

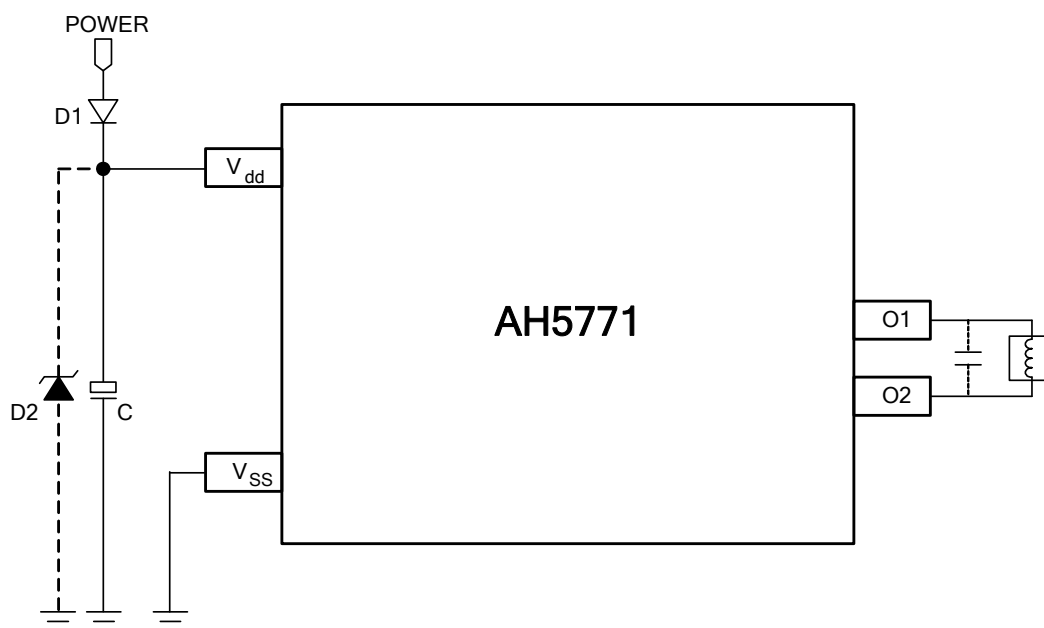
Features

- Support single-phase full wave min fan driver
- Built-in Hall sensor input amplifier
- Low voltage startup ($V_{dd}=2.5V$)
- Lock detection and automatic self-restart
- Without external timing capacitor, Reduces the numbers of external component required
- Low profile package : SIP-4L
- SIP-4L: Available in "Green" Molding Compound (No Br, Sb)
- Lead Free Finish / RoHS Compliant (Note 1)

General Description

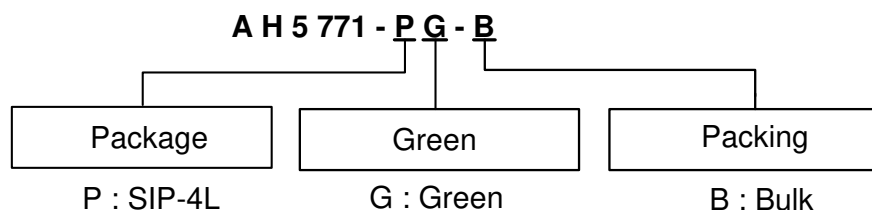
AH5771 is the integrated Hall sensor with output drivers designed for electrical commutation of brush-less DC motor application. The device is as follows: one-chip Hall voltage generator for magnetic sensing; the error amplifier that amplifies the Hall voltage; a comparator is to provide switching hysteresis for noise rejection; the full bridge driver for sinking and driving current load. Internal band gap regulator is used to provide temperature compensated bias for internal circuits and allows a wide operating supply voltage range. The device includes features such as Rotor Lock Protection with rotor lock detection and automatic self-restart to avoid damage to the coil when the rotor is blocked. AH5771 is rated for operation over-temperature range from -40°C to 100°C and voltage range from 2.5V to 15V. The device is available in low profile package SIP-4L.


Typical Application Circuit



Note: D2 (Zener Diode) and Capacitor C are for power stabilization, D2 is recommended to be 18Vz (option), C is recommended to 0.1uF ~1uF (E-Cap). D1 (reverse Diode) is for reverse voltage protection.

