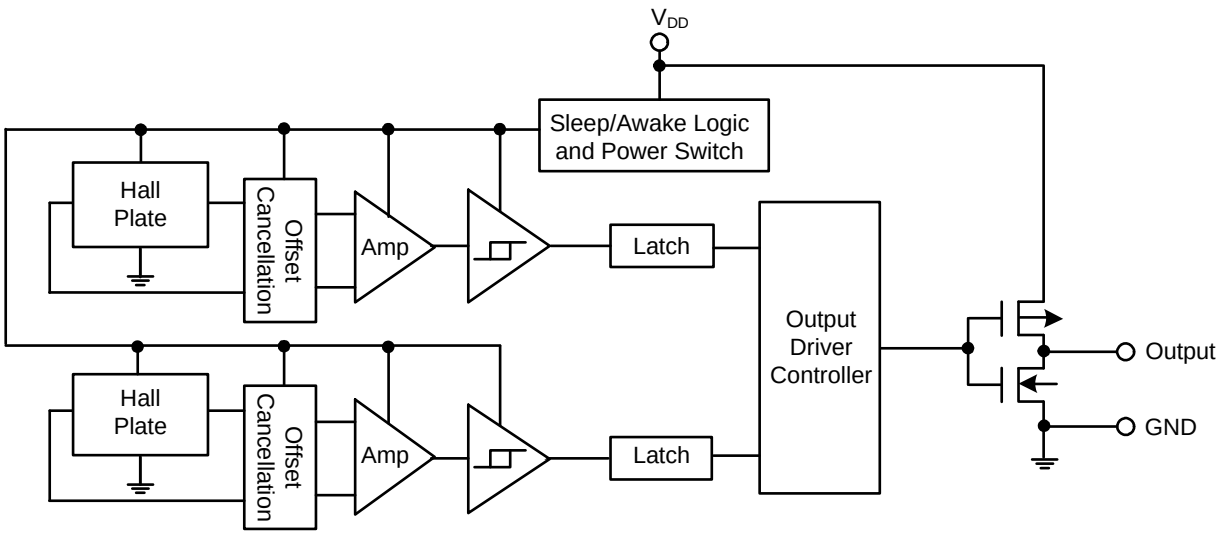
NEW PRODUCT

Pin Descriptions

Pin Name	P/I/O	Description
V_{DD}	P/I	Power Supply Input
GND	P/I	Ground
Output	O	Output Pin
NC	NC	No Connection (Note 1)

Notes: 1. NC is "No Connection" which is not connected internally. This pin can be left open or tied to ground.

Functional Block Diagram



NEW PRODUCT

Absolute Maximum Ratings (T_A = 25°C, Note 2)

Symbol	Characteristics		Values	Unit
V_{DD}	Supply voltage (Note 3)		5.0	V
$V_{DD\ rev}$	Reverse supply voltage		-0.3	V
B	Magnetic flux density		Unlimited	
Ts	Storage Temperature Range		-65 to +150	°C
P_D	Package Power Dissipation	DFN1216-4	230	mW
		SC59	270	
T_J	Maximum Junction Temperature		150	°C

Notes: 2. 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

3. The absolute maximum of 5V is a transient stress rating and is not meant as functional operating conditions. 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)

Symbol	Characteristics	Conditions	Rating	Unit
V_{DD}	Supply Voltage	C_{IN} =0.1µF (Note 4)	2.5 to 3.6	V
T_A	Operating Temperature Range	Operating	-40 to +85	°C

Notes: 4. Decoupling capacitor C_{IN} = 100nF or higher must be used for full 2.5V to 3.6V supply range.

Electrical Characteristics (T_A = 25°C, V_{DD} = 3.3V, unless otherwise specified)

Symbol	Characteristics	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
Idd(en)	Supply current	Chip enable	—	4	—	mA
Idd(dis)		Chip disable	—	8	—	µA
Idd(avg)		Average supply current,	—	12	—	µA
Tawake	Awake Time	(Note 5)	—	50	100	µs
Tperiod	Period	(Note 5)	—	50	100	ms
D.C.	Duty Cycle		—	0.1	—	%

Notes: 5. When power is initially on, the operating V_{DD} (2.5V to 3.6V) must be applied to be guaranteed for the output sampling. The output state is valid after the second operating phase (typical 100ms).

