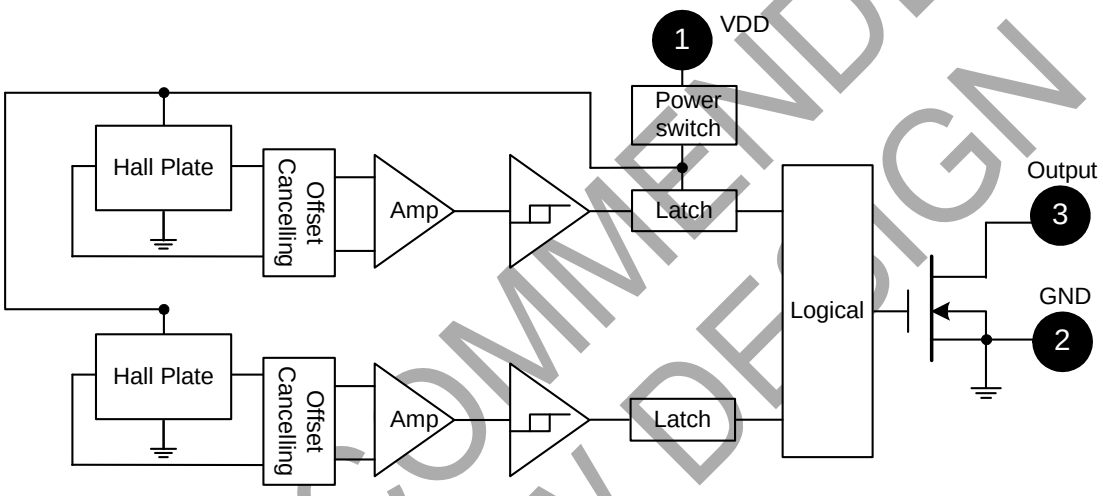
Pin Descriptions

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 DFN2020-3 DFN2020-6	230	mW
T_J	Maximum Junction Temperature		+150	°C

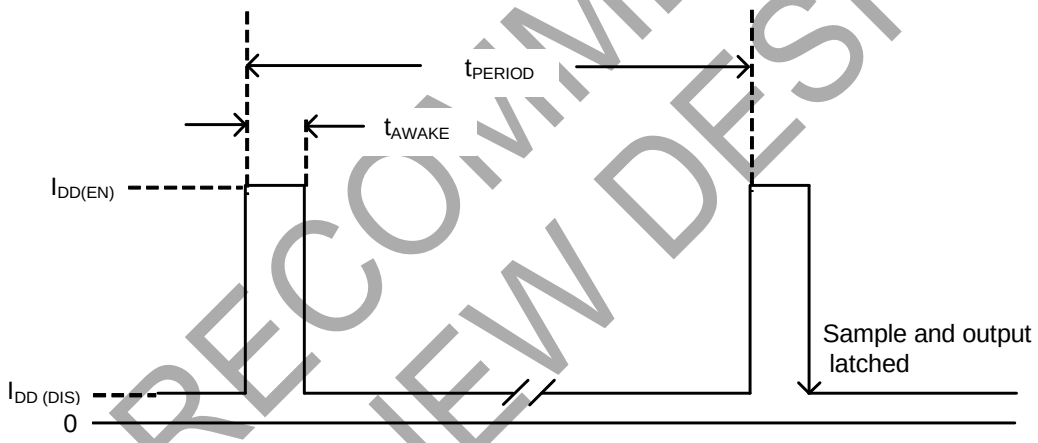
Recommended Operating Conditions (@T_A = +25°C, unless otherwise specified.)

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).

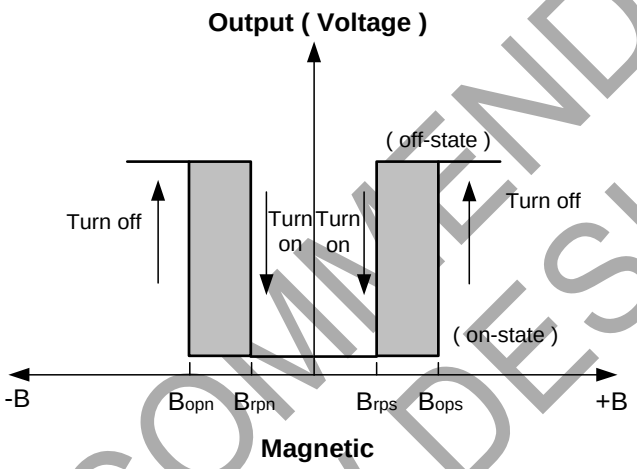


Magnetic Characteristics (@T_A = +25°C, V_{DD} = 3V, unless otherwise specified.)

