

Pin Descriptions

Package: X1-DFN1216-4

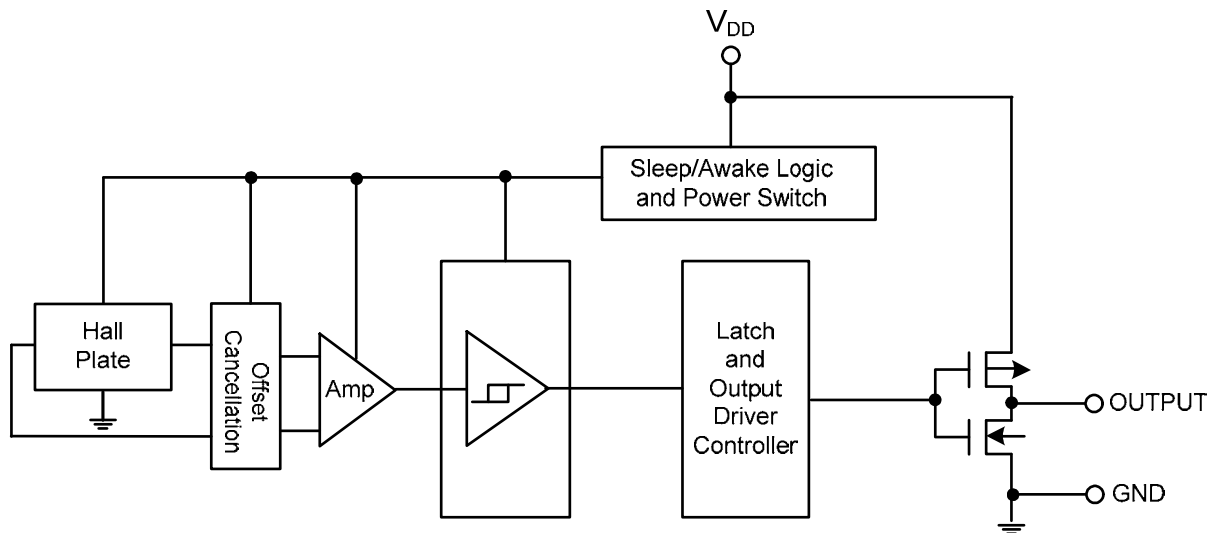
Pin Number	Pin Name	Function
1	OUTPUT	Output Pin
2	V _{DD}	Power Supply Input
3	NC	No Connection (Note 5)
4	GND	Ground Pin

Package: SOT553

Pin Number	Pin Name	Function
1	V _{DD}	Power Supply Input
2	NC	No Connection (Note 5)
3	NC	No Connection (Note 5)
4	GND	Ground
5	OUTPUT	Output

Note: 5. NC is "No Connection" pin and is not connected internally. This pin can be left open or tied to ground.

Functional Block Diagram



Absolute Maximum Ratings (Note 6) (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter		Rating	Unit
V _{DD}	Supply Voltage (Note 7)		6	V
V _{DD_REV}	Reverse Supply Voltage		-0.3	V
I _{OUTPUT}	Output Current (source and sink)		3.5	mA
B	Magnetic Flux Density		Unlimited	
P _D	Package Power Dissipation	X1-DFN1216-4	230	mW
		SOT553	230	mW
T _s	Storage Temperature Range		-65 to +150	°C
T _J	Maximum Junction Temperature		150	°C
ESD HBM	Human Body Model (HMB) 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.

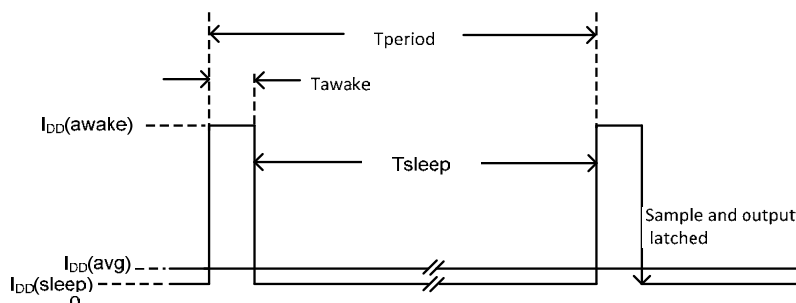
Recommended Operating Conditions (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Rating	Unit
V _{DD}	Supply Voltage	Operating	1.6V to 3.6V	V
T _A	Operating Temperature Range	Operating	-40 to +85	°C

