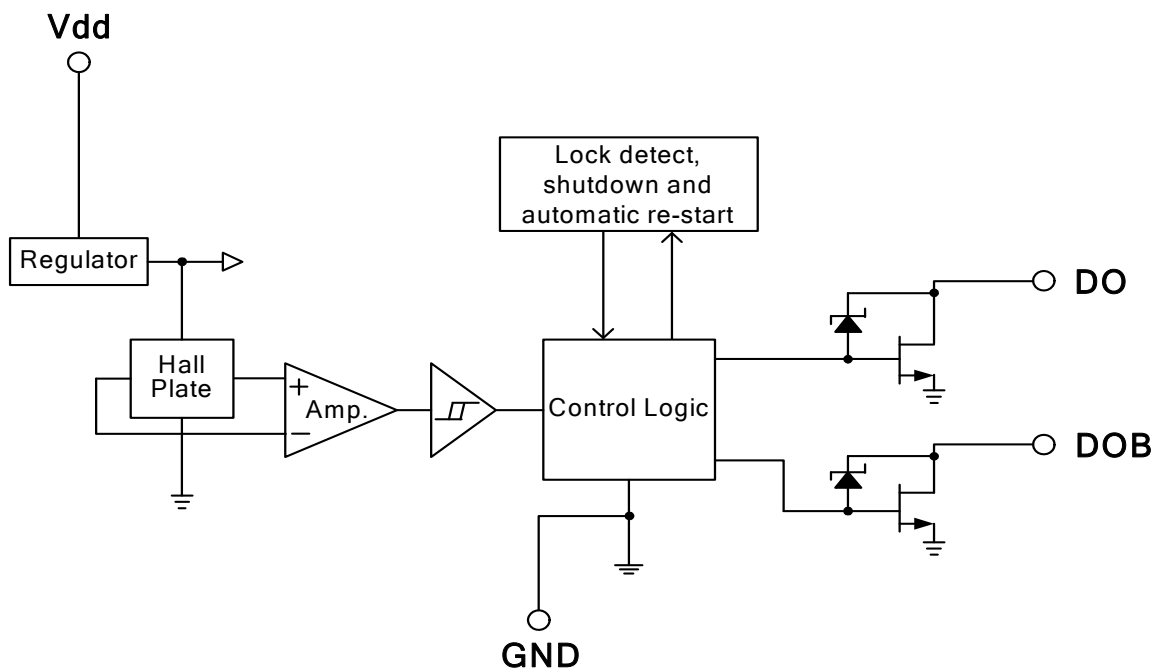


Pin Descriptions

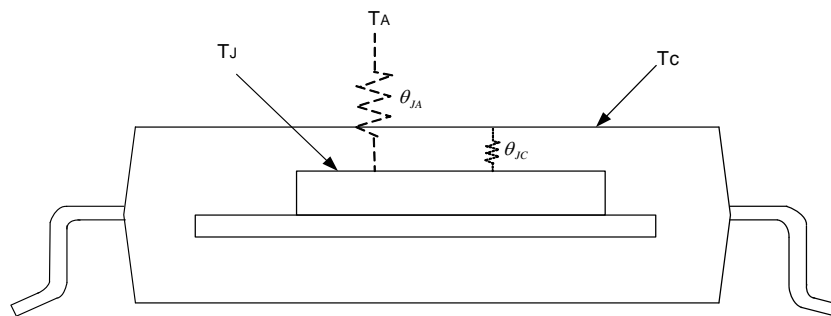
Pin Name	Description
Vdd	Input Power
DO	Output Pin
DOB	Output Pin
GND	Ground
NC	Not Connected

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)}	SIP-4L	500	mA
			SOT89-5L	500	mA
		I _{O (PEAK)}	700	mA	
P _D	Power Dissipation	SIP-4L	550	mW	
		SOT89-5L	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)	SIP-4L	227	°C/W	
		SOT89-5L	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	-	2.0	4.0	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_Z	Output Zener-Breakdown Voltage		35	42	60	V