(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	-	

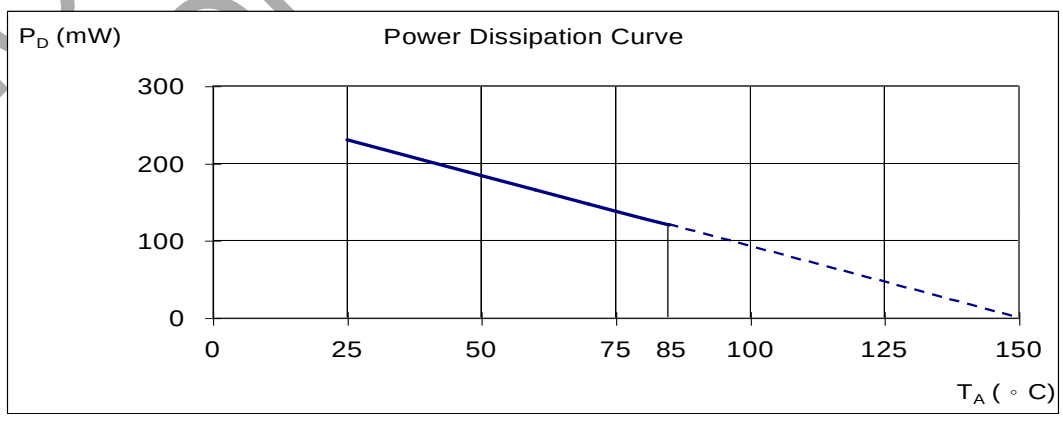
Notes: 6. Typical data is at T_A= +25°C, V_{DD}=3V, and for design information only.
7. Operate point and release point will vary with supply voltage and operating temperature.



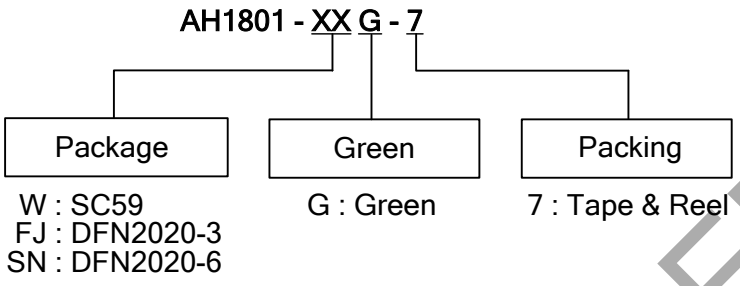
Performance Characteristics

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

T_A (°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



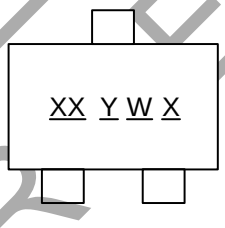
Part Number	Status (Note 9)	Package Code	Packaging (Note 8)	7" Tape and Reel	
				Quantity	Part Number Suffix
AH1801-WG-7	NRND	W	SC59	3000/Tape & Reel	-7
AH1801-FJG-7	NRND	FJ	DFN2020-3	3000/Tape & Reel	-7
AH1801-SNG-7	NRND	SN	DFN2020-6	3000/Tape & Reel	-7

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)



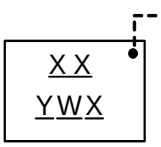
XX : Identification code
Y : Year 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents 52 and 53 week
X : A~Z : Green

Part Number	Package	Identification Code
AH1801	SC59	KB

Marking Information (Cont.)

