

Features

- Micropower operation
- Operation with North or South Pole
- 1.65 to 3.3V battery operation
- Chopper stabilized
 - Superior temperature stability
 - Extremely Low Switch-Point Drift
 - Insensitive to Physical Stress
- Good RF noise immunity
- -40°C to 85°C operating temperature
- ESD > 4KV in human body mode
- SOT553: Available in "Green" Molding Compound (No Br, Sb)
- Lead Free Finish/RoHS Compliant (Note 1)

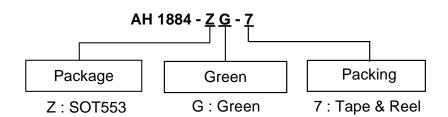
General Description

AH1884 is with two Hall effect plates and dual CMOS output driver, mainly designed for battery-operation, hand-held equipment (such as Cellular and Cordless Phone, PDA). The total operation power is down to 15uW in the 1.8V supply. Either north or south pole of sufficient strength will turn the output on. The output will be turned off under no magnetic field. While the magnetic flux density (B) is larger than operate point (Bop), the output will be turned on (low), the output is held until B is lower than release point (Brp), then turned off.

Applications

- Cellular phone
- PDA
- Cordless phone

Ordering Information

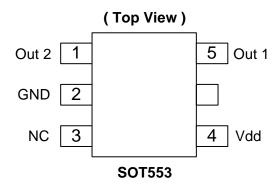


	Device	Package	Packaging	7" Tape and Reel			
		Code	(Note 2)	Quantity	Part Number Suffix		
Pb,	AH1884-ZG-7	Z	SOT553	3000/Tape & Reel	-7		

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.
2. 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.



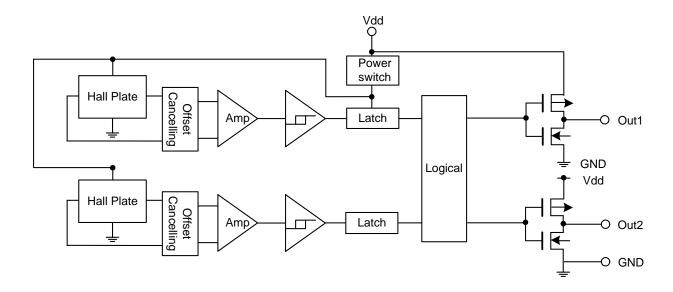
Pin Assignment



Pin Descriptions

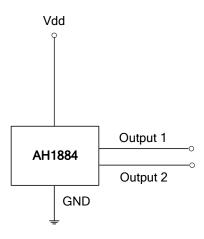
Pin Name	P/I/O	Pin#	Description
Out 2	0	1	Output Pin (active High)
GND	P/I	2	Ground
NC		3	
Vdd	P/I	4	Power Supply Voltage
Out 1	0	5	Output Pin (active Low)

Block Diagram





Typical Circuit



Absolute Maximum Ratings (at TA= 25°C)

Symbol	Characteristics	Values	Unit			
Vdd	Supply voltage	5	V			
В	Magnetic flux density	Unlimited				
TA	Operating Temperature Range	-40 to +85	°C			
Ts	Storage Temperature Range	-65 to +150	°C			
PD	Package Power Dissipation	230	mW			
T _J	Maximum Junction Temperature	150	°C			

Recommended Operating Conditions (TA = 25°C)

Symbol	Parameter	Conditions	Rating	Unit
Vdd	Supply Voltage	Operating	1.65~3.3	V



Electrical Characteristics (TA = +25°C, Vdd = 1.8V; unless otherwise specified)

Symbol	Characteristic	Conditions	Min	Тур.	Max	Unit
V _{OH}	Output On Voltage (High side)	I _O = -0.5mA	Vdd-0.2	-	-	V
V_{OL}	Output On Voltage (Low side)	I _O = 0.5mA	-	-	0.2	V
loff	Output Leakage Current	Output off	-	<0.1	1	μΑ
ldd(en)		Chip enable	-	2	4	mΑ
Idd(dis)	Supply Current	Chip disable	-	5	8	uA
Idd(avg)		Average supply current	-	7	12	uA
Tawake	Awake Time		-	50	100	μs
Tperiod	Period		-	50	100	ms
D.C.	Duty Cycle		-	0.1	-	%

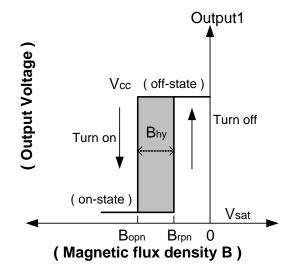
Magnetic Characteristics (TA = 25°C, Vdd = 1.8V~3.0V) (Note 3)

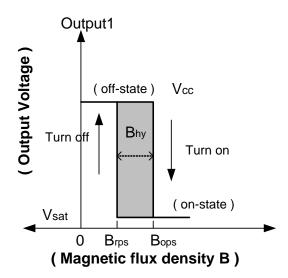
(1mT=10 Gauss)

Symbol	Characteristic (Note 4)	Min	Тур.	Max	Unit
Bops(south pole to brand side)	Operate Point	ı	37	55	
Bopn(north pole to brand side)	Operate Follit	-55	-37	-	
Brps(south pole to brand side)	Dalassa Daint	15	29	-	Gauss
Brpn(north pole to brand side)	Release Point	-	-29	-15	0
Bhy(Bopx – Brpx)	Hysteresis	3	8	-	

Notes:

Typical data is at Ta = 25°C, Vdd = 3V, and for design information only.
 Operate point and release point will vary with supply voltage and operating temperature.

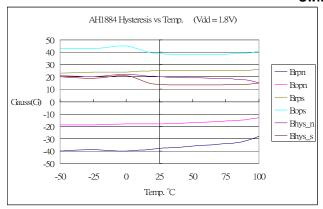


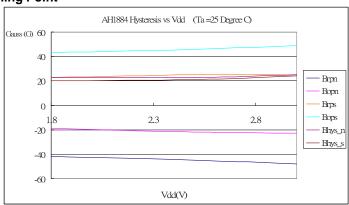




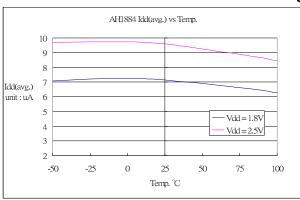
Typical Operating Characteristics

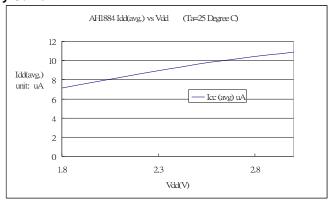
Switching Point





Supply Current

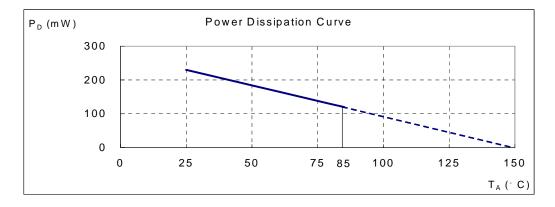






Performance Characteristics

