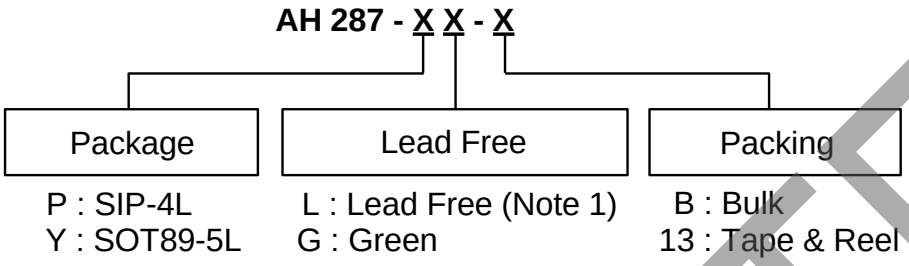
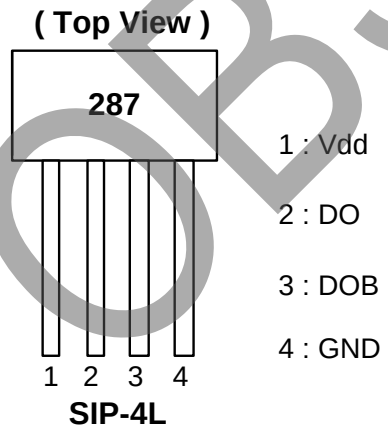
Ordering Information

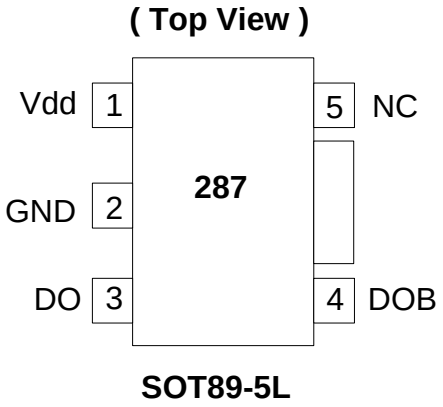


Device	Package Code	Packaging (Note 3)	Bulk		13" Tape and Reel	
			Quantity	Part Number Suffix	Quantity	Part Number Suffix
AH287-PL-B	P	SIP-4L	1000	-B	NA	NA
AH287-PG-B	P	SIP-4L	1000	-B	NA	NA
AH287-YL-13	Y	SOT89-5L	NA	NA	2500/Tape & Reel	-13
AH287-YG-13	Y	SOT89-5L	NA	NA	2500/Tape & Reel	-13

Notes:
1. AH287-YL-13 will be replaced by AH287-YG-13
2. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/products/lead_free.html.
3. 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.
4. 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.

