



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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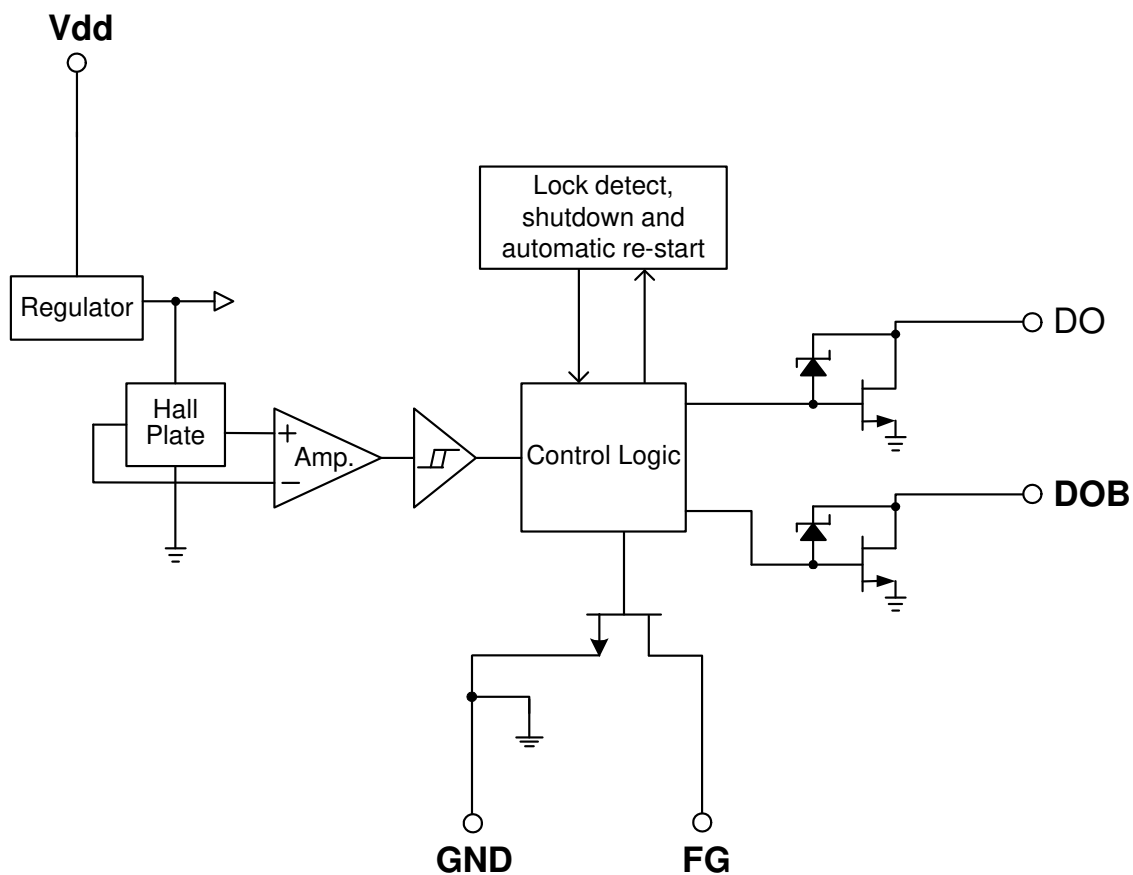
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Pin Descriptions

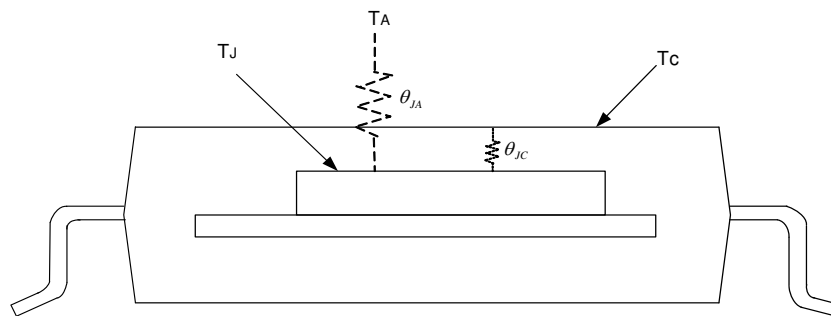
Pin Name	Description
FG	Frequency Generation
Vdd	Input Power
DO	Output Pin
DOB	Output Pin
GND	Ground

Functional Block Diagram



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

Symbol	Characteristics	Rating	Unit
V _{DD}	Supply Voltage	24	V
I _O	Output Current	I _O (AVE)	500 mA
		I _O (PEAK)	700 mA
P _D	Power Dissipation	800	mW
T _{ST}	Storage Temperature	-55 ~ 150	°C
T _J	Maximum Junction Temperature	150	°C
θ _{JA}	Thermal Resistance Junction to Case (Note 2)	156	°C/W



Notes: 2. θ_{JA} should be confirmed with heat sink thermal resistance. If there is no heat sink contact, θ_{JA} will almost be the same as θ_{JC} .