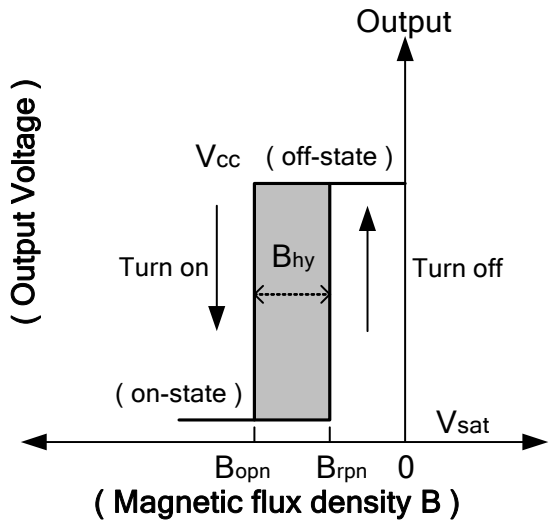
NEW PRODUCT

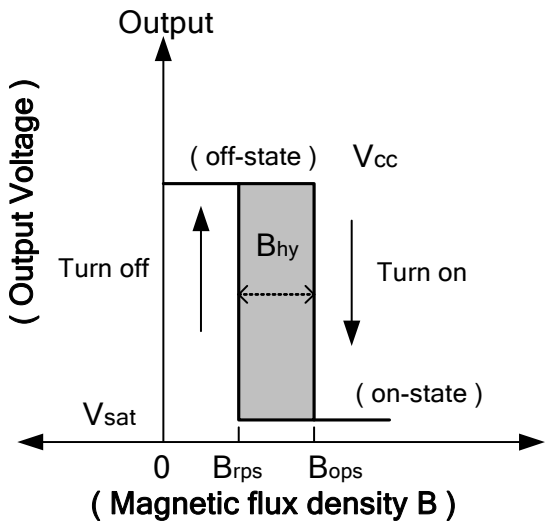
Magnetic Characteristics (T_A = 25°C, V_{DD} = 3.3V, Note 6)

(1mT=10 Gauss)

Symbol	Characteristics	Min	Typ.	Max	Unit
Bops(south pole to brand side)	Operation Point	20	40	60	Gauss
Bopn(north pole to brand side)		-60	-40	-20	
Brps(south pole to brand side)	Release Point	15	32	-	
Brpn(north pole to brand side)		-	-32	-15	
Bhy (|Bopx|-|Brpx|)	Hysteresis		8	-	

Notes: 6. The magnetic characteristics may vary with operating temperature and after soldering.