Truth Table

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

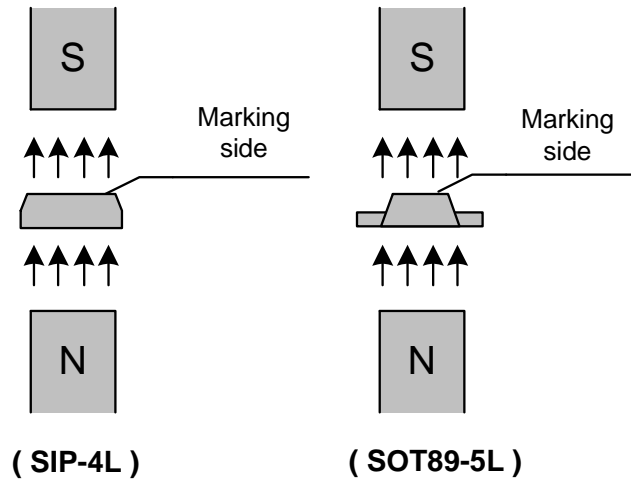
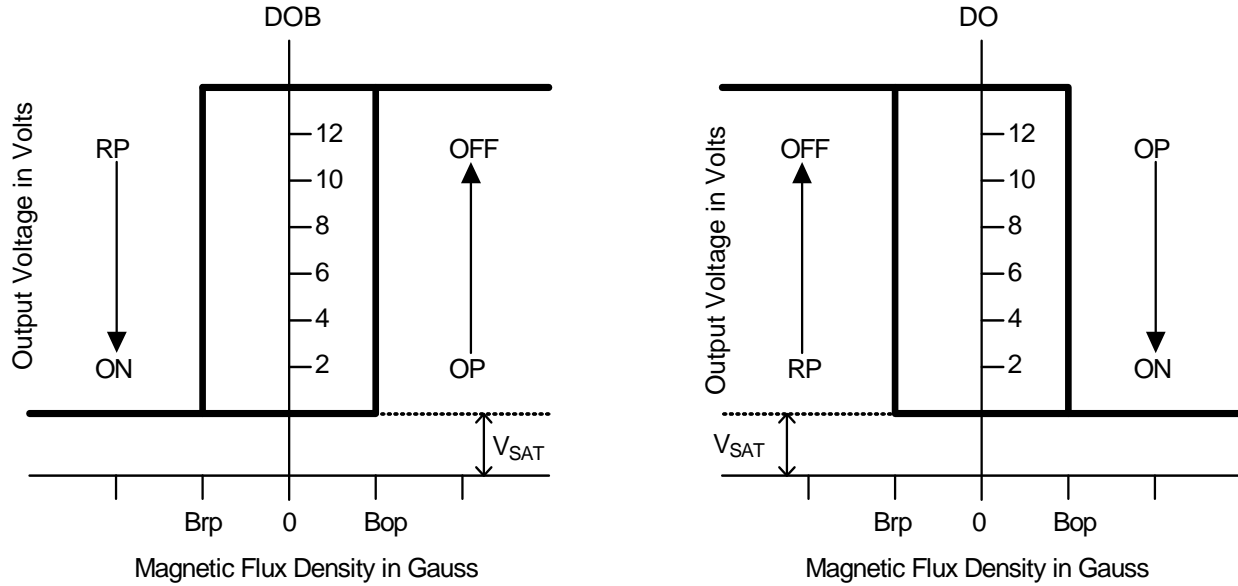
Magnetic Characteristics ($T_A = 25\text{ }^\circ\text{C}$, $V_{DD} = 12\text{V}$, unless otherwise specified, Note 3)

(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.