Recommended Operating Conditions

Symbol	Characteristic	Conditions	Min	Max	Unit
V _{DD}	Supply Voltage	Operating	3.8	20	V
T _A	Operating Ambient Temperature	Operating	-40	100	°C

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

Symbol	Characteristics	Conditions	Min	Typ.	Max	Unit
I_{DD}	Supply Current	Operating	-	2	4	mA
I_{OFF}	Output Leakage Current	$V_{OUT}=24\text{V}$	-	< 0.1	10	μA
T_{RLP-ON}	Rotor Lock Protection On Time		0.4	0.5	0.6	Sec
$T_{RLP-OFF}$	Rotor Lock Protection Off Time		2.4	3	3.6	Sec
$V_{OUT(SAT)}$	Output Saturation Voltage	$I_O = 300\text{mA}$	-	375	500	mV
		$I_O = 500\text{mA}$	-	625	900	
$R_{DS(ON)}$	Output On Resistance	$I_O = 300\text{mA}$	-	1.25	1.67	ohm
V_{OL}	FG Output Vds	$I_O = 10\text{mA}$	-	0.5	-	V
V_Z	Output Zener-Breakdown Voltage		35	42	60	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

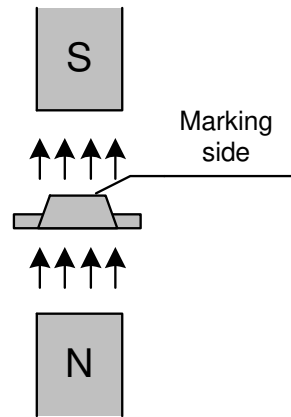
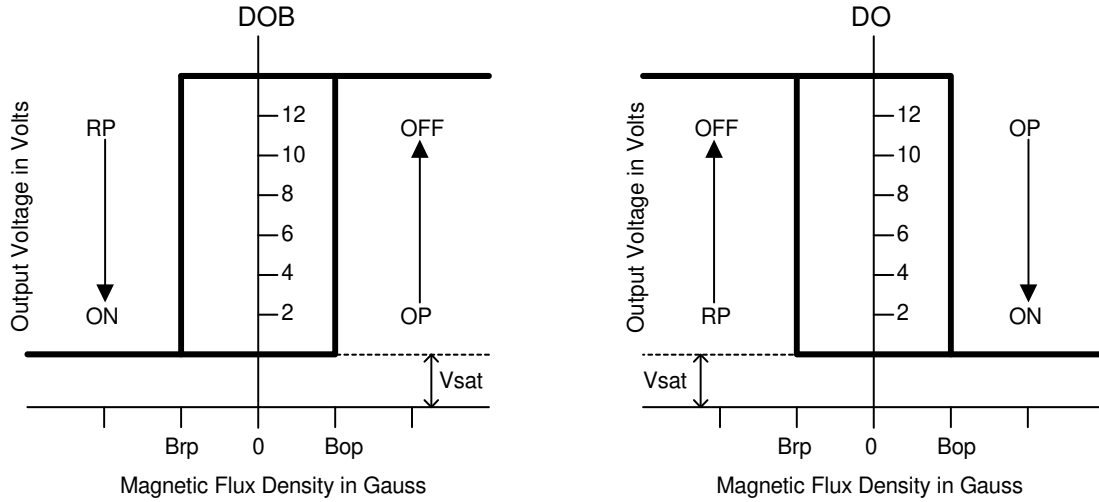
Magnetic Characteristics ($T_A = 25\text{ }^\circ\text{C}$, $V_{DD} = 12\text{V}$, unless otherwise specified, Note 3)

(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.