Pin Assignment

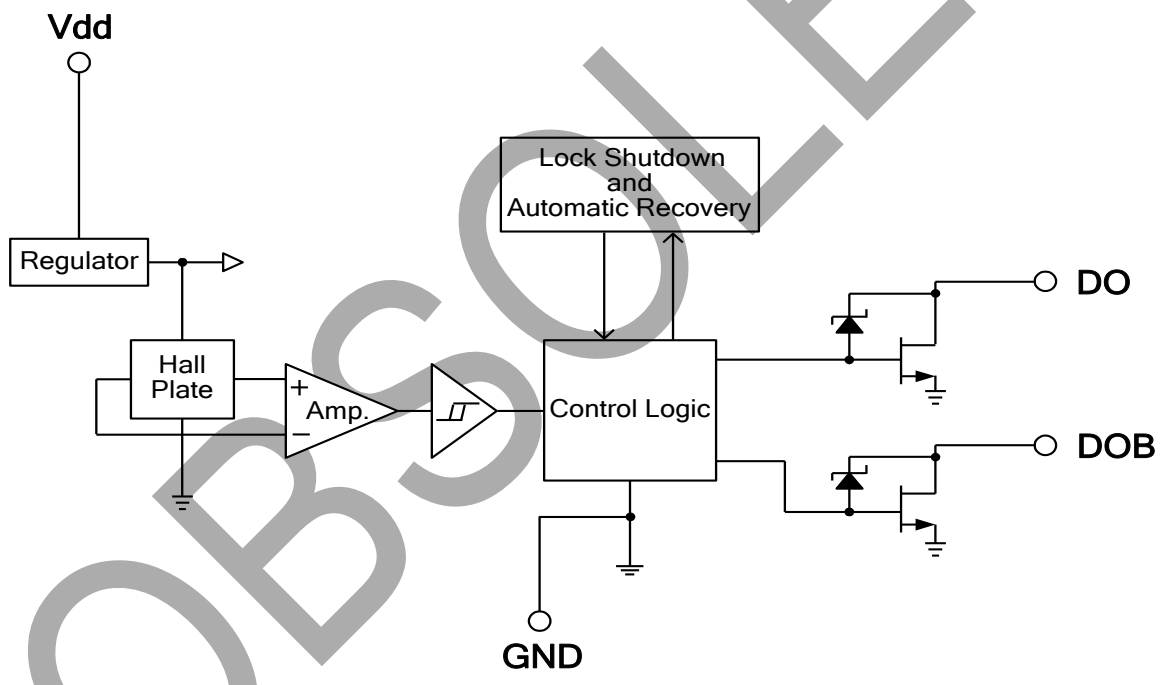




Pin Descriptions

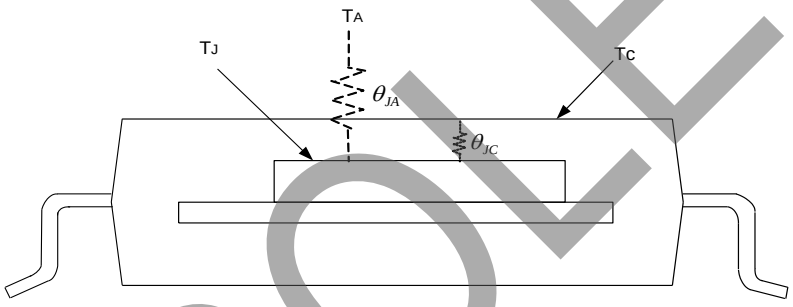
Pin Name	Description
Vdd	Input Power
DO	Output Pin
DOB	Output Pin
GND	Ground
NC	Not Connected

Block Diagram



Absolute Maximum Ratings (T_A = 25°C)

Symbol	Characteristics			Rating	Unit
Vdd	Supply Voltage			30	V
I_O	Output Current	$I_{O(AVE)}$	SIP-4L	400	mA
			SOT89-5L	400	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 5)	SIP-4L		227	°C/W
		SOT89-5L		156	°C/W



Notes: 5. θ_{JA} should be confirmed with what heat sink thermal resistance. If no heat sink contacting, θ_{JA} is almost the same as θ_{JC}..

Recommended Operating Conditions

Symbol	Characteristic	Conditions	Min	Max	Unit
Vdd	Supply Voltage (Note 6)	Operating	3.8	28	V
T_A	Operating Ambient Temperature	Operating	-40	100	°C

Notes: 6. Please watch out the current limit issue when the operation voltage is over 26.4V, because of the different efficiency in the coil.

Electrical Characteristics (TA = 25 °C, Vdd =24V, unless otherwise specified)

Symbol	Characteristics	Conditions	Min	Typ.	Max	Unit
Idd	Supply Current	Operating	-	2.0	4.0	mA
I_{OFF}	Output Leakage Current	V_{OUT}=24V	-	< 0.1	10	μA
T_{LRP-ON}	Locked Protection On		0.4	0.46	0.6	Sec
$T_{LRP-OFF}$	Locked Protection Off		2.4	2.76	3.6	Sec
$V_{OUT(SAT)}$	Output Saturation Voltage	I_O=200mA	-	450	700	mV
		I_O=300mA	-	680	800	mV
$R_{DS(ON)}$	Output On Resistance	I_O=200mA	-	2.25	3.5	ohm
Vz	Output Zener-Breakdown Voltage		42	55	65	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