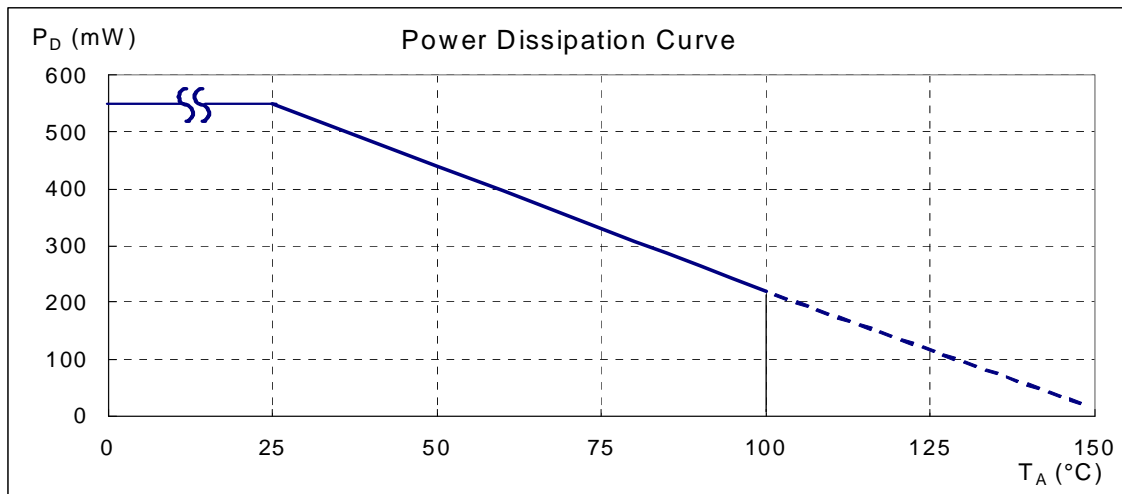
Operating Characteristics



Performance Characteristics

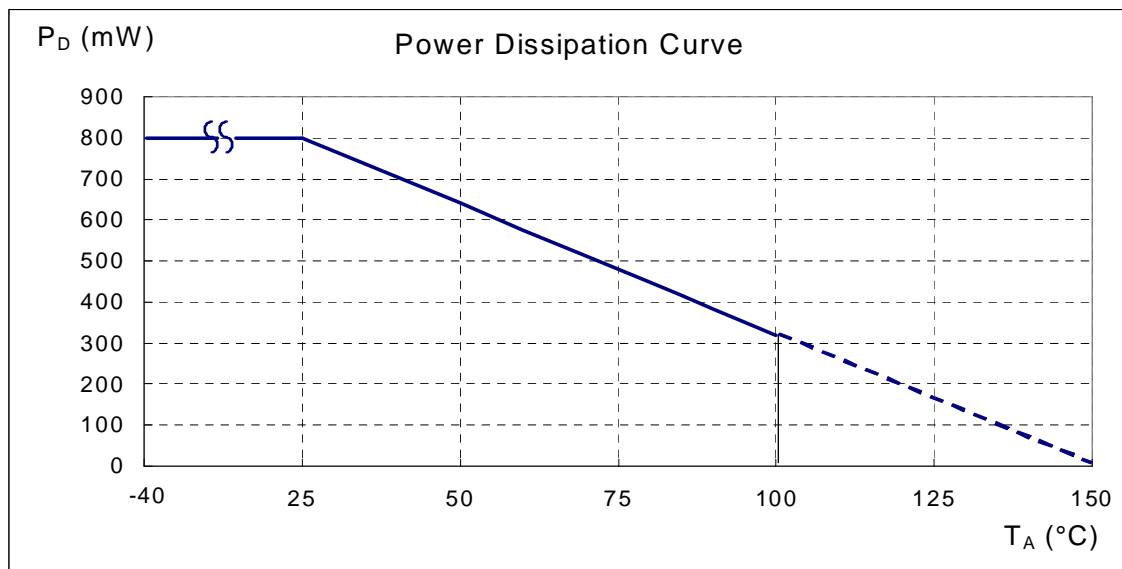
(1) SIP-4L

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

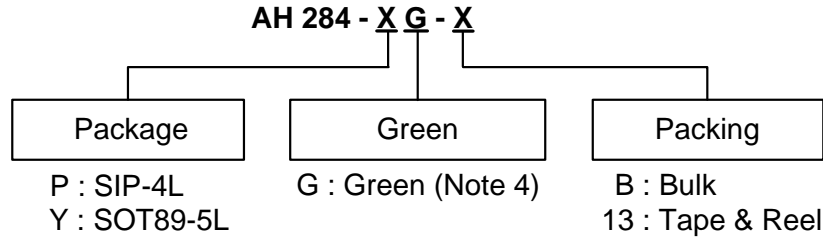


(2) SOT89-5L

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



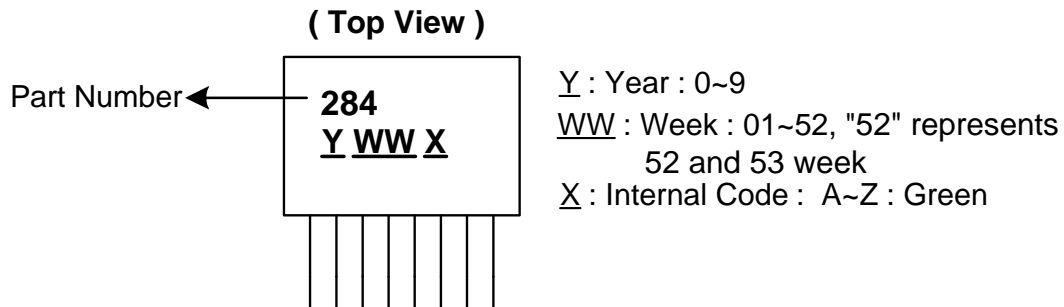
Device	Package Code	Packaging (Note 5, 6)	Bulk		13" Tape and Reel	
			Quantity	Part Number Suffix	Quantity	Part Number Suffix
AH284-PG-B	P	SIP-4L	1000	-B	NA	NA
AH284-YG-13	Y	SOT89-5L	NA	NA	2500/Tape & Reel	-13



