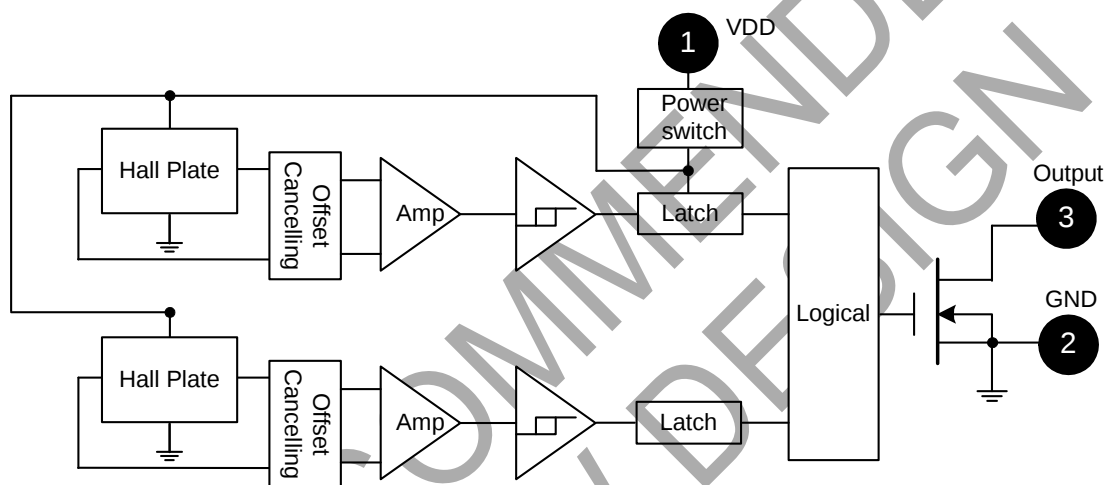


Pin Descriptions

Pin Name	P/I/O	Description
VDD	P/I	Power Supply Input
GND	P/I	Ground
Output	O	Output Pin
NC		No Connected

Functional Block Diagram



Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	Rating	Unit
V _{DD}	Supply Voltage	7	V
B	Magnetic Flux Density	Unlimited	
T _S	Storage Temperature Range	-65 to +150	°C
P _D	Package Power Dissipation	SC59	mW
		DFN2020-3	
		DFN2020-6	
T _J	Maximum Junction Temperature	+150	°C

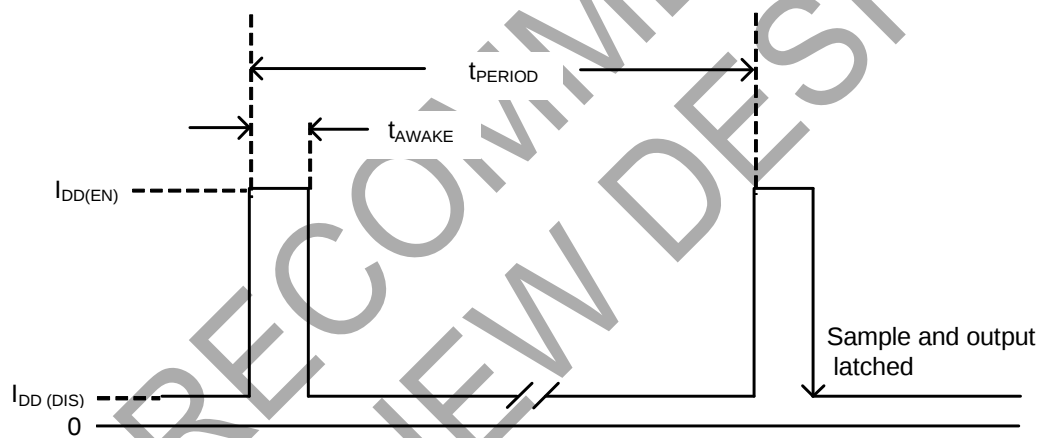
Recommended Operating Conditions (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Rating	Unit
V _{DD}	Supply Voltage	Operating	2.5 to 5.5	V
T _A	Operating Temperature Range	Operating	-40 to +85	°C