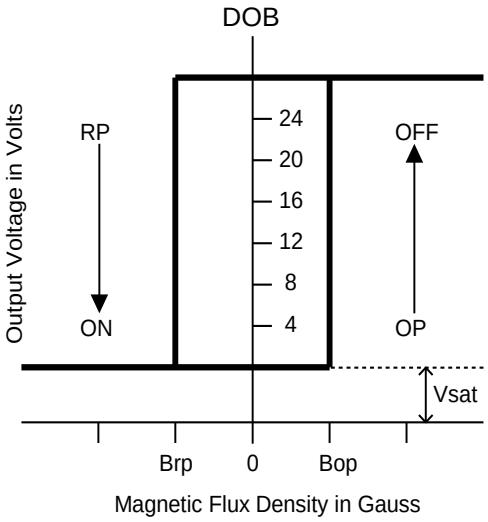
Magnetic Characteristics (TA = 25 °C, Vdd = 24V, unless otherwise specified, Note 7)

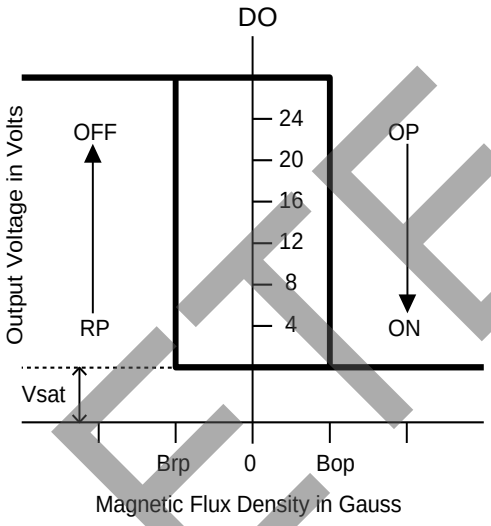
(1mT=10 Gauss)

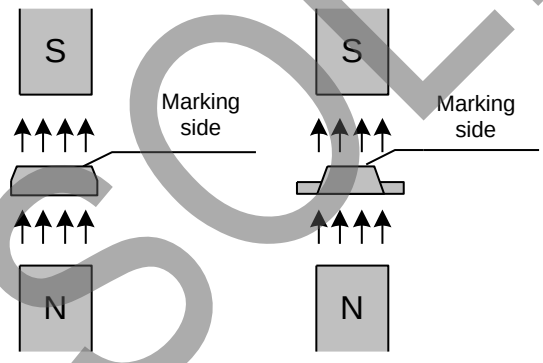
Symbol	Characteristics	Min	Typ.	Max	Unit
Bop	Operate Point	10	30	60	Gauss
Brp	Release Point	-60	-30	-10	Gauss
Bhy	Hysteresis	--	60	--	Gauss

Notes: 7. Magnetic characteristics are for design information, which will vary with supply voltage, operating temperature and after soldering.

