

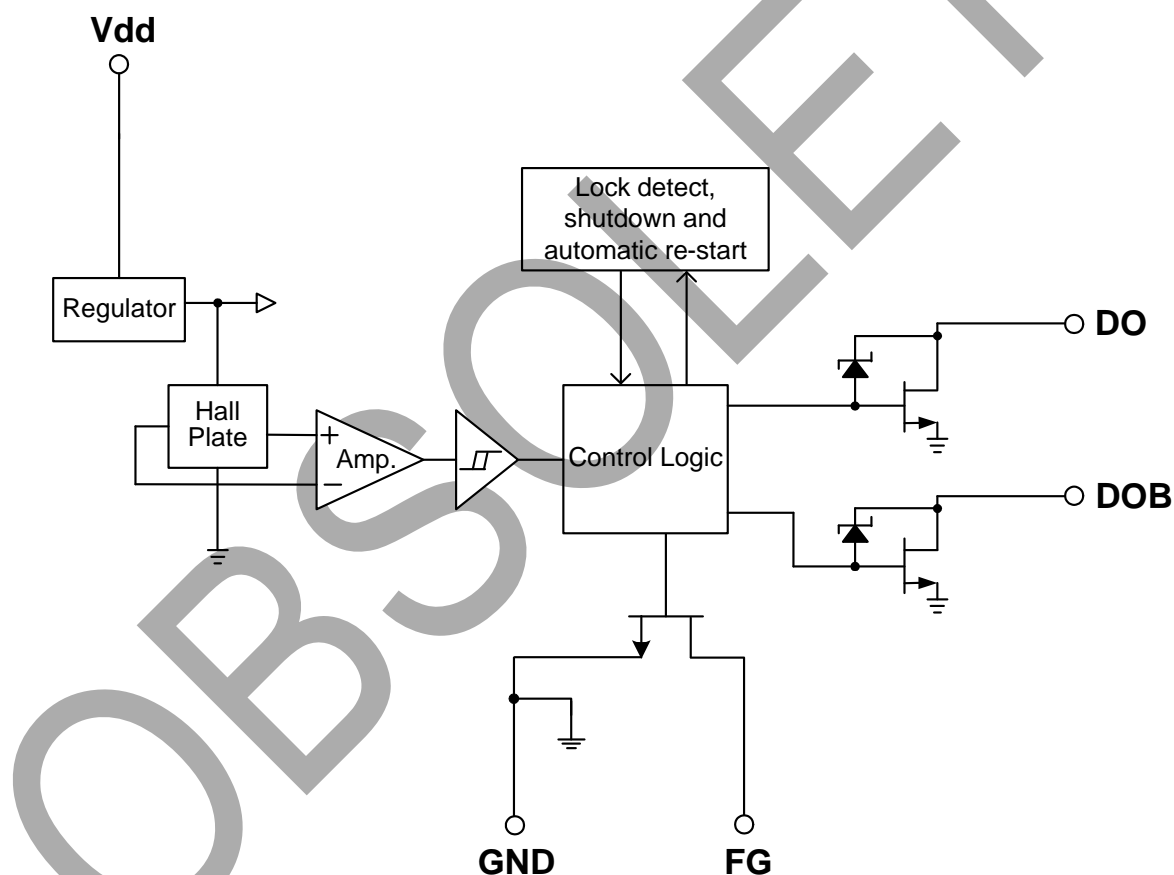


LOW VOLTAGE HALL-EFFECT SMART FAN MOTOR CONTROLLER

Pin Descriptions

Pin Name	Description
FG	Frequency Generation
Vdd	Input Power
DO	Output Pin
DOB	Output Pin
GND	Ground

Functional Block Diagram





LOW VOLTAGE HALL-EFFECT SMART FAN MOTOR CONTROLLER

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$)

Symbol	Characteristics	Rating	Unit
V _{DD}	Operating Supply Voltage	8	V
I _{O(AVE)}	Output Current	400	mA
I _{O(PEAK)}	Output Current	700	mA
P _D	Power Dissipation	800	mW
T _{ST}	Storage Temperature	-55 ~ 150	°C
T _J	Maximum Junction Temperature	150	°C

Recommended Operating Conditions

Symbol	Characteristic	Conditions	Min	Max	Unit
V _{DD}	Supply Voltage (Note 2)	Operating	1.8	5.75	V
T _A	Operating Ambient Temperature	Operating	-20	100	°C

Notes: 2. The output of IC will be switched after the supply voltage is over 1.8V, but the magnetic characteristics won't be normal until the supply is over 2.0V.