Electrical Characteristics (@T_A = +25°C, V_{DD} = 3V, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _{OUT}	Output On Voltage	I _{OUT} = 1mA	-	0.1	0.3	V
I _{OFF}	Output Leakage Current	V _{OUT} = 5.5V, Output off	-	<0.1	1	μA
I _{DD(EN)}	Supply Current	Chip enable, T _A = +25°C, V _{DD} = 3V	-	3	6	mA
		Chip enable, T _A = -40 to +85°C, V _{DD} = 2.5V to 5.5V	-	3	9	mA
I _{DD(DIS)}		Chip disable, T _A = +25°C, V _{DD} = 3V	-	5	10	μA
		Chip disable, T _A = -40 to +85°C, V _{DD} = 2.5V to 5.5V	-	5	18	μA
I _{DD(AVG)}		Average supply current, T _A = +25°C, V _{DD} = 3V	-	8	16	μA
		Average supply current, T _A = -40 to +85°C, V _{DD} = 2.5V to 5.5V	-	8	27	μA
t _{AWAKE}	Awake Time	(Note 5)	-	75	150	μs
t _{PERIOD}	Period	(Note 5)	-	75	150	ms
D.C.	Duty Cycle		-	0.1	-	%

Notes: 5. When power is initially on, the operating V_{DD} (2.5V to 5.5V) must be applied to be guaranteed for the output sampling. The output state is valid after the second operating phase (typical 150ms).

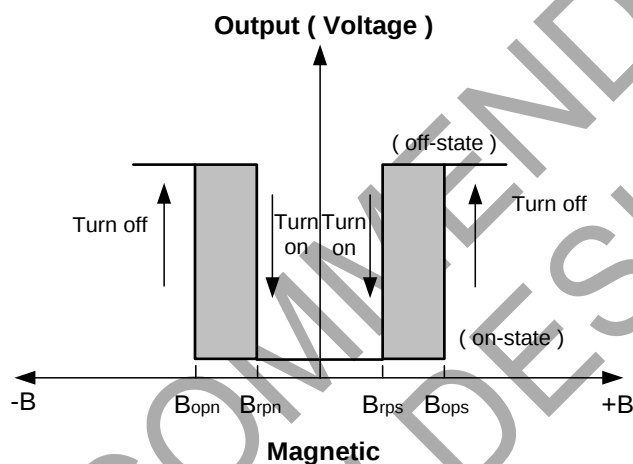


Magnetic Characteristics (@ $T_A = +25^\circ\text{C}$, $V_{DD} = 3\text{V}$, unless otherwise specified.)

(1mT=10 Gauss)

Symbol	Characteristic	Min	Typ	Max	Unit
Bops(south pole to brand side)	Operate Point	-	40	60	Gauss
Bopn(north pole to brand side)		-60	-40	-	
Brps(south pole to brand side)	Release Point	10	30	-	
Brpn(north pole to brand side)		-	-30	-10	
Bhy(Bopx - Brpx)	Hysteresis	-	10	-	

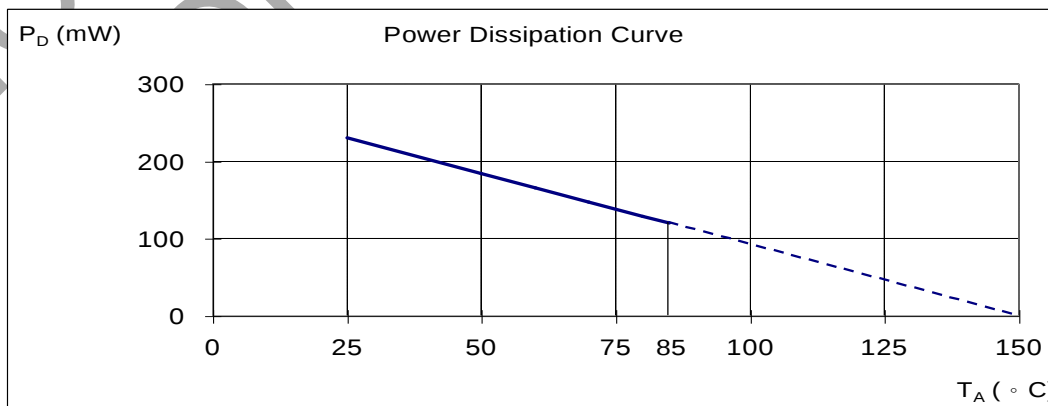
Notes: 6. Typical data is at $T_A = +25^\circ\text{C}$, $V_{DD} = 3\text{V}$, and for design information only.
7. Operate point and release point will vary with supply voltage and operating temperature.