(2) DFN2020-3

(Top View)

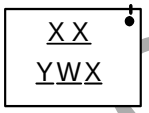


Pin 1 indicator
XX : Identification Code
Y : Year : 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents
52 and 53 week
X : A~Z : Green

Part Number	Package	Identification Code
AH1801	DFN2020-3	K1

(3) DFN2020-6

(Top View)



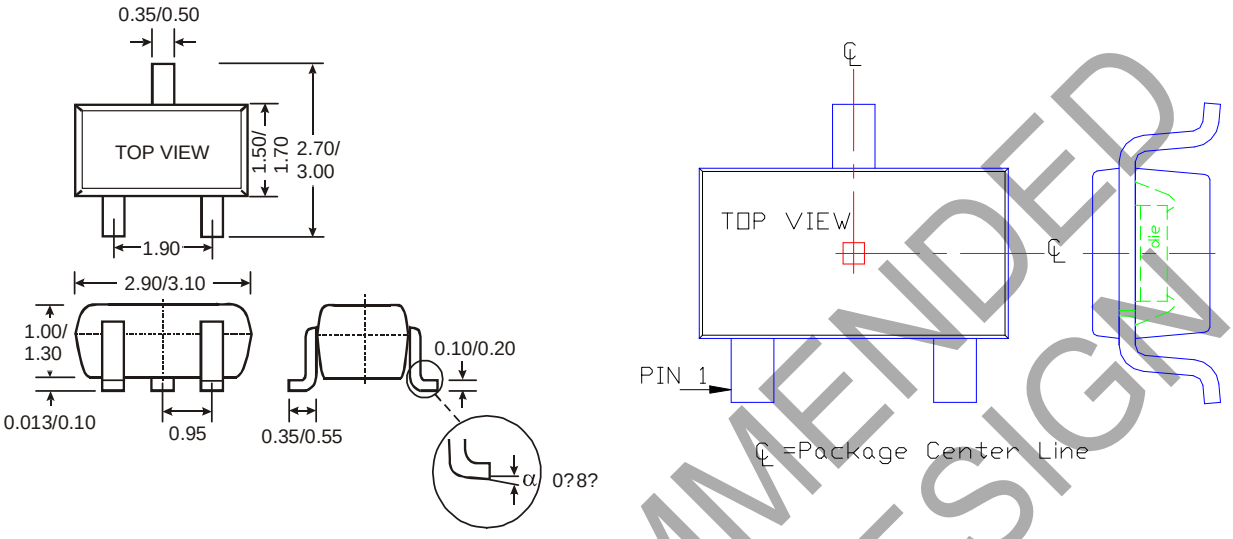
Pin 1 indicator
XX : Identification Code
Y : Year : 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents
52 and 53 week
X : A~Z : Green

Part Number	Package	Identification Code
AH1801	DFN2020-6	KB

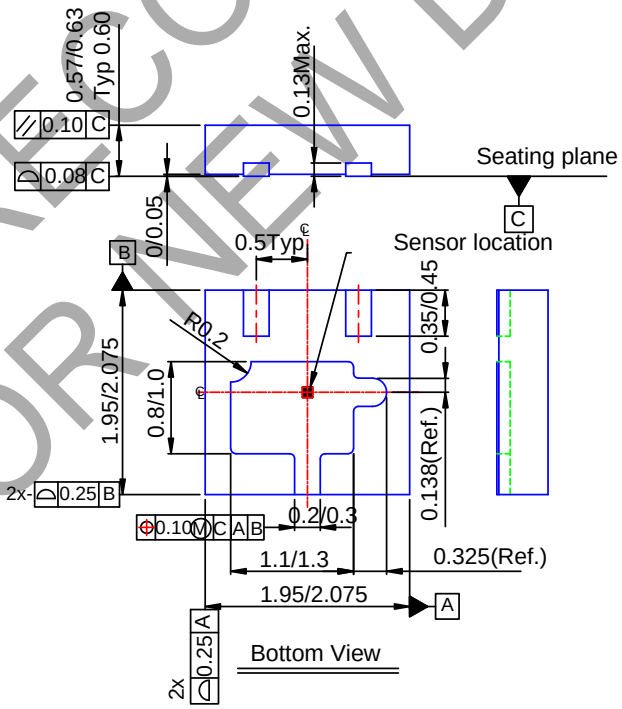
Package Outline Dimensions (All dimensions in mm.)