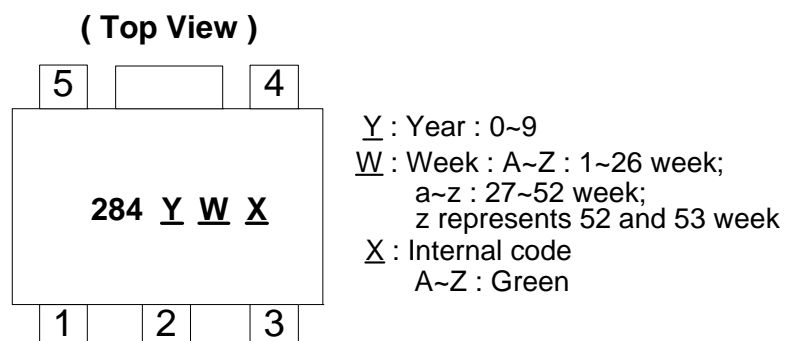
- Notes:
4. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/products/lead_free.html.
 5. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.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

(1) SIP-4L

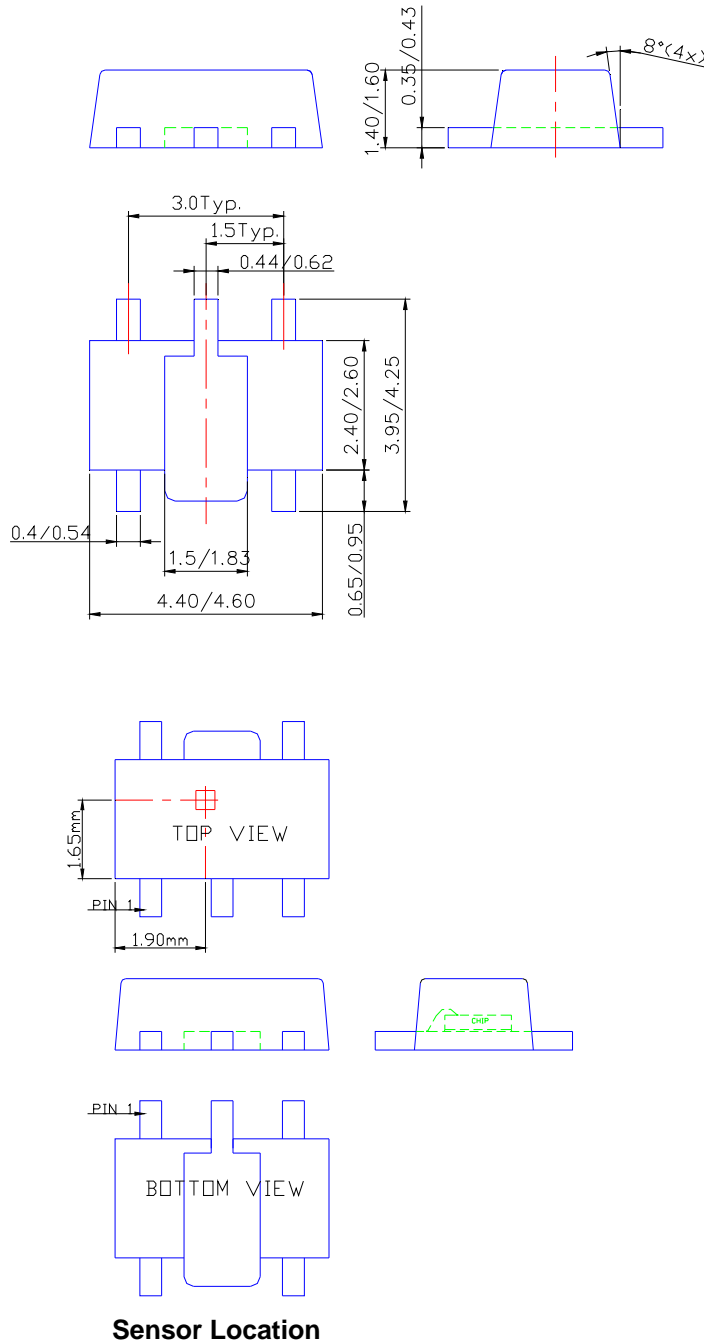


(2) SOT89-5L



Package Outline Dimensions (Continued)

(2) Package type: SOT89-5L



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