Electrical Characteristics (@T_A = +25°C, V_{DD} = 1.85V, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _{OL}	Output Low Voltage (on)	I _{OUT} = 1mA	—	0.1	0.2	V
V _{OH}	Output High Voltage (off)	I _{OUT} = -1mA	V _{DD} - 0.2	V _{DD} - 0.1	—	V
I _{off}	Output Leakage Current	V _{OUT} = 3.6V, Output off	—	< 0.1	1	μA
I _{DD(awake)}	Supply Current	During 'awake' period, T _A = +25°C, V _{DD} = 3V	—	2.1	—	mA
I _{DD(sleep)}		During 'sleep' period, T _A = +25°C, V _{DD} = 3V	—	2.5	—	mA
I _{DD(avg)}	Average Supply Current	T _A = +25°C, V _{DD} = 1.85V	—	4.3	8	μA
		T _A = +25°C, V _{DD} = 3.6V	—	7.2	13	μA
T _{awake}	Awake Time	(Note 8)	—	50	100	μs
T _{period}	Period	(Note 8)	—	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).

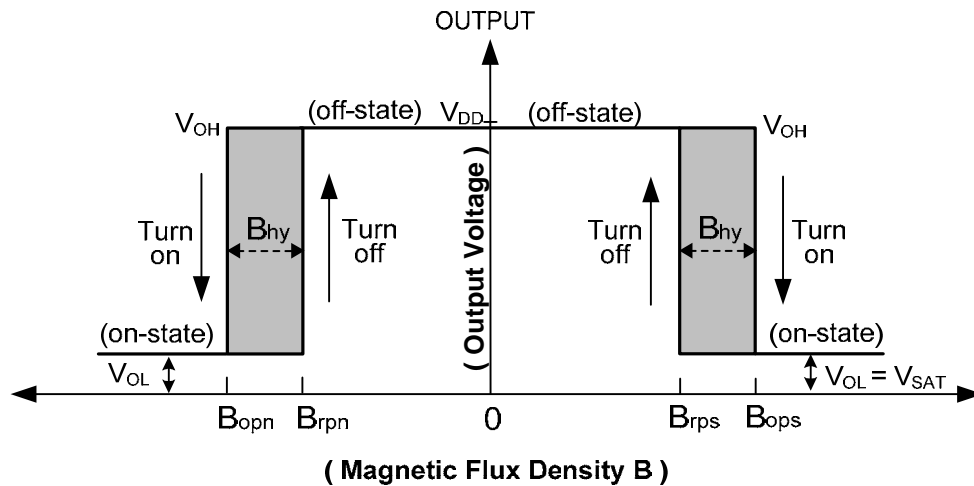


Magnetic Characteristics (Note 9 & 10) ($T_A = -40^\circ\text{C}$ to $+85^\circ\text{C}$, $V_{DD} = 1.85\text{V}$, unless otherwise specified)

