AH266

High Voltage Hall Effect Latch

■ Features

- On-chip Hall plate
- Operating voltage: 4V~28V
- Output current: 400mA(Continuous, 25°C)
- Reverse protection diode only for chip reverse power connecting (Note)
- Output protection Zener breakdown Vz=62V(Typ)
- Package: SIP-4L

(Note)

Protection diode only exists at power pin(1,4) output, not including pin (2,3).

■ Application

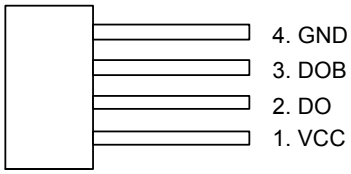
- Dual-coil Brush-less DC Motor
- Dual-coil Brush-less DC Fan
- Revolution Counting
- Speed Measurement

■ General Description

AH266 is an integrated Hall sensor with output drivers designed for electronic commutation of brush-less DC motor applications. The device includes an on-chip Hall voltage generator for magnetic sensing, a comparator that amplifies the Hall voltage, and a Schmitt trigger to provide switching hysteresis for noise rejection, and complementary darlington open-collector drivers for sinking large current loads. An internal bandgap regulator is used to provide temperature compensated supply voltage for internal circuits and allows a wide operating supply range.

If a magnetic flux density (B) is larger than operate point (Bop), DO turn on (low) and DOB turn off (high). The outputs state is latched prior to reach release point (Brp). if B< Brp, DO turn off and DOB turn on. AH266 is rated for operation over temperature range from -20°C to 85°C and voltage range from 4V to 28V. The devices are available in low cost die forms or rugged 4 pin SIP packages.

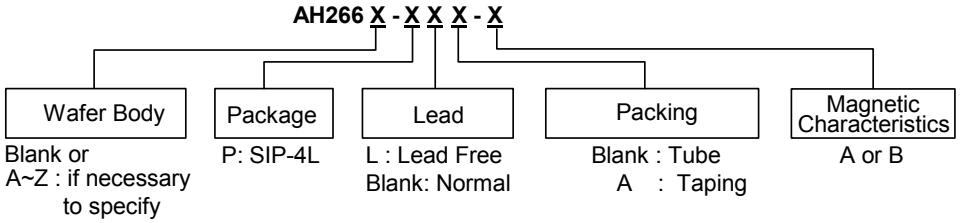
■ Pin Assignment



■ Pin Configuration

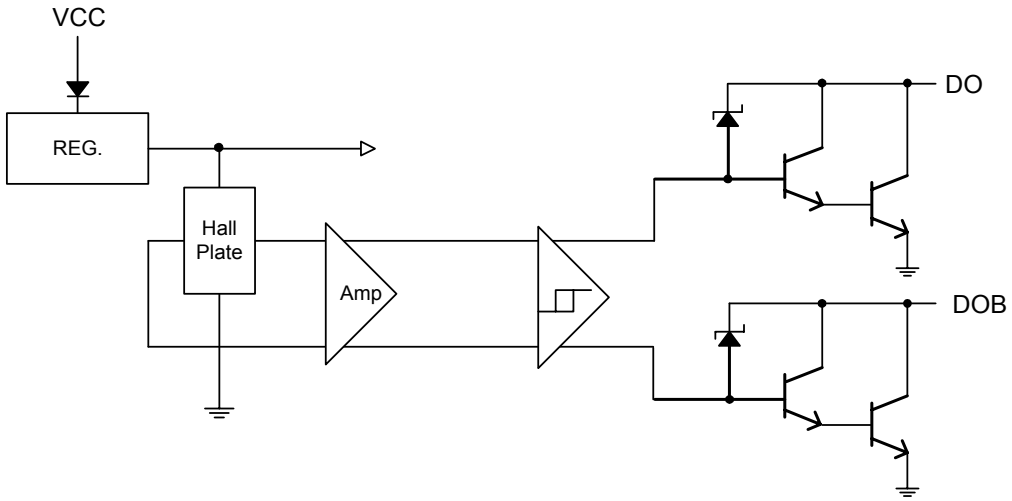
Name	Description
VCC	Positive Power Supply
DO	Output Pin
DOB	Output Pin
GND	Ground

■ Ordering Information

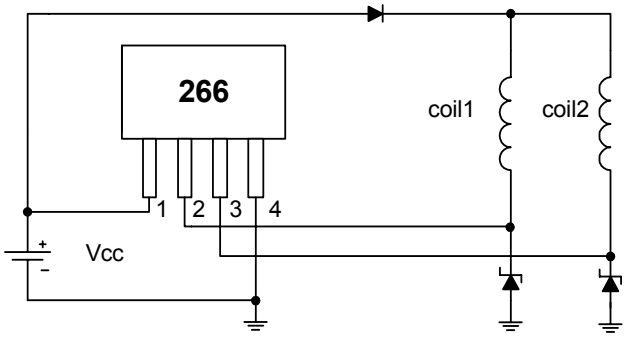


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■ Block Diagram



■ Typical Application Circuit



Brush-less DC Fan

Note: This application circuit can't protect reverse coil current if power is connecting reverse.

