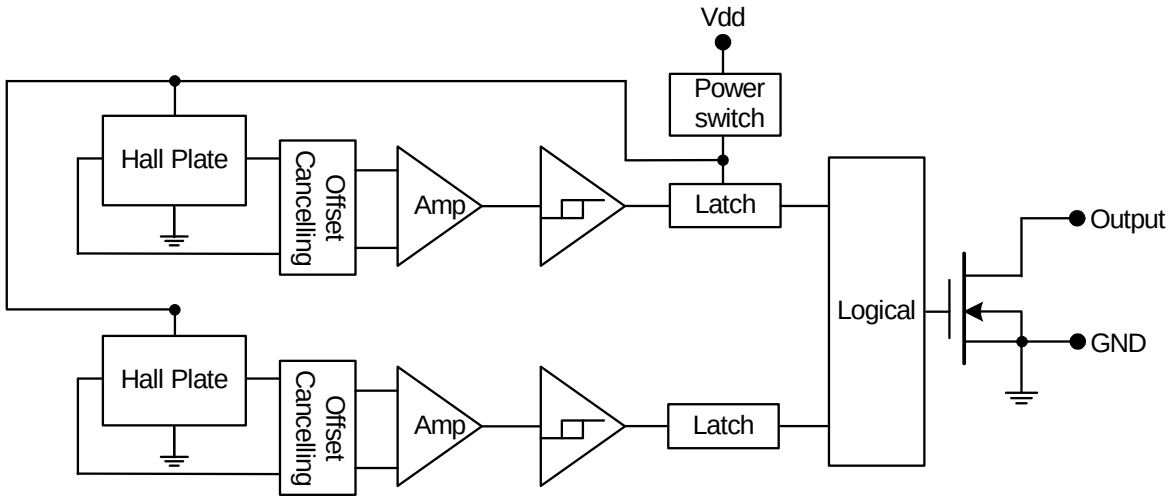
Pin Descriptions

Pin Name	P/I/O	Description
Vdd	P/I	Power Supply Input
GND	P/I	Ground
Output	O	Output Pin
NC	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_{STG}	Storage Temperature Range	-65 to +150	°C
P_D	Package Power Dissipation	230	mW
T_J	Maximum Junction Temperature	+150	°C

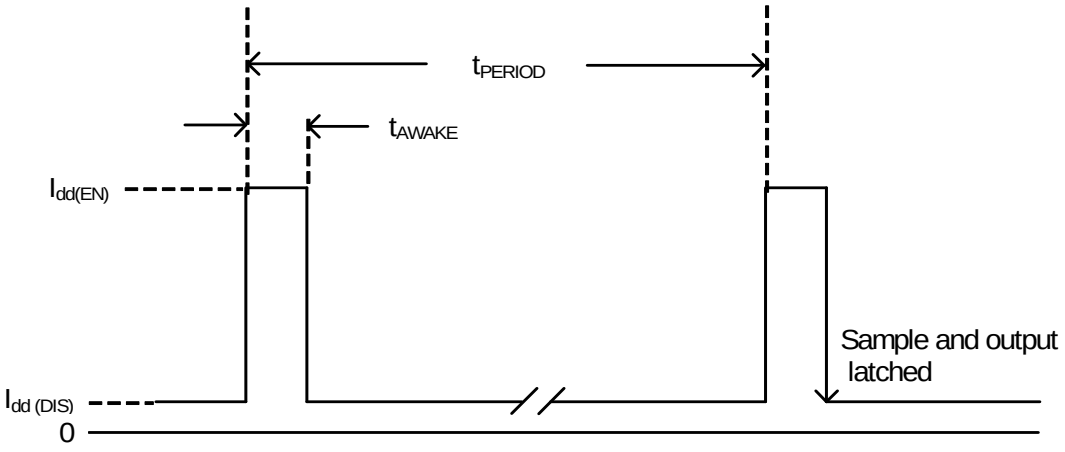
Recommended Operating Conditions

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
$I_{dd(EN)}$		Chip enable, T_A=-40 to +85°C, V_{dd} = 2.5V to 5.5V	—	3	10	mA
$I_{dd(DIS)}$		Chip disable, T_A= +25°C, V_{dd} = 3V	—	5	10	µA
$I_{dd(DIS)}$		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
$I_{dd(AVG)}$		Average supply current, T_A= -40 to +85°C, V_{dd} = 2.5V to 5.5V	—	8	28	µA
f_C	Chopping Frequency	For design information only	—	300	—	kHz
t_{AWAKE}	Awake Time	(Note 6)	—	75	150	µs
t_{PERIOD}	Period	(Note 6)	—	75	150	ms
D.C.	Duty Cycle	—	—	0.1	—	%

Notes: 6. 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).

