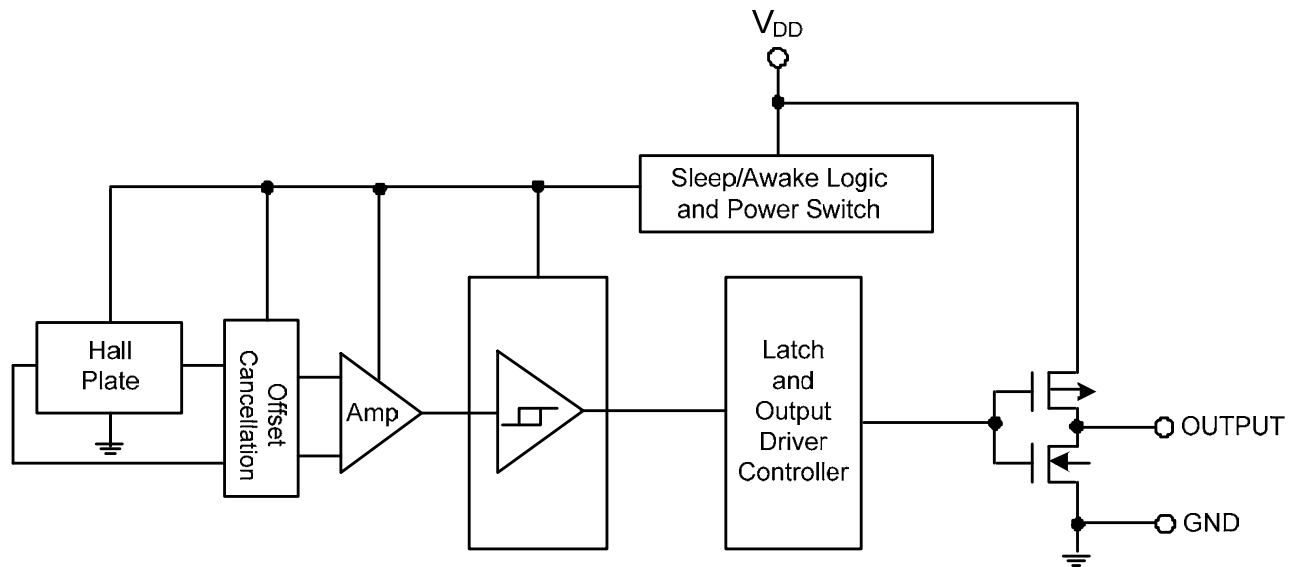


Pin Descriptions

Package: SC59

Pin Number	Pin Name	Function
1	V _{DD}	Power Supply Input
2	GND	Ground Pin
3	OUTPUT	Output Pin

Functional Block Diagram



Absolute Maximum Ratings (Note 5) @ $T_A = +25^{\circ}\text{C}$, unless otherwise specified.)

Symbol	Characteristics	Values	Unit
V_{DD}	Supply Voltage (Note 6)	6	V
V_{DD_REV}	Reverse Supply Voltage	-0.3	V
I_{OUTPUT}	Output current (source and sink)	2	mA
B	Magnetic Flux Density	Unlimited	
P_D	Package Power Dissipation	SC59	mW
T_S	Storage Temperature Range	+150	$^{\circ}\text{C}$
T_J	Maximum Junction Temperature	150	$^{\circ}\text{C}$
ESD HBM	Human Body Model ESD capability	8	kV

- Notes:
- Stresses greater than the 'Absolute Maximum Ratings' specified above may cause permanent damage to the device. These are stress ratings only; functional operation of the device at these or any other conditions exceeding those indicated in this specification is not implied. Device reliability may be affected by exposure to absolute maximum rating conditions for extended periods of time.
 - The absolute maximum V_{DD} of 6V is a transient stress rating and is not meant as a functional operating condition. It is not recommended to operate the device at the absolute maximum rated conditions for any period of time.