Ordering Information

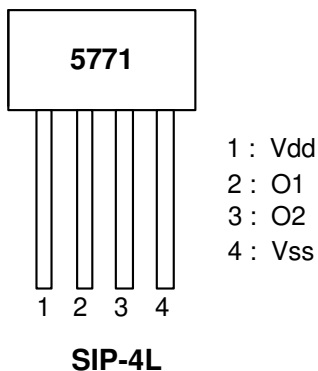


Device	Package Code	Packaging (Note 2)	Bulk	
			Quantity	Part Number Suffix
 AH5771-PG-B	P	SIP-4L	1000	-B

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/products/lead_free.html
 2. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

Pin Assignment

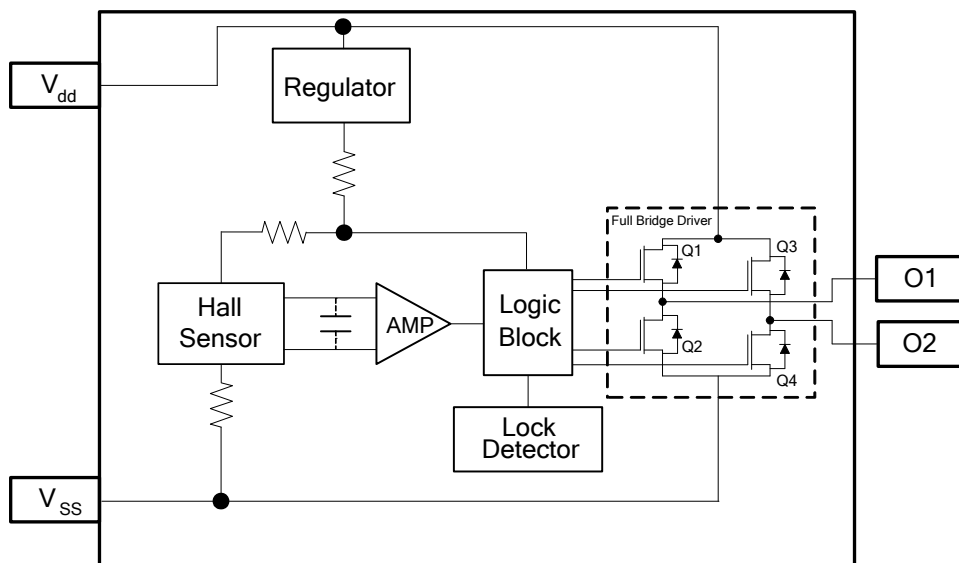
(Top View)



Pin Description

Pin Name	Pin No.	Description
Vdd	1	Power supply pin
O1	2	Output driving & sinking pin
O2	3	Output driving & sinking Pin
V _{SS}	4	Ground pin

Block Diagram



Absolute Maximum Ratings (Unless otherwise noted, at $T_A = 25^\circ\text{C}$)

Symbol	Characteristics		Values	Unit
V _{dd}	Supply voltage		18	V
I _o (peak as hold)	Output Current (Peak as hold)		400	mA
P _D	Power Dissipation	SIP-4L	550	mW
T _{ST}	Storage Temperature Range		-55 ~ 150	°C

Recommended Operating Conditions

Symbol	Characteristics	Conditions	Ratings	Unit
V _{dd}	Supply voltage	Operating	2.5~15	V
T _A	Operating Temperature Range	Operating	-40 to +100	°C

Electrical Characteristics ($T_A = 25^\circ\text{C}$, V_{dd} = 12V; unless otherwise specified)

Symbol	Characteristics	Conditions	Min	Typ.	Max	Unit
I _{dd}	Supply Current	No Load	-	3.5	5	mA
V _{OH}	Output Voltage High	I _{OUT} = 200mA	11.4	-	-	V
V _{OL}	Output Voltage Low	I _{OUT} = 200mA	-	-	0.6	V
T _{ON}	On Time	V _{dd} = 12V	-	220	-	ms
R _{DR}	Duty Ratio	T _{OFF} / T _{ON}	-	10	-	

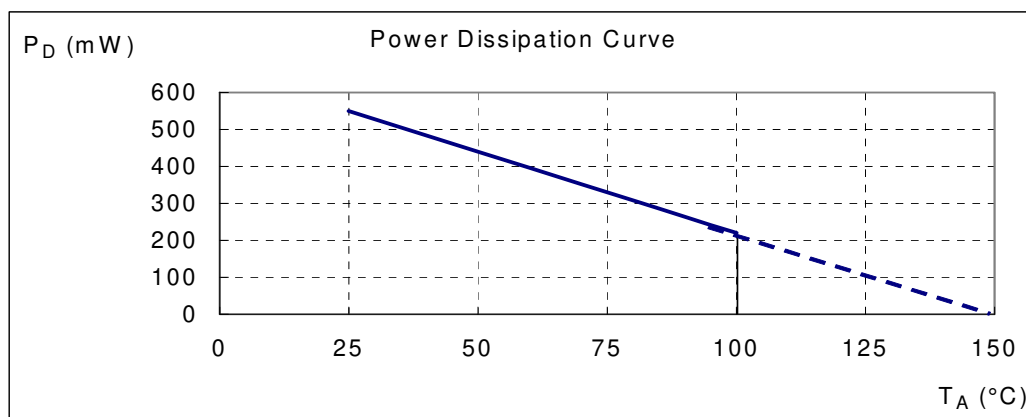
Magnetic Characteristics (TA=25°C, Vdd=2.5V~15V)

(1mT = 10 G)