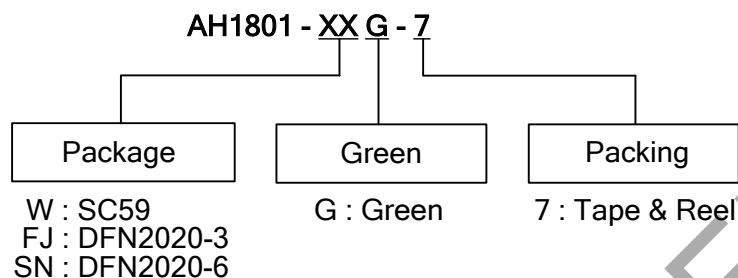
Performance Characteristics

(1) SC59 / DFN2020-3 / DFN2020-6

T_A ($^\circ\text{C}$)	25	50	60	70	80	85	90	100	110	120	130	140	150
P_D (mW)	230	184	166	147	129	120	110	92	74	55	37	18	0



Ordering Information



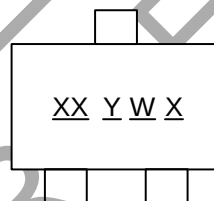
Part Number	Status (Note 9)	Package Code	Packaging (Note 8)	7" Tape and Reel	
				Quantity	Part Number Suffix
AH1801-WG-7	NRND	W	SC59	3000/Tape & Reel	-7
AH1801-FJG-7	NRND	FJ	DFN2020-3	3000/Tape & Reel	-7
AH1801-SNG-7	NRND	SN	DFN2020-6	3000/Tape & Reel	-7

Notes: 8. Pad layout as shown on Diodes Incorporated's suggested pad layout document, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
9. NRND = Not Recommended for New Design

Marking Information

(1) SC59

(Top View)



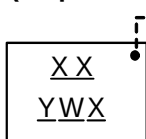
XX : Identification code
Y : Year 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents
52 and 53 week
X : A~Z : Green

Part Number	Package	Identification Code
AH1801	SC59	KB

Marking Information (Cont.)

(2) DFN2020-3

(Top View)



Pin 1 indicator

XX : Identification Code

Y : Year : 0~9

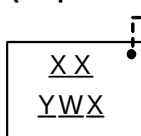
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents
52 and 53 week

X : A~Z : Green

Part Number	Package	Identification Code
AH1801	DFN2020-3	K1

(3) DFN2020-6

(Top View)