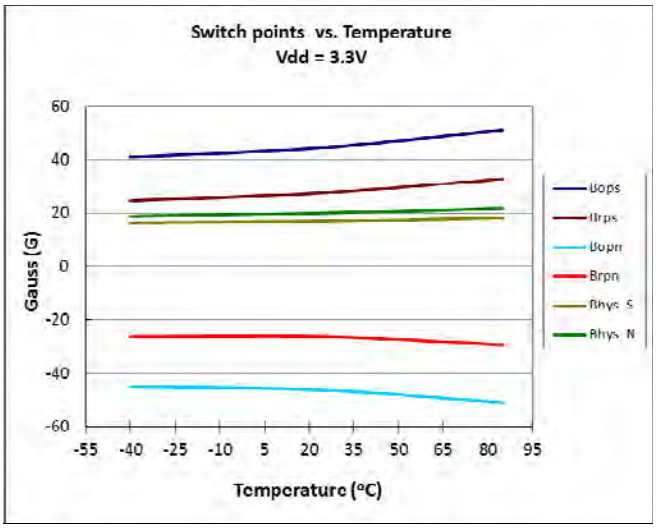




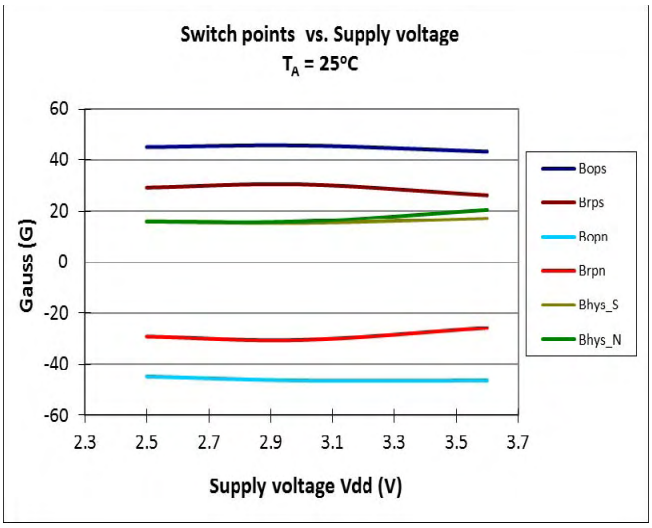
NEW PRODUCT

Typical Characteristics

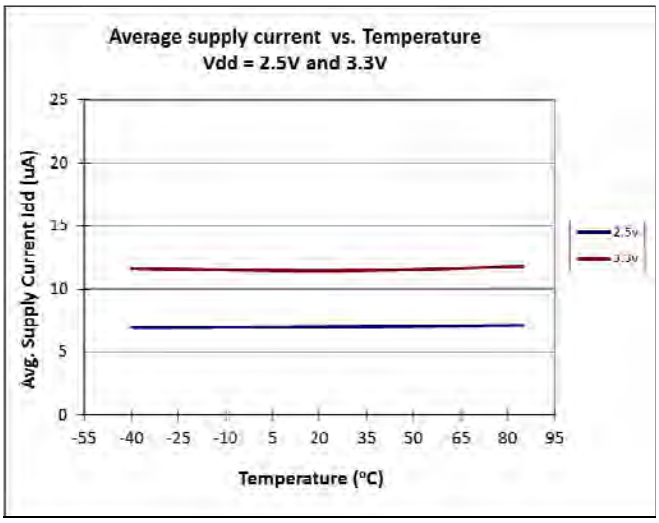
Typical Switch Point Bop and Brp vs. Temperature



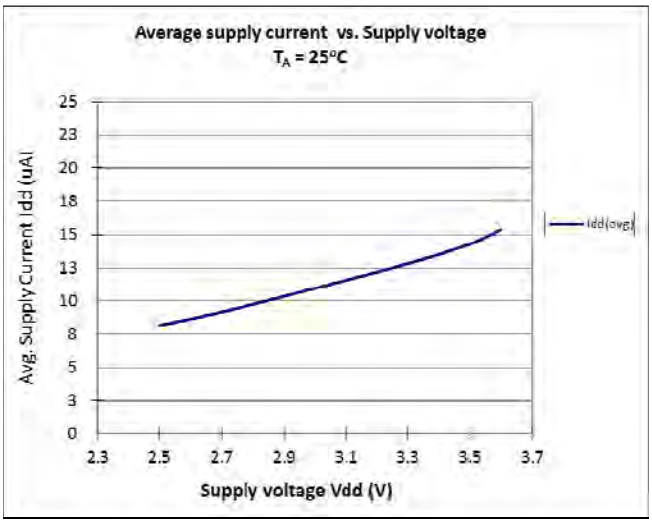
Typical Switch Points Bop and Brp vs. Supply Voltage