■ Absolute Maximum Ratings (at Ta = 25°C)

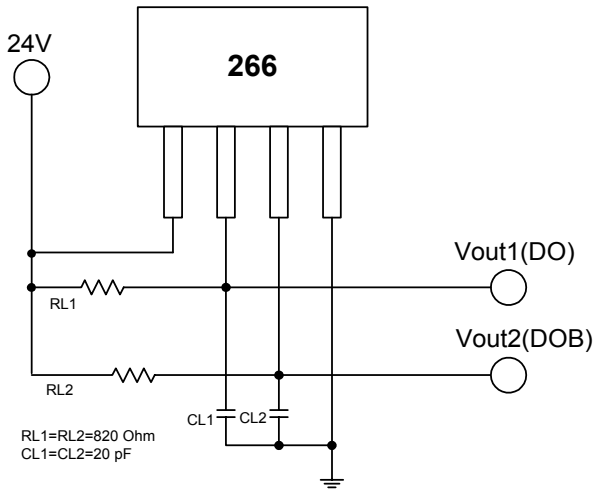
Parameter	Symbol	Rating	Unit
Supply voltage	VCC	28	V
Output "OFF " voltage	Vout (off)	28	V
Output "ON" current	Io (con)	400 (Note 1)	mA
	Io (hold)	500	mA
	Io (peak)	700	mA
Magnetic flux density	B	Unlimited	Gauss
Operating temperature range	Top	-20~+85	°C
Storage temperature range	Tstg	-65~+150	°C
Power dissipation (Note 2)	PD	550	mW
Thermal Resistance	θjc	227	°C/W

Note 1: Io(con) is 150 mA at 85°C
2: See **Performance Characteristic** for other conditions

■ Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Conditions	Min	Typ	Max	Unit
Supply Voltage	Vcc	—	4	—	28	V
Output Zener Breakdown	Vz	Output Turn off	54	62	70	V
Output Saturation Voltage	Vce(sat)	Vcc=24V, Ic=400mA	—	1.1	1.5	V
Output Leakage Current	Icex	Vce=24V, Vcc=24V	—	< 0.1	10	μA
Supply Current	Icc	Vcc=24V, Output Open	—	5	10	mA
Output Rise Time	tr	Vcc=24V, RL=820Ω, CL=20pF	—	1.0	5	μs
Output Falling Time	tf	Vcc=24V, RL=820Ω, CL=20pF	—	1.0	1.5	μs
Switch Time Differential	Δt	Vcc=24V, RL=820Ω, CL=20pF	—	3.0	10	μs

■ Test Circuit



■ Magnetic Characteristics (Ta=+25°C)

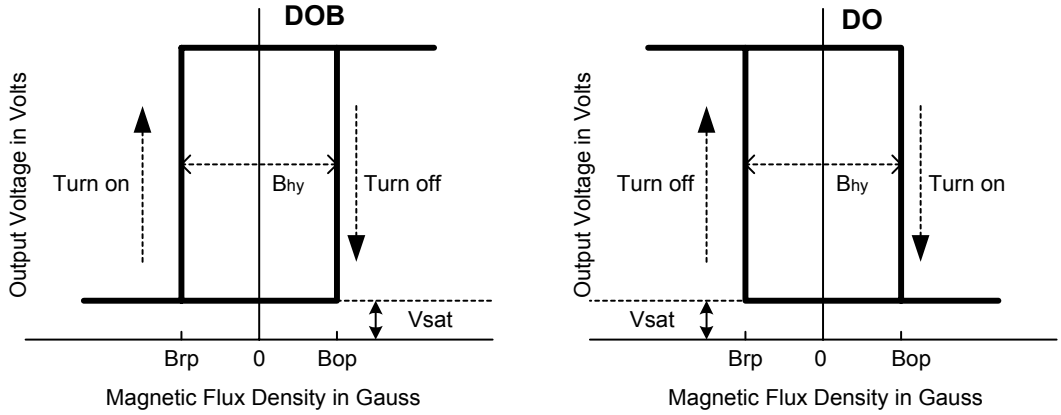
(1mT = 10 Gauss)

A grade

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Operate Point	Bop	10	-	70	Gauss
Release Point	Brp	-70	-	-10	Gauss
Hysteresis	Bhy	-	80	-	Gauss