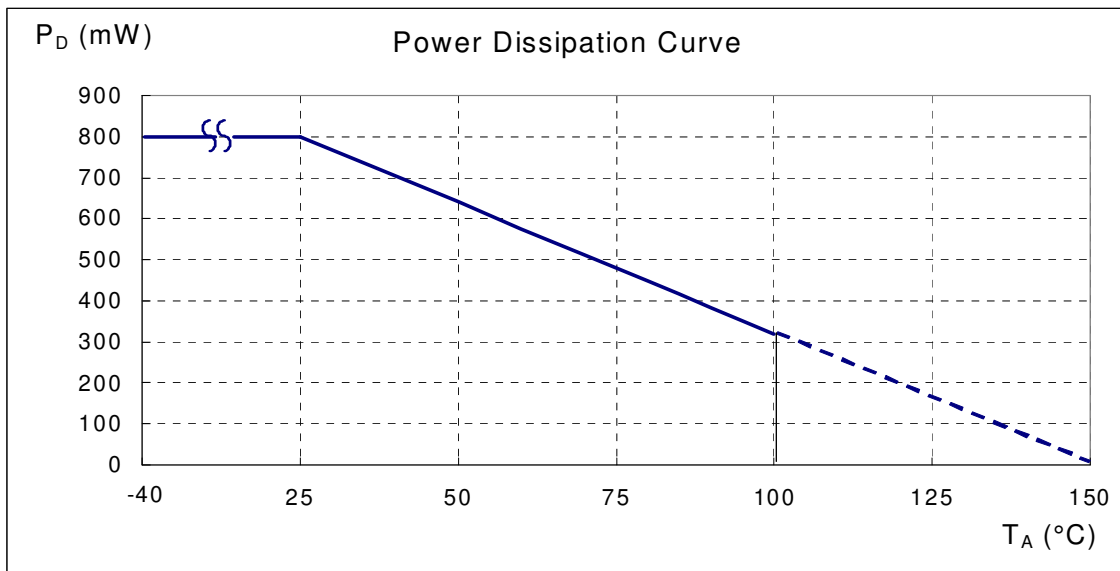
Operating Characteristics



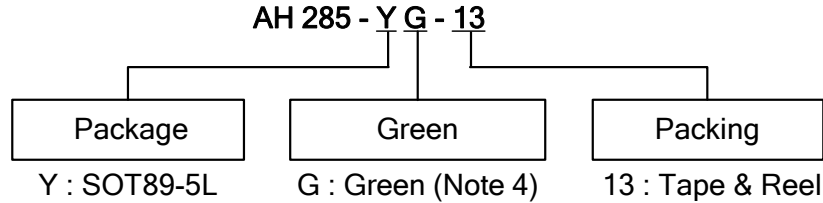
(SOT89-5L)

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



Ordering Information



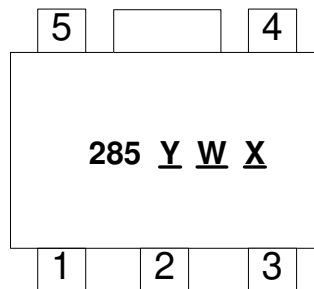
Device	Package Code	Packaging (Note 5, 6)	Bulk		13" Tape and Reel	
			Quantity	Part Number Suffix	Quantity	Part Number Suffix
AH285-YG-13	Y	SOT89-5L	NA	NA	2500/Tape & Reel	-13



- 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

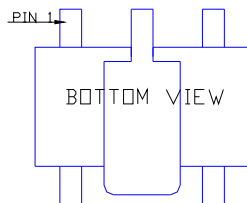
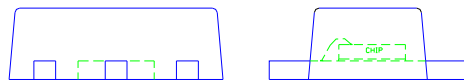
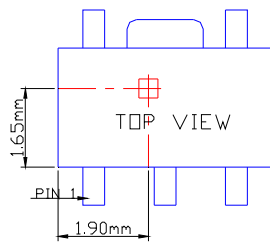
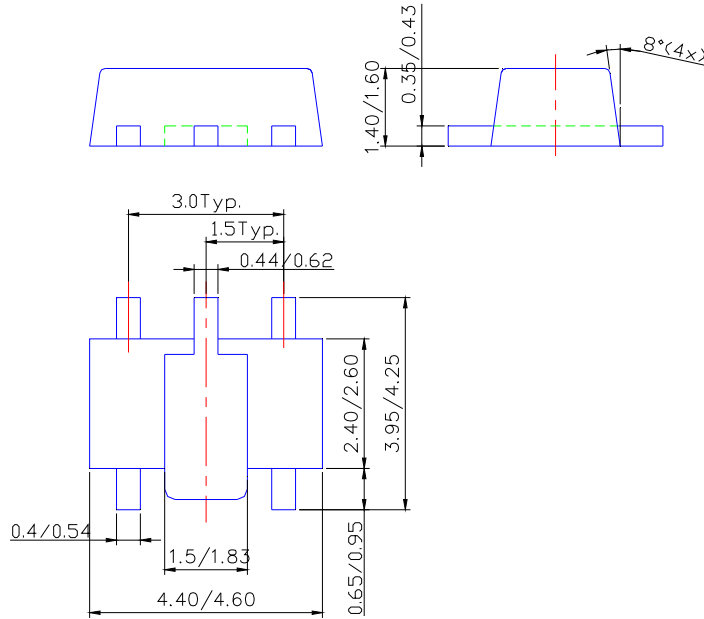
(Top View)



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

Package Outline Dimensions (All Dimensions in mm)



Sensor Location

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