Electrical Characteristics ($T_A = 25^\circ\text{C}$, V_{DD} = 5V, unless otherwise specified)

Symbol	Characteristics	Conditions	Min	Typ.	Max	Unit
I _{DD}	Supply current	Operating	-	2.6	4.0	mA
T _{RLP-ON}	Rotor Lock Protection On Time		-	0.4	-	Sec
T _{RLP-OFF}	Rotor Lock Protection Off Time		2.4	3	3.6	Sec
V _{OUT(SAT)}	Output Saturation Voltage	I _O = 180mA	-	300	-	mV
		I _O = 350mA	-	600	-	mV
R _{DS(ON)}	Output On Resistance		-	1.75	-	ohm
V _{OL}	FG Output V _{DS}	I _O = 10mA	-	0.5	-	V
V _Z	Output Zener-Breakdown Voltage		-	15	-	V

Truth Table

IN-	IN+	CT	OUT1	OUT2	FG	Mode
H	L	L	H	L	H	Rotating
L	H	L	L	H	L	Rotating
-	-	H	off	off	-	Lockup protection activated



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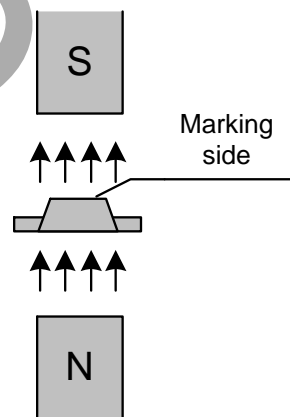
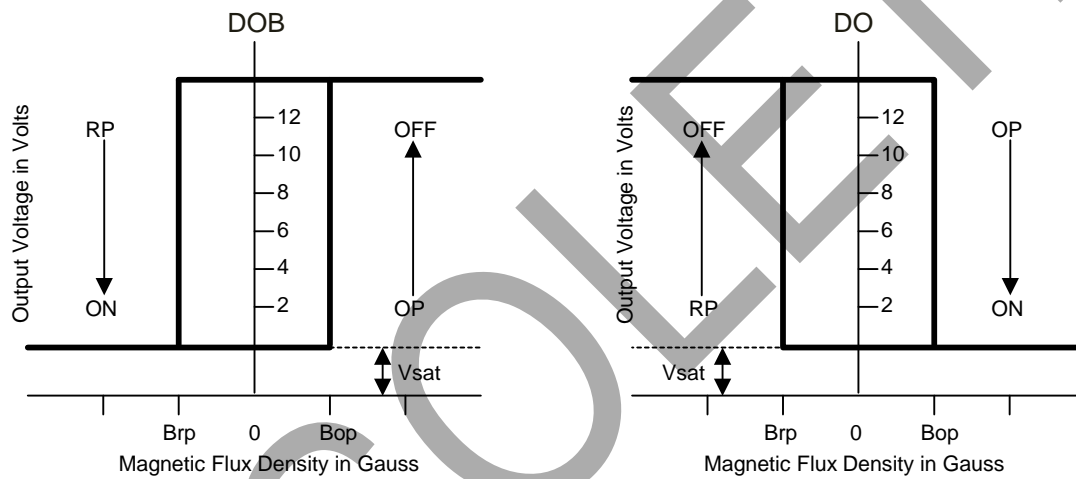
Magnetic Characteristics ($T_A = 25^\circ\text{C}$, $V_{DD} = 5\text{V}$, unless otherwise specified, Note 3)

(1mT = 10 Gauss)

Symbol	Characteristics	Min	Typ.	Max	Unit
Bop	Operation Point	10	30	60	Gauss
Brp	Release Point	-60	-30	-10	Gauss
Bhy	Hysteresis	-	60	-	Gauss

Notes: 3. The magnetic characteristics may vary with supply voltage, operating temperature and after soldering.

Operating Characteristics



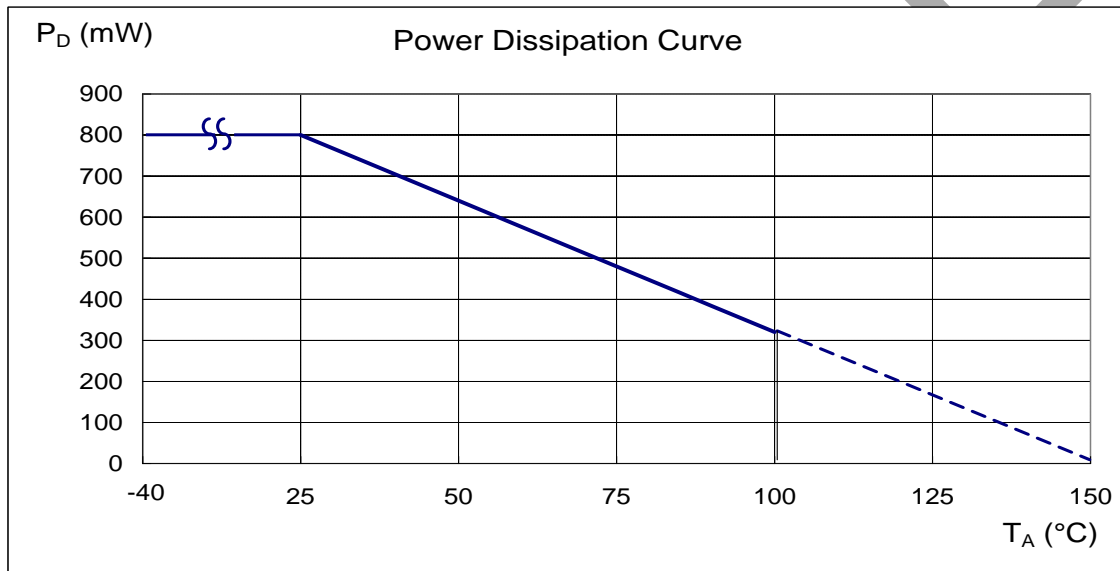
(SOT89-5L)