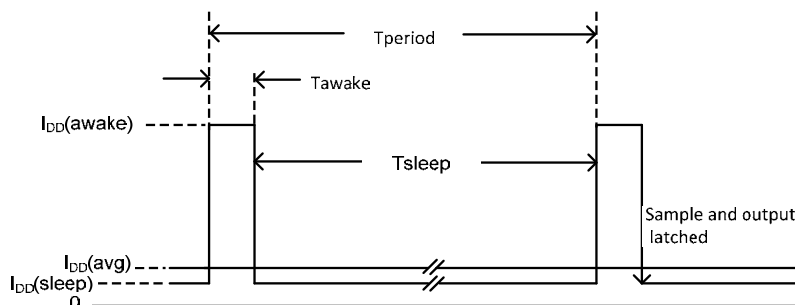
Recommended Operating Conditions (@ $T_A = +25^{\circ}\text{C}$, unless otherwise specified.)

Symbol	Characteristic	Conditions	Rating	Unit
V_{DD}	Supply Voltage	Operating	2.3 to 3.6	V
T_A	Operating Temperature Range	Operating	-40 to +85	$^{\circ}\text{C}$

Electrical Characteristics (@ $T_A = +25^{\circ}\text{C}$, $V_{DD} = 2.3\text{V}$ to 3.6V , unless otherwise specified.)

Symbol	Characteristic	Conditions	Min	Typ	Max	Unit
V_{OL}	Output Low Voltage (on)	$I_{OUT} = 1\text{mA}$	—	0.1	0.2	V
V_{OH}	Output High Voltage (off)	$I_{OUT} = -1\text{mA}$	$V_{DD} - 0.2$	$V_{DD} - 0.1$	—	V
I_{off}	Output Leakage Current	$V_{out} = 3.6\text{V}$, B < Brps	—	<0.1	1	μA
$I_{DD}(\text{awake})$	Supply Current	During 'awake' period	—	2.1	—	mA
$I_{DD}(\text{sleep})$		During 'sleep' period	—	2.5	—	μA
$I_{DD}(\text{avg})$	Average Supply Current	$V_{DD} = 3.0\text{V}$	—	6	10	μA
$I_{DD}(\text{avg})$		$V_{DD} = 3.6\text{V}$	—	7.3	13	μA
Tawake	Awake Active Pulse Width	(Note 7)	—	50	100	μs
Tperiod	Awake Period	(Note 7)	—	50	100	ms
D.C.	Duty Cycle		—	0.1	—	%

- Note:
- When power is initially turned on, the operating V_{DD} (1.6V to 3.6V) must be applied to guaranteed the output sampling. The output state is valid after the second operating cycle (typical 100ms).

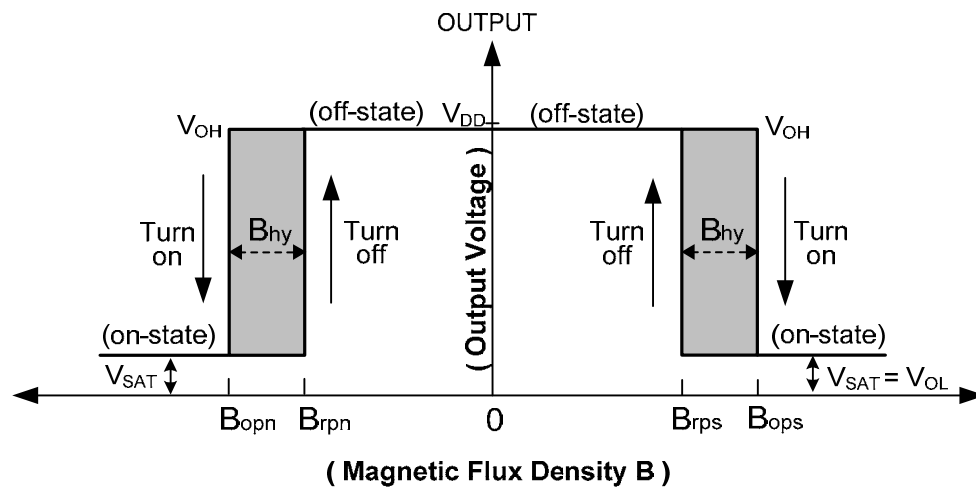


Magnetic Characteristics (Note 8) (@ $T_A = +25^\circ\text{C}$, $V_{DD} = 2.3\text{V}$ to 3.6V , unless otherwise specified.)