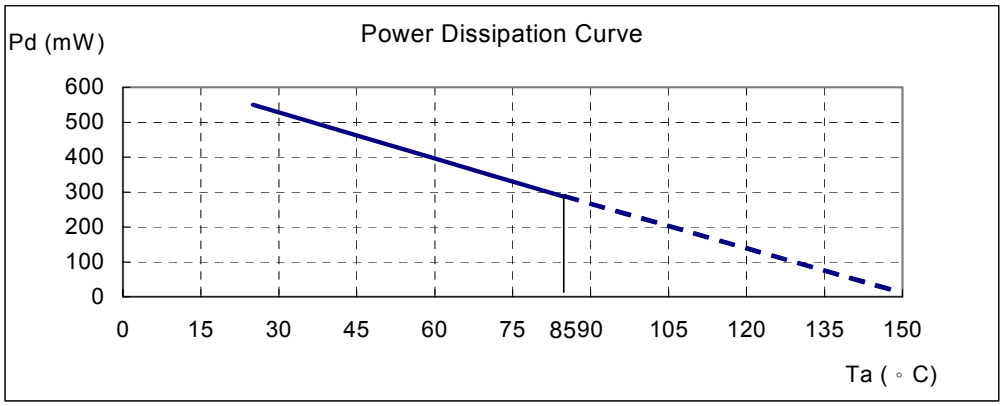
B grade

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Operate Point	Bop	-	-	100	Gauss
Release Point	Brp	-100	-	-	Gauss
Hysteresis	Bhy	-	80	-	Gauss

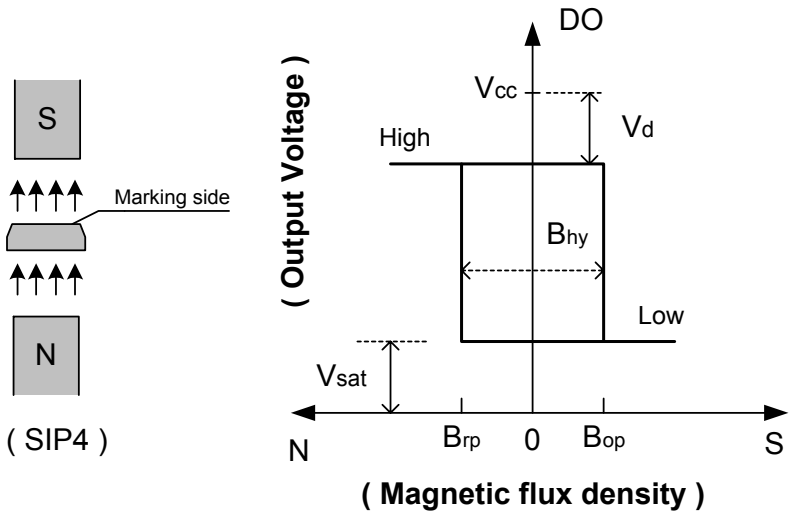


■ Performance Characteristics (SIP-4L)

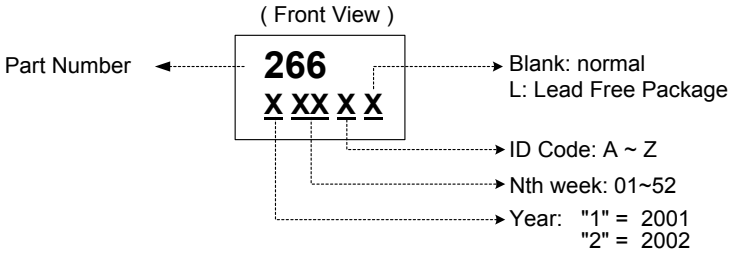
Ta (°C)	25	50	60	70	80	85	90	95	100
Pd (mW)	550	440	396	352	308	286	264	242	220
Ta (°C)	**105**	**110**	**115**	**120**	**125**	**130**	**135**	**140**	**150**
Pd (mW)	198	176	154	132	110	88	66	44	0



■ Operation Characteristics

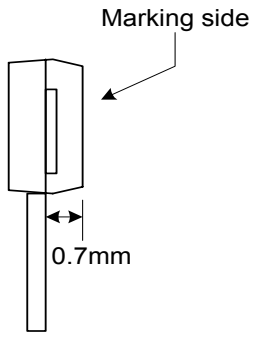


■ Marking Information

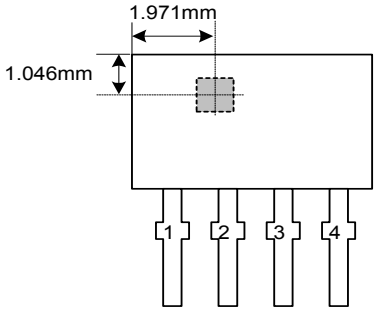


■ Package Information

Active Area Depth



Package Sensor Location



Package Dimension