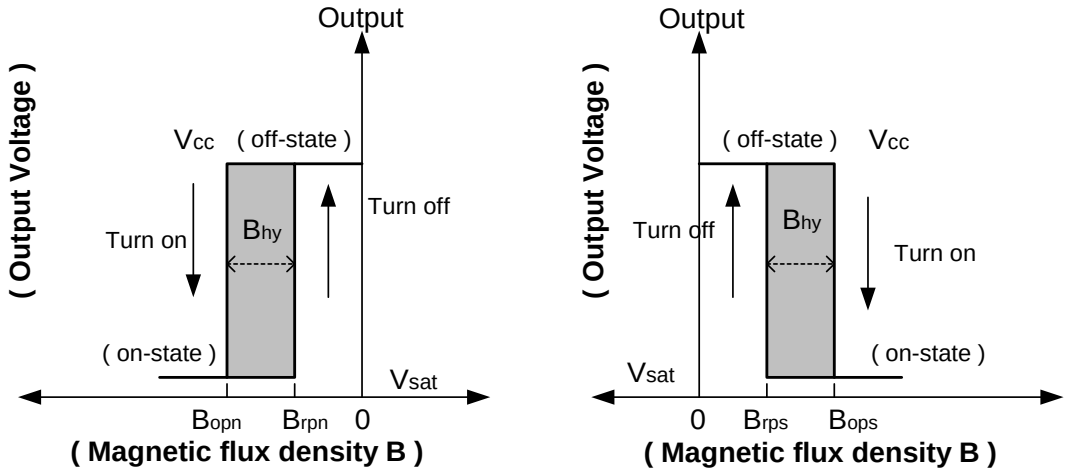


Magnetic Characteristics (@T_A = +25°C, V_{dd} = 3V, unless otherwise specified. Notes 7 and 8)

(1mT=10 Gauss)

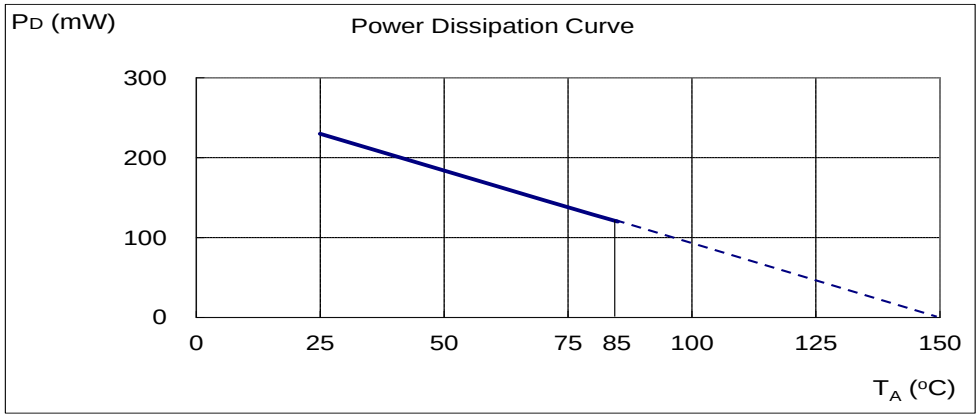
Symbol	Characteristic	Min	Typ	Max	Unit
Bops(South Pole to Brand Side)	Operate Point	—	28	55	Gauss
Bopn(North Pole to Brand Side)		-55	-28	—	
Brps(South Pole to Brand Side)	Release Point	10	20	—	
Brpn(North Pole to Brand Side)		—	-20	-10	
Bhy (|Bopx – Brpx|)	Hysteresis	5	8	—	

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

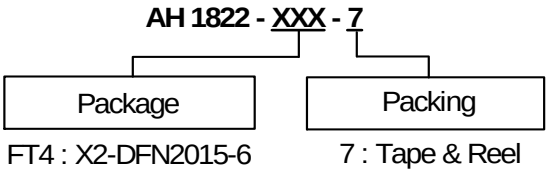


Performance Characteristics

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

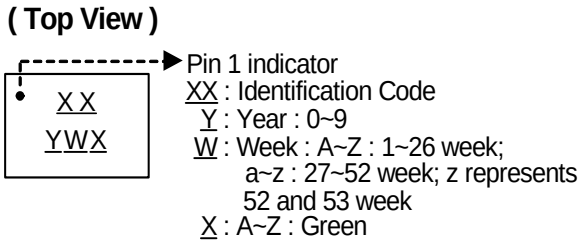


Device	Package Code	Packaging	7" Tape and Reel	
			Quantity	Part Number Suffix
AH1822-FT4-7	FT4	X2-DFN2015-6	3000/Tape & Reel	-7