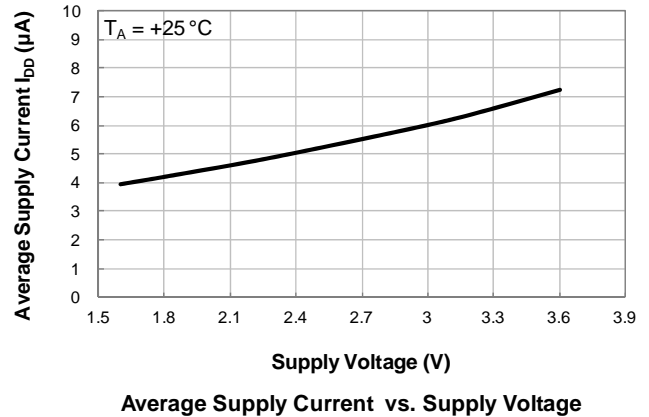
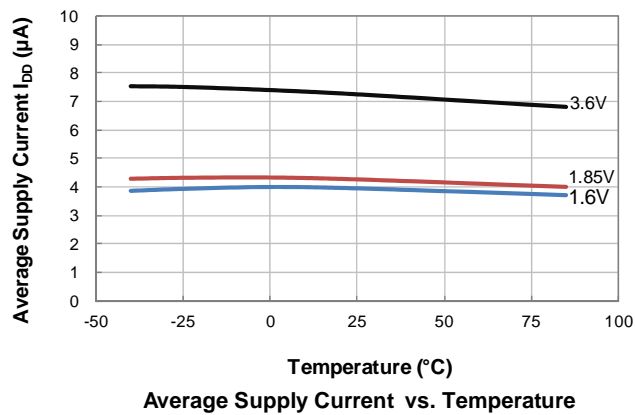
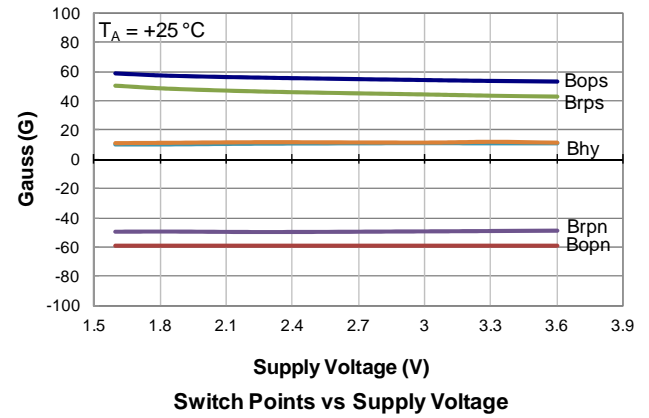
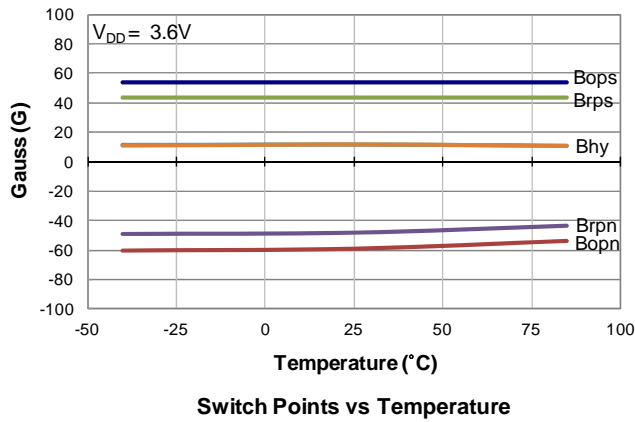
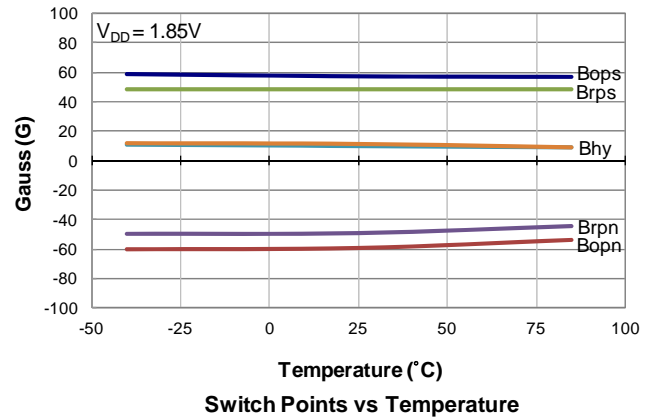
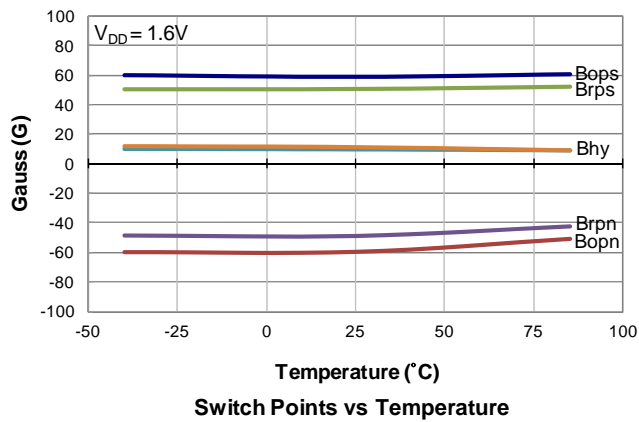
(1mT=10 Gauss)