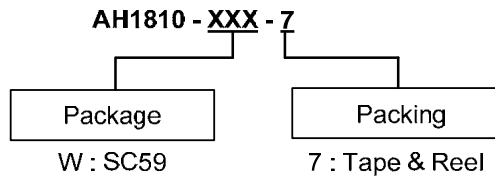
(1mT=10 Gauss)

Symbol	Characteristic	Min	Typ	Max	Unit
Bops (south pole to part marking side)	Operation Point	16	30	42	Gauss
Bopn (north pole to part marking side)		-42	-30	-16	
Brps (south pole to part marking side)	Release Point	11	20	35	
Brpn (north pole to part marking side)		-35	-20	-11	
Bhy ($ B_{opx} - B_{rpx} $)	Hysteresis (Note 9)	3	10	17	

Notes: 8. The magnetic characteristics may vary with supply voltage, operating temperature and after soldering.
9. Maximum and minimum hysteresis is guaranteed by design and characterization.



Ordering Information

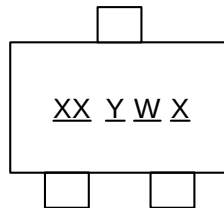


Part Number	Package Code	Packaging	7" Tape and Reel	
			Quantity	Part Number Suffix
AH1810-W-7	W	SC59	3000/Tape & Reel	-7

Marking Information

- (1) Package Type: SC59
(2)

(Top View)

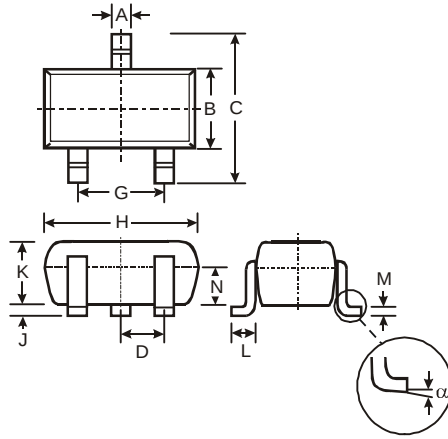


XX : Identification code
Y : Year 0 to 9
W : Week : A to Z : 1 to 26 week;
a to z : 27 to 52 week; z represents
52 and 53 week
X : Internal code

Part Number	Package	Identification Code
AH1810-W-7	SC59	HR

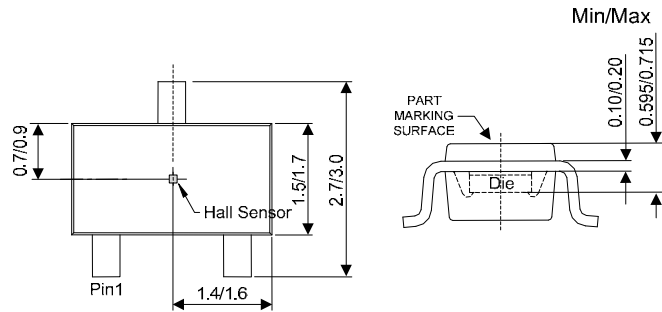
Package Outline Dimensions (All dimensions in mm.)

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



SC59			
Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	-	-	0.95
G	-	-	1.90
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
N	0.70	0.80	0.75
α	0°	8°	-

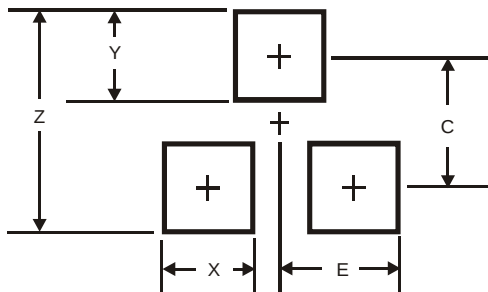
All Dimensions in mm



Sensor Location

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
Z	3.4
X	0.8
Y	1
C	2.4
E	1.35

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