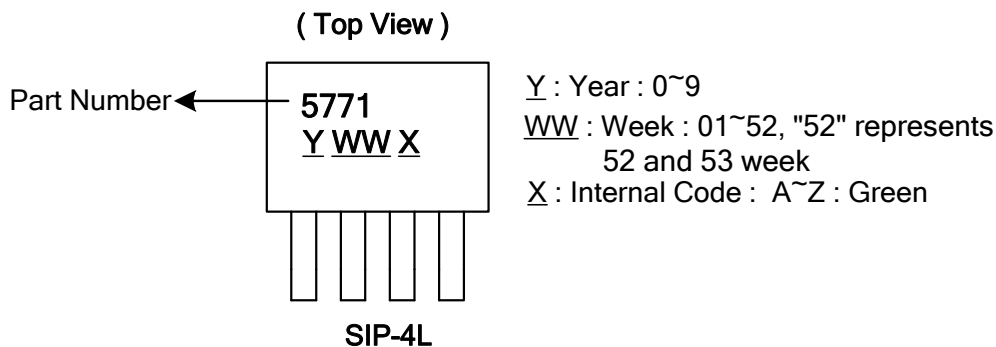
Symbol	Characteristic	Min	Typ.	Max	Unit
B _{Op}	Operate Point	-10	30	50	G
Brp	Release Point	-50	-30	-10	G
B _{hy}	Hysteresis	-	60	-	G

Performance Characteristics

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

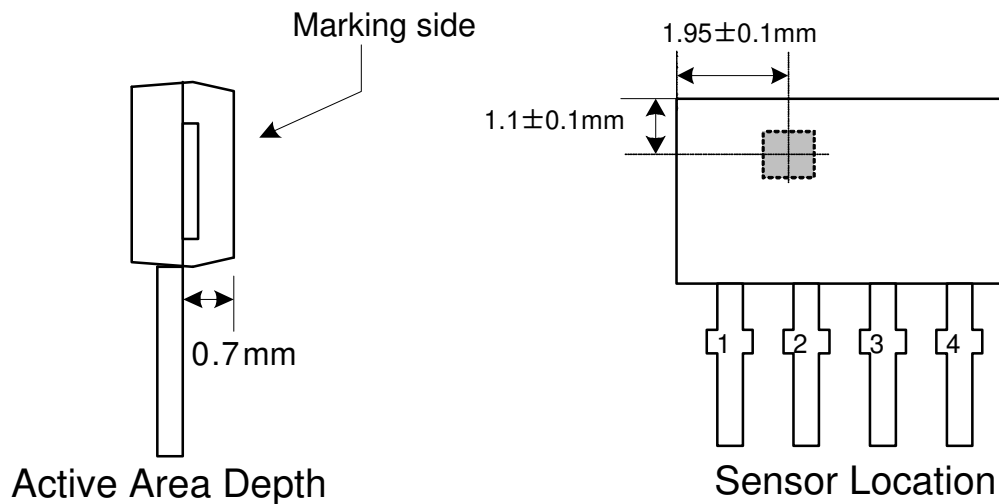


Marking Information

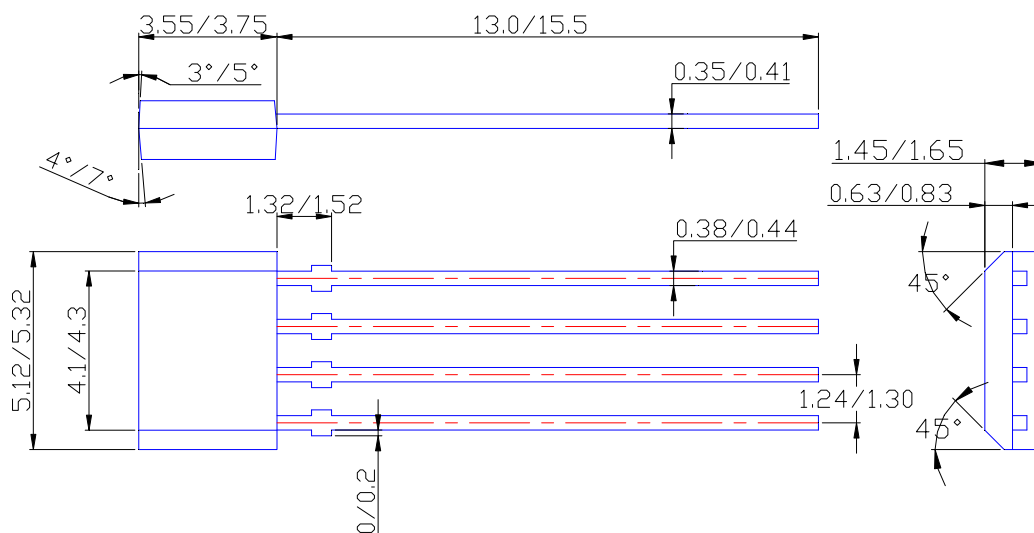


Package Information (All Dimensions in mm)

(1) Package type: SIP-4L



Package Dimension



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