Symbol	Characteristics	Min	Typ	Max	Unit
Bops (south pole to part marking side)	Operation Point	40	60	80	Gauss
Bopn (north pole to part marking side)		-80	-60	-40	
Brps (south pole to part marking side)	Release Point	35	50	65	
Brpn (north pole to part marking side)		-65	-50	-35	
Bhy ($ B_{opx} - B_{rpx} $)	Hysteresis (Note 11)	5	10	-	

- Notes:
- Typical data is at $T_A = +25^\circ\text{C}$, $V_{DD} = 1.85\text{V}$.
 - Maximum and minimum parameters values over the operating temperature range are not tested in production, they are guaranteed by design, process control and characterization. The magnetic characteristics may vary with supply voltage, operating temperature and after soldering.
 - Maximum and minimum hysteresis is guaranteed by design and characterization.

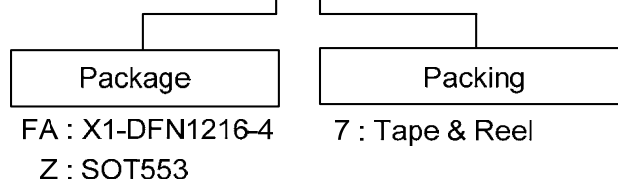


Typical Operating Characteristics



Ordering Information

AH1894 - XXX - X

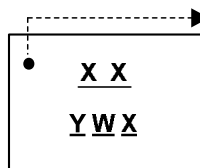


Part Number	Package Code	Packaging	7" Tape and Reel	
			Quantity	Part Number Suffix
AH1895-FA-7	FA	X1-DFN1216-4	3000/Tape & Reel	-7
AH1895-Z-7	Z	SOT553	3000/Tape & Reel	-7

Marking Information

(1) Package Type: X1-DFN1216-4

(Top View)

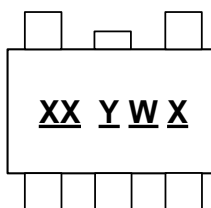


Pin 1 indicator
XX : Identification Code
Y : Year : 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents
52 and 53 week
X : A~Z : Green

Part Number	Package	Identification Code
AH1895-FA-7	X1-DFN1216-4	B5

(2) Package Type: SOT553

(Top View)



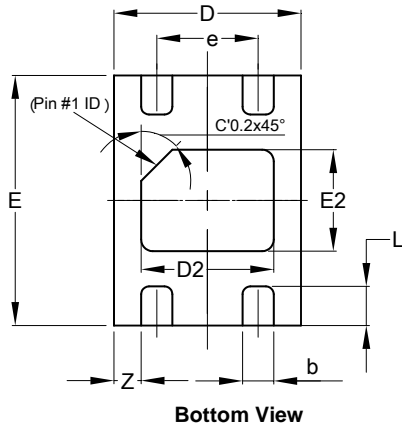
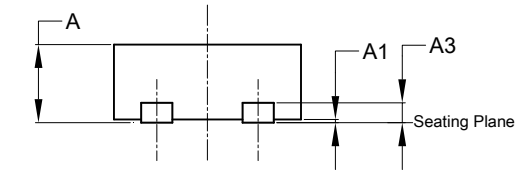
XX : Identification Code
Y : Year : 0 to 9
W : Week : A to Z : 1~26 week;
a to z : 27~52 week; z represents
52 and 53 week
X : Internal code

Part Number	Package	Identification Code
AH1895-Z-7	SOT553	B5

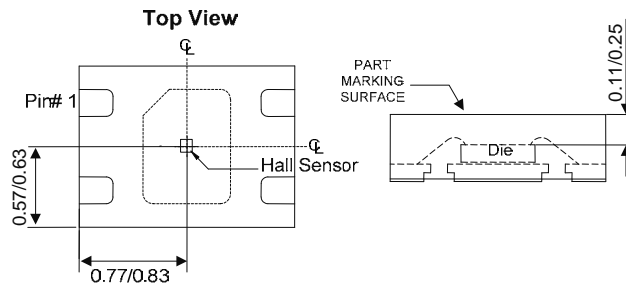
Package Outline Dimensions (All dimensions in mm.)