Operating Characteristics





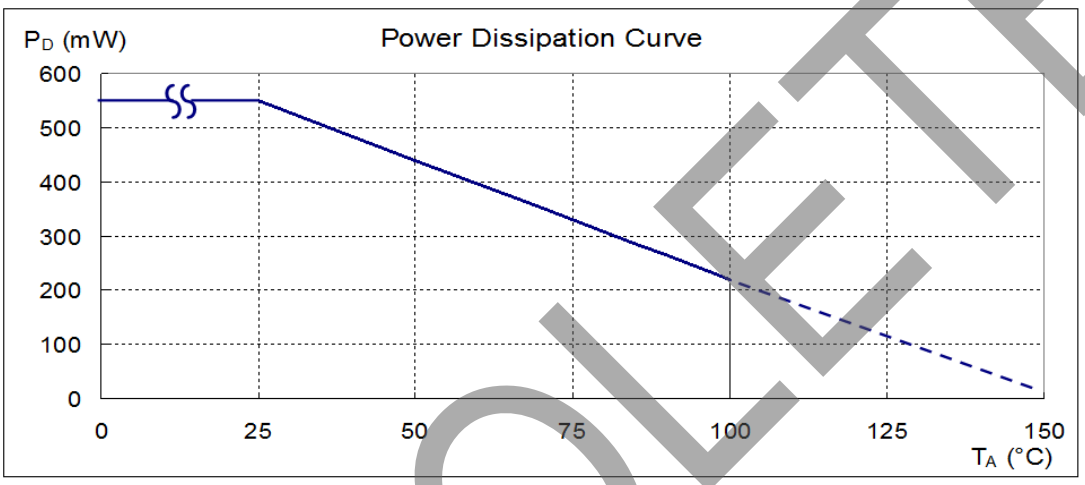


(SIP-4L) (SOT89-5L)

Performance Characteristics

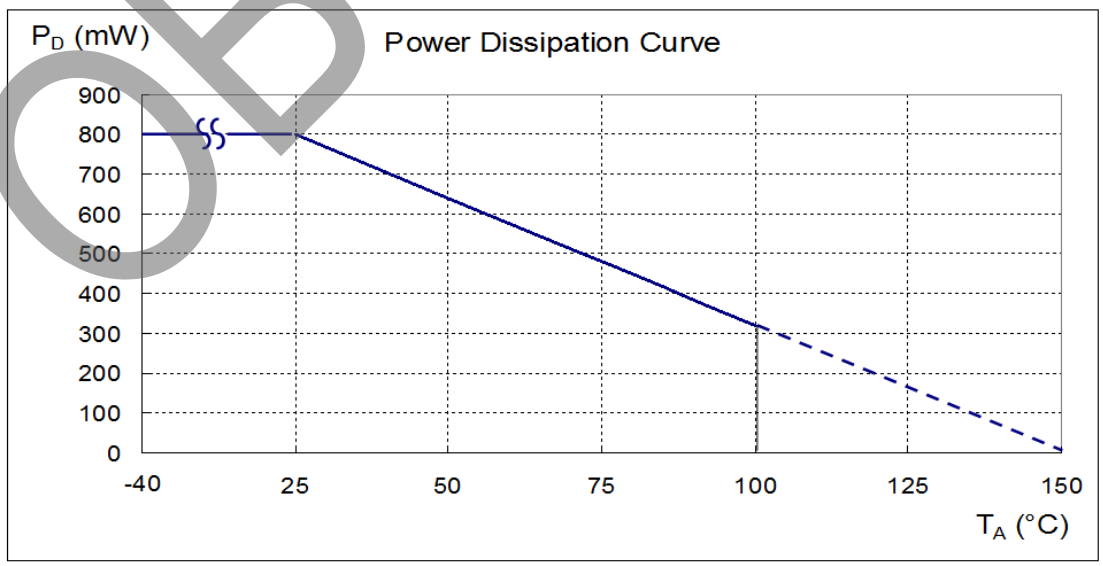
(1) SIP-4L

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

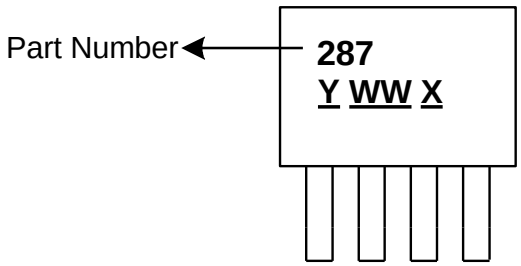
T_A (°C)	25	50	60	70	75	80	85	90	95	100
P_D (mW)	800	640	576	512	480	448	416	384	352	320
T_A (°C)	**105**	**110**	**115**	**120**	**125**	**130**	**135**	**140**	**145**	**150**
P_D (mW)	288	256	224	192	160	128	96	64	32	0