Average Supply Current vs. Temperature

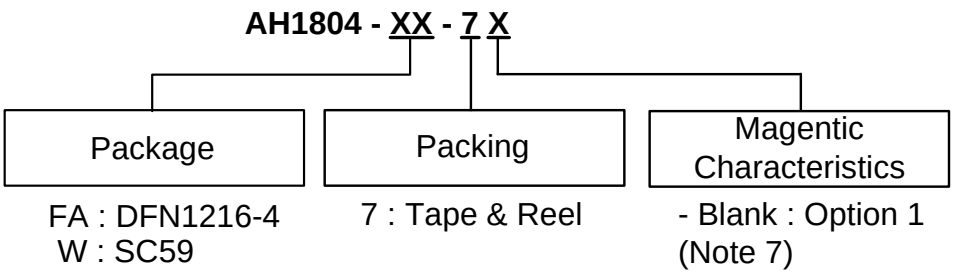


Average Supply Current vs. Supply Voltage



NEW PRODUCT

Ordering Information



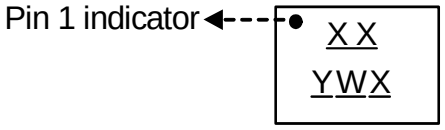
Device (Note 8)	Package Code	Packaging (Note 9)	7" Tape and Reel		Magentic Characteristics (Note 7)
			Quantity	Part Number Suffix	
AH1804-FA-7	FA	DFN1216-4	3000/Tape & Reel	-7	-Blank
AH1804-W-7	W	SC59	3000/Tape & Reel	-7	-Blank

Notes:
7. Please refer the Magnetic Characteristics table.
8. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/products/lead_free.html.
9. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf

Marking Information

(1) DFN1216-4

(Top View)

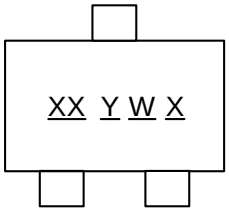


XX : Identification Code
Y : Year : 0~9
W : Week : A~Z : 1~26 week; a~z : 27~52 week; z represents 52 and 53 week
X : Internal code

Part Number	Package	Identification Code
AH1804-FA-7	DFN1216-4	KJ

(2) SC59 (commonly known as SOT23 in Asia)

(Top View)



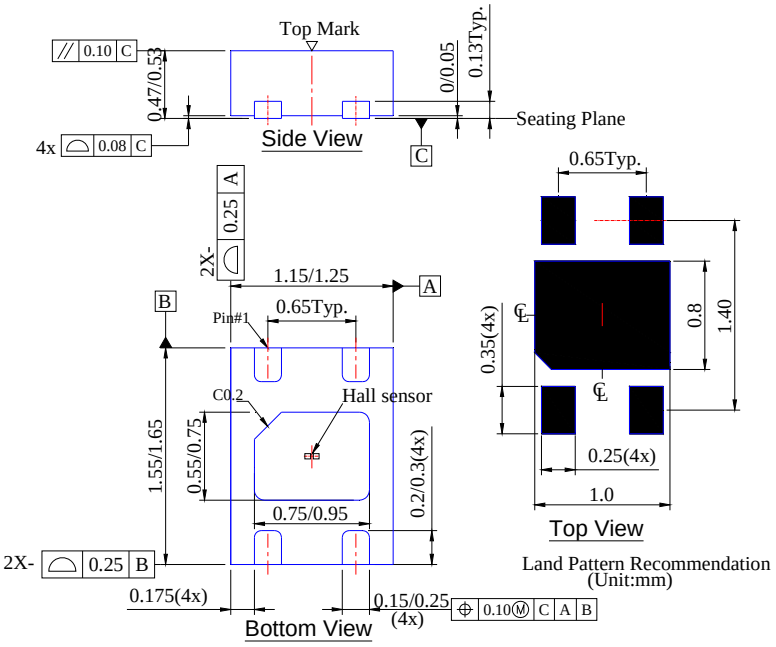
XX : Identification code
Y : Year 0 to 9
W : Week : A to Z : 1 to 26 week; a to z : 27 to 52 week; z represents 52 and 53 week
X : Internal code