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

(1) Package Type: X1-DFN1216-4



X1-DFN1216-4			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0.00	0.05	0.02
A3	--	--	0.13
b	0.15	0.25	0.20
D	1.15	1.25	1.20
D2	0.75	0.95	0.85
E	1.55	1.65	1.60
E2	0.55	0.75	0.65
e	-	-	0.65
L	0.20	0.30	0.25
Z	-	-	0.175
All Dimensions in mm			

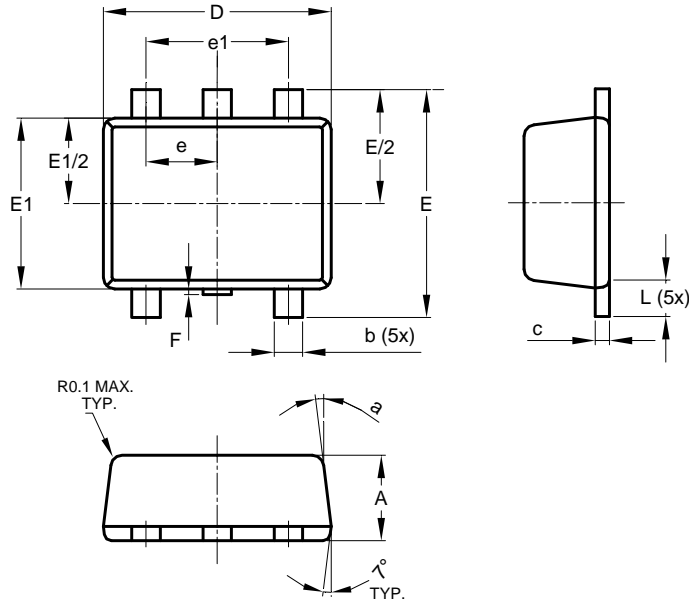


Sensor Location

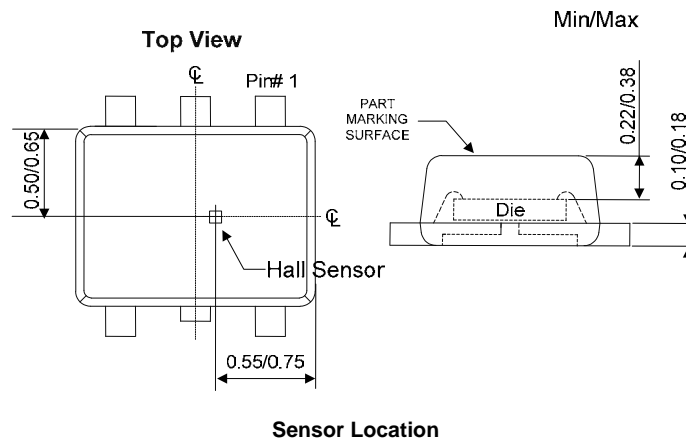
Package Outline Dimensions (cont.) (All dimensions in mm.)

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

(2) Package Type: SOT553



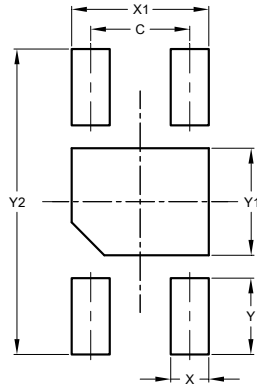
SOT553			
Dim	Min	Max	Typ
A	0.55	0.62	0.60
b	0.15	0.30	0.20
c	0.10	0.18	0.15
D	1.50	1.70	1.60
E	1.55	1.70	1.60
E1	1.10	1.25	1.20
e	0.50 BSC		
e1	1.00 BSC		
F	0.00	0.10	—
L	0.10	0.30	0.20
a	6°	8°	7°
All Dimensions in mm			



Suggested Pad Layout

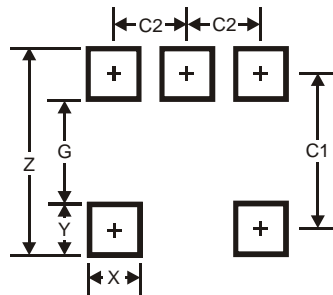
Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.

(1) Package Type: X1-DFN1216-4



X1-DFN1216-4	
Dimensions	Value
C	0.65
X	0.25
X1	0.90
Y	0.50
Y1	0.70
Y2	2.00
All Dimensions in mm	

(2) Package Type: SOT553



SOT553	
Dimensions	Value
Z	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5
All Dimensions in mm	

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