Marking Information

(1) SIP-4L

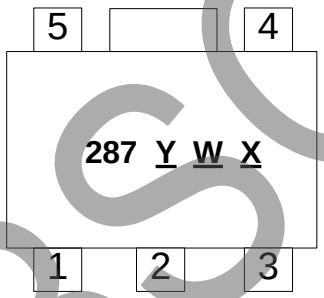
(Top View)



Y : Year : 0~9
WW : Week : 01~52, "52" represents 52 and 53 week
X : Internal Code : A~Z : Green
a~z : Lead Free

(2) SOT89-5L

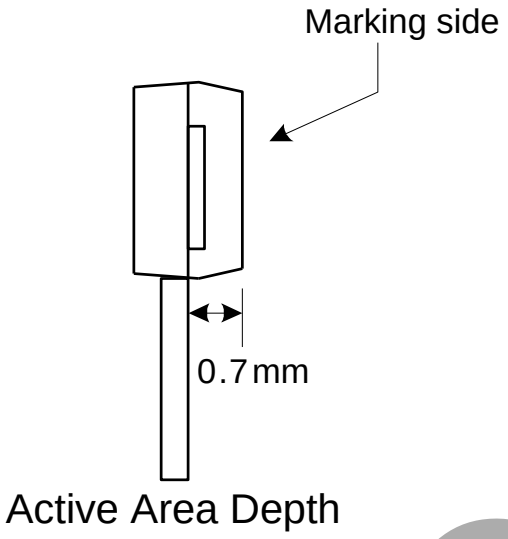
(Top View)

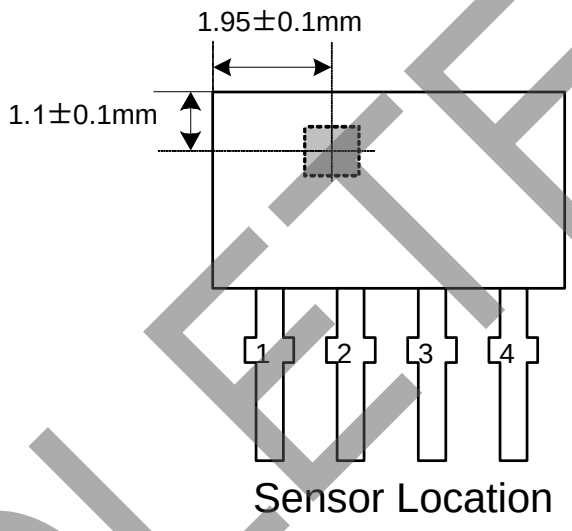


Y : Year : 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week;
z represents 52 and 53 week
X : Internal code
A~Z : Green
a~z : Lead Free

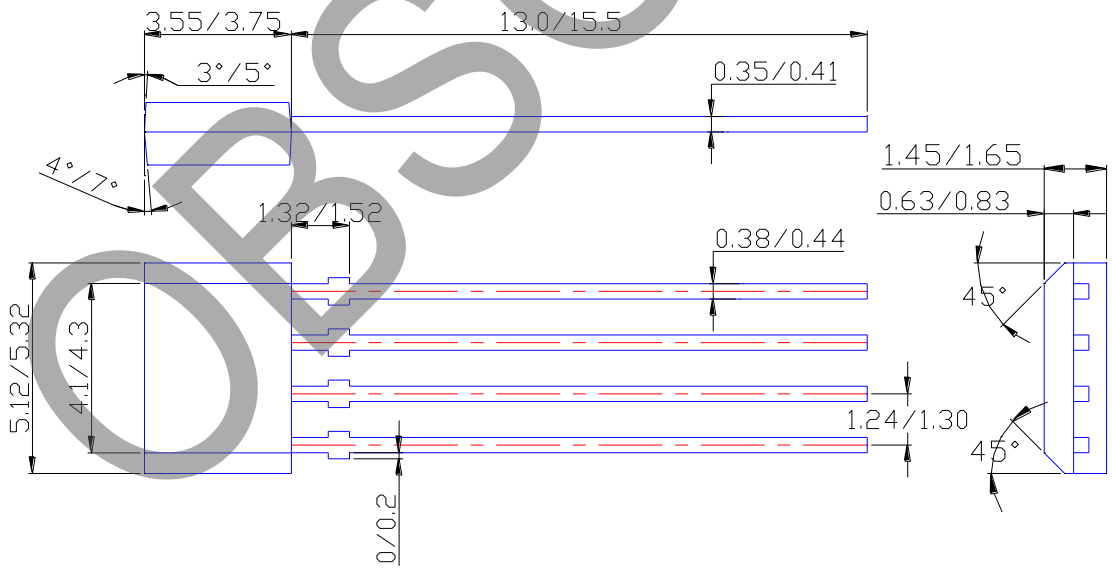
Package Information (All Dimensions in mm)