Part Number	Package	Identification Code
AH1804-W-7	SC59	WJ

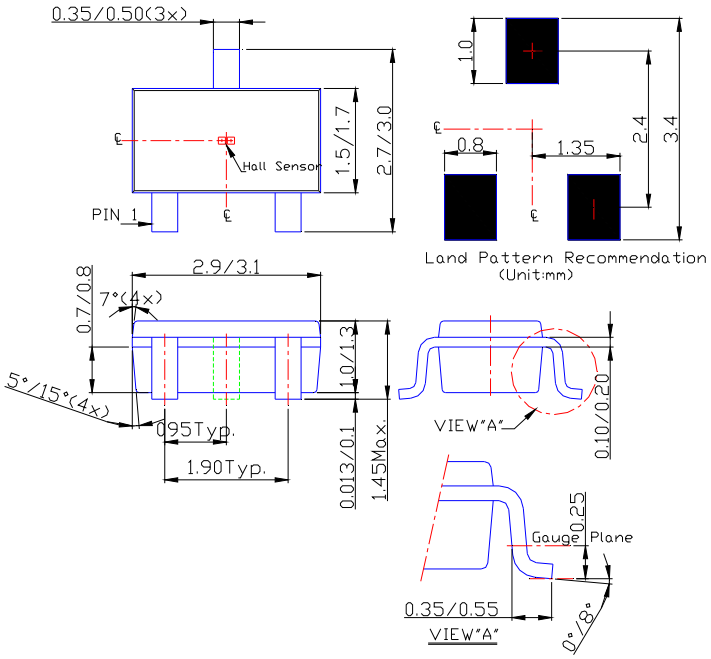
NEW PRODUCT

Package Outline Dimensions (All Dimensions in mm)

(1) Package type: DFN1216-4



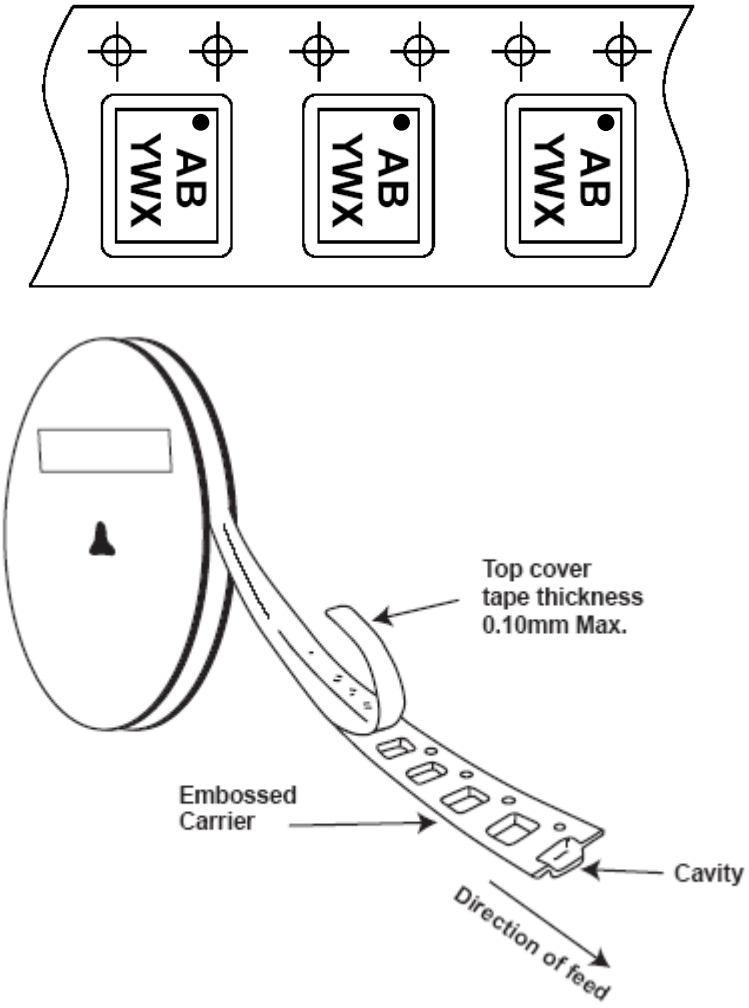
(2) Package Type: SC59 (commonly known as SOT23 in Asia)



NEW PRODUCT

Taping Orientation (Note 10)

DFN1216-4



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

NEW PRODUCT

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