Pin 1 indicator

XX : Identification Code

Y : Year : 0~9

W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents
52 and 53 week

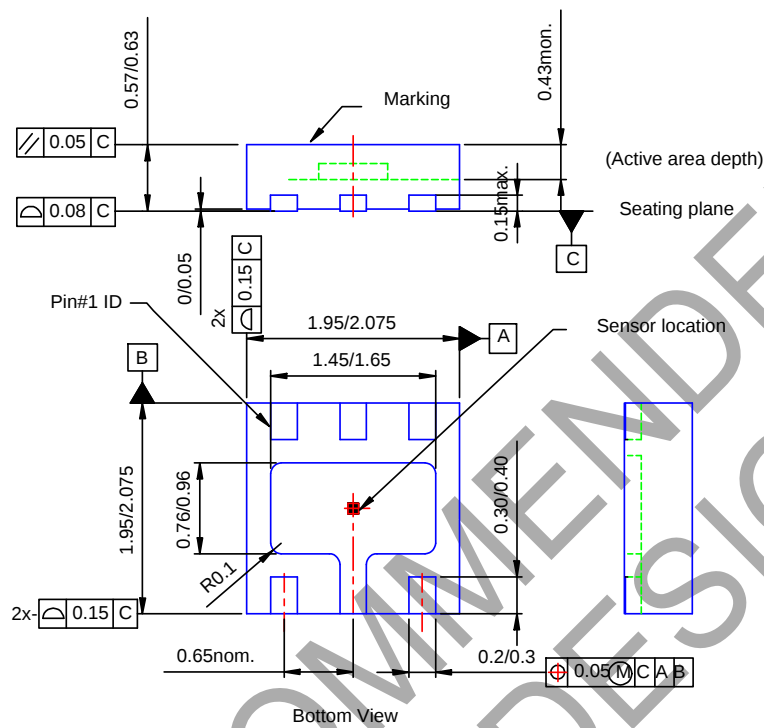
X : A~Z : Green

Part Number	Package	Identification Code
AH1801	DFN2020-6	KB

Package Outline Dimensions (All dimensions in mm.) (Cont.)

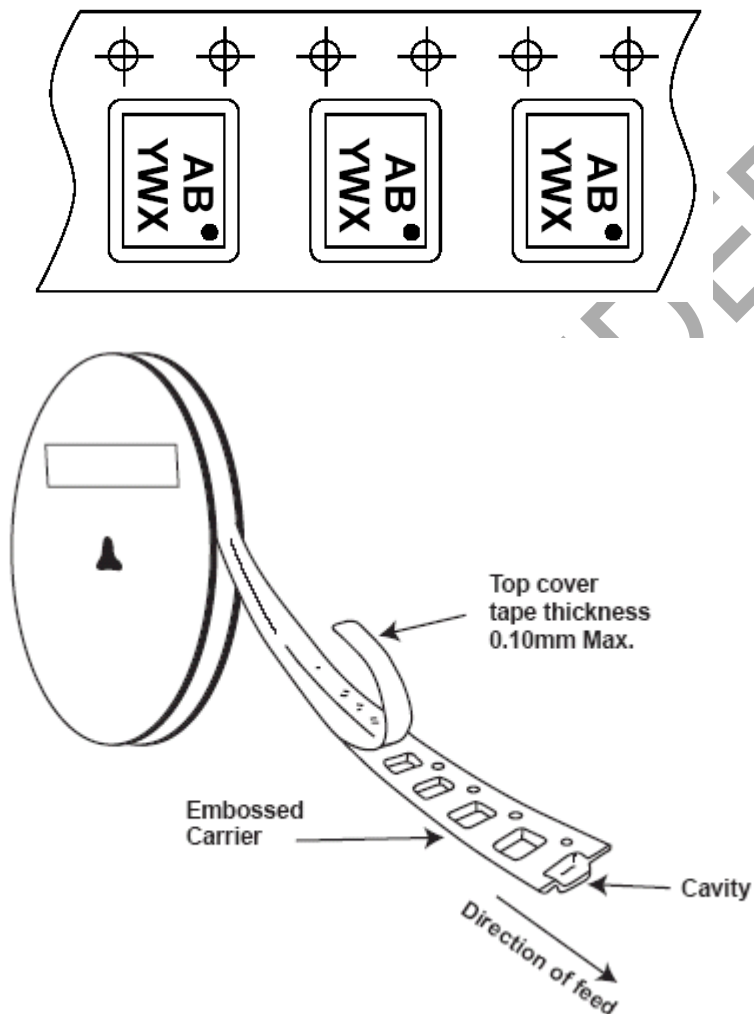
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

(3) DFN2020-6



Taping Orientation

(1) DFN2020-3 and DFN2020-6



Notes: 10. The taping orientation of the other package type can be found on our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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