LOW VOLTAGE HALL-EFFECT SMART FAN MOTOR
CONTROLLER

Performance Characteristics

T _A (°C)	25	50	60	70	75	80	85	90	95	100
P _D (mW)	800	640	576	512	480	448	416	384	352	320
T _A (°C)	105	110	115	120	125	130	135	140	145	150
P _D (mW)	288	256	224	192	160	128	96	64	32	0

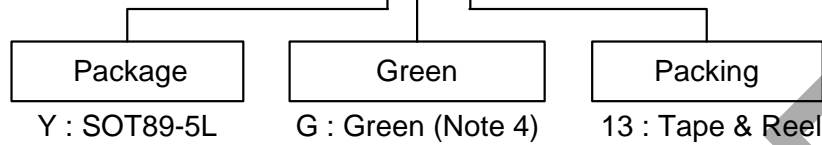




LOW VOLTAGE HALL-EFFECT SMART FAN MOTOR CONTROLLER

Ordering Information

AH 292 - Y G - 13

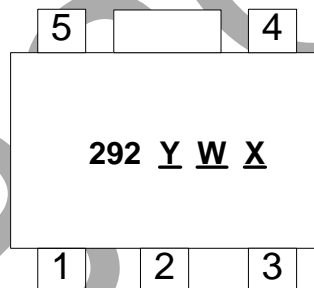


Device	Package Code	Packaging (Note 5, 6)	Bulk		13" Tape and Reel	
			Quantity	Part Number Suffix	Quantity	Part Number Suffix
AH292-YG-13	Y	SOT89-5L	NA	NA	2500/Tape & Reel	-13

Notes: 4. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/products/lead_free.html.
 5. 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>.
 6. Reverse taping as shown on Diodes Inc. Surface Mount (SMD) Packaging document AP02007, which can be found on our website <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information

(Top View)



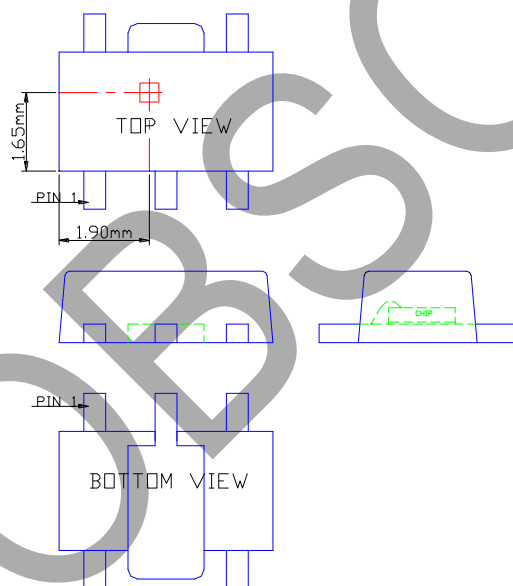
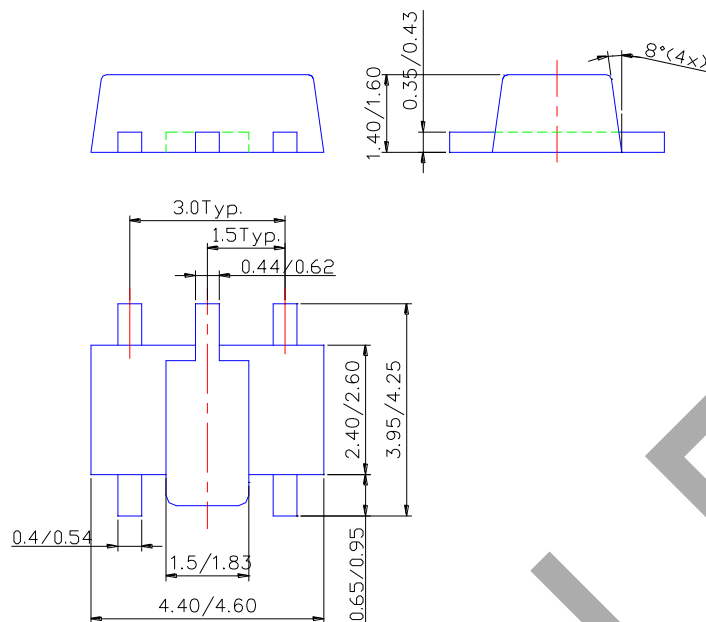
SOT89-5L

Y : Year : 0~9
W : Week : A~Z : 1~26 week;
 a~z : 27~52 week;
 z represents 52 and 53 week
X : Internal code
 A~Z : Green



LOW VOLTAGE HALL-EFFECT SMART FAN MOTOR CONTROLLER

Package Outline Dimensions (All Dimensions in mm)



Sensor Location



LOW VOLTAGE HALL-EFFECT SMART FAN MOTOR CONTROLLER

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