	115	120
$P_D(\text{mW})$	550	525	515	505	485	475	465	455	445	425	405	385	365



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