(1) Package type: SIP-4L



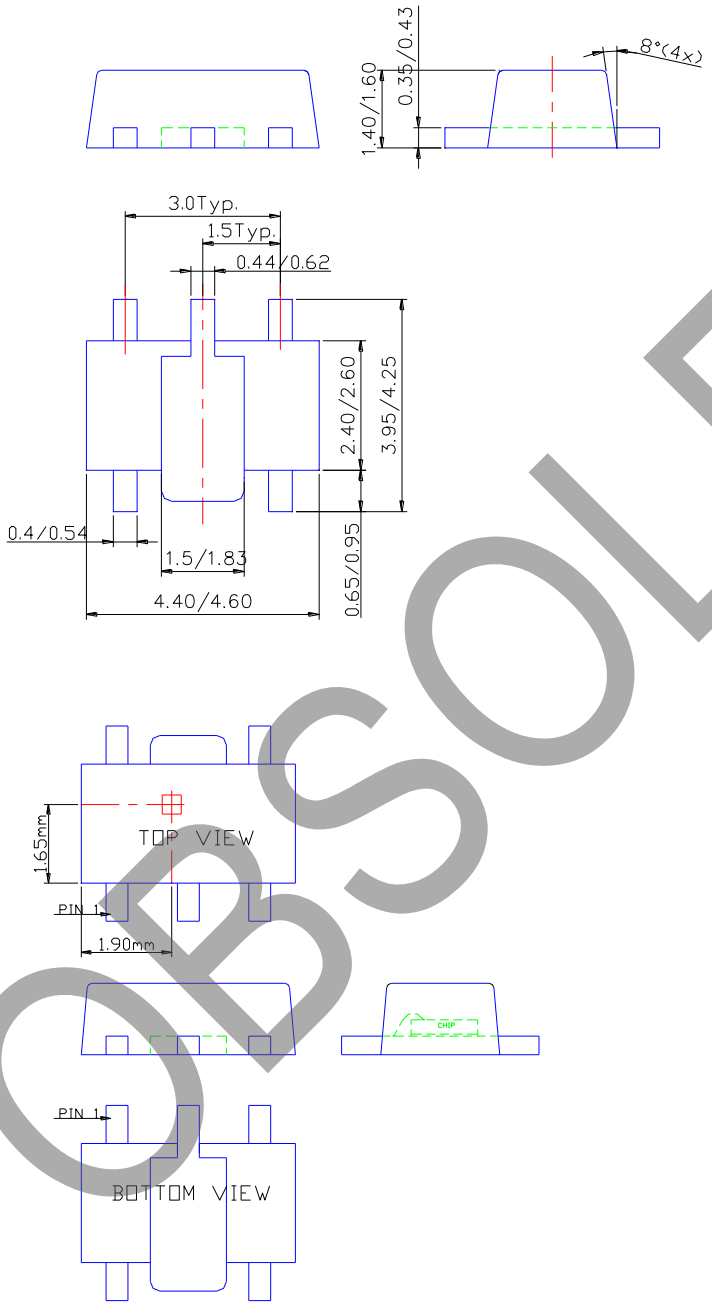


Package Dimension



Package Information (Continued)

(2) Package type: SOT89-5L



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