Note: 9. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information

(1) X2-DFN2015-6

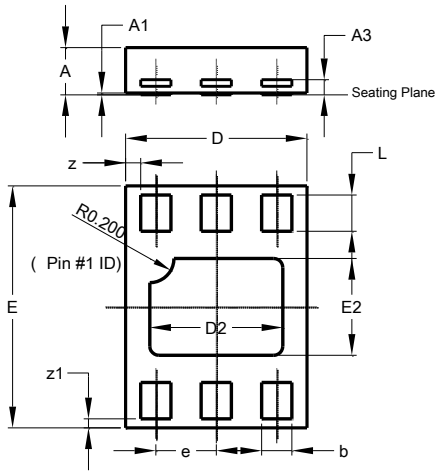


Part Number	Package	Identification Code
AH1822	X2-DFN2015-6	K7

Package Outline Dimensions (All dimensions in mm.)

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

(1) Package Type: X2-DFN2015-6

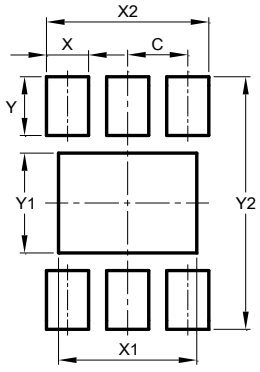


X2-DFN2015-6			
Dim	**Min**	**Max**	**Typ**
A	0.375	0.40	0.390
A1	0	0.05	0.02
A3	-	-	0.13
b	0.20	0.30	0.25
D	1.45	1.575	1.50
D2	1.00	1.20	1.10
e	-	-	0.50
E	1.95	2.075	2.00
E2	0.70	0.90	0.80
L	0.25	0.35	0.30
Z	-	-	0.125
Z1	-	-	0.075
All Dimensions in mm			

Suggested Pad Layout

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

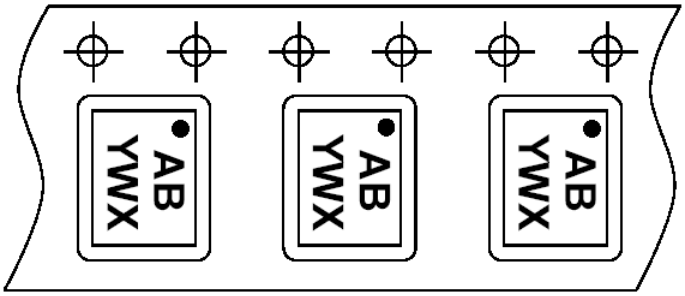
(1) Package type: X2-DFN2015-6

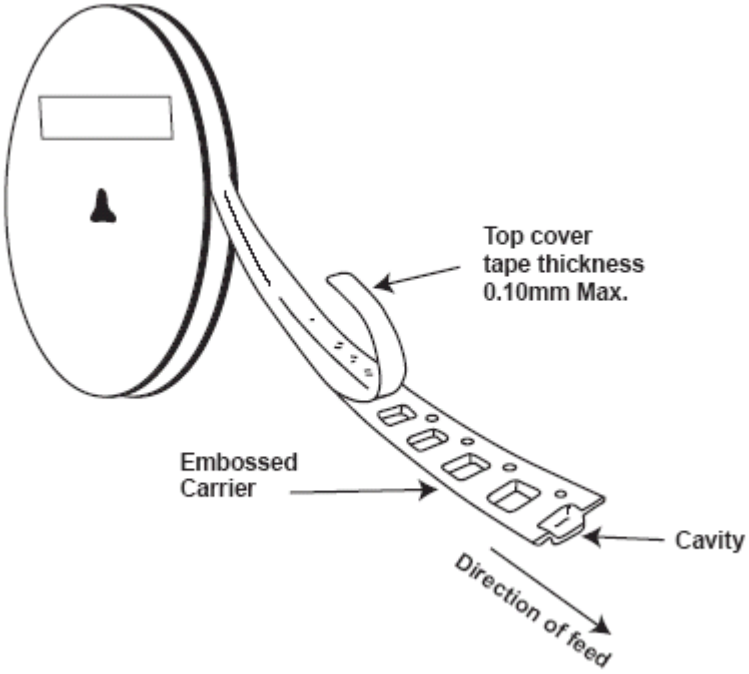


X2-DFN2015-6	
Dimensions	**Value (in mm)**
C	0.500
X	0.350
X1	1.150
X2	1.350
Y	0.500
Y1	0.850
Y2	2.150

Taping Orientation

(1) X2-DFN2015-6





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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