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

(1) SC59 (Commonly Known as SOT23 in Asia)



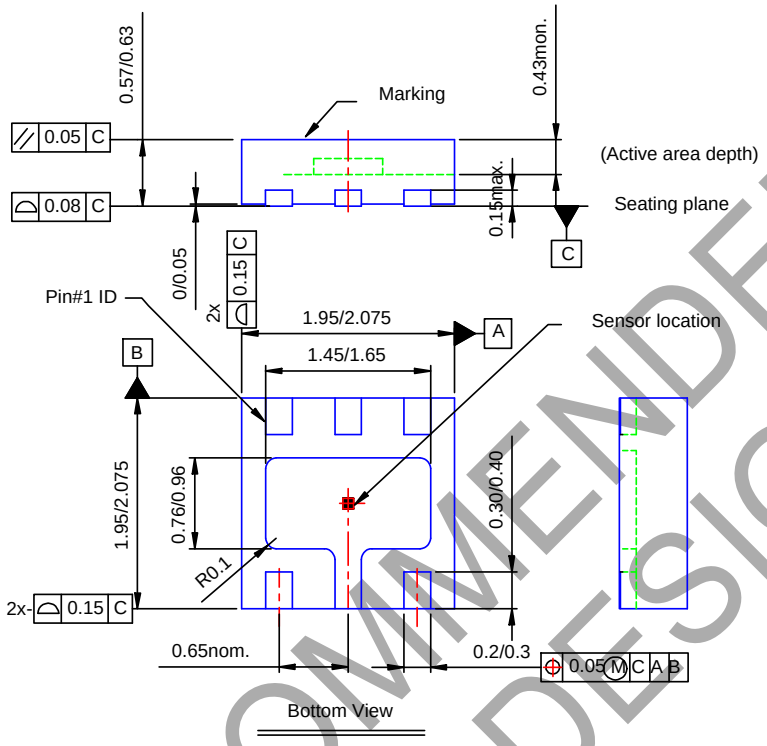
(2) DFN2020-3



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

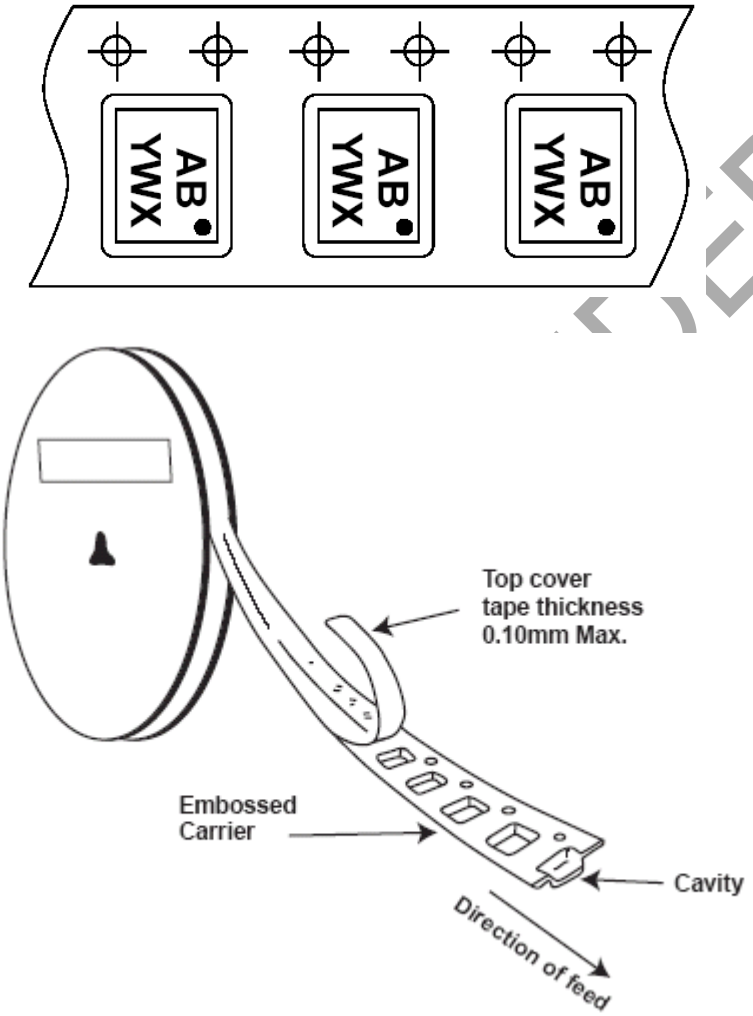
Please see http://www.diodes.com/package-outlines.html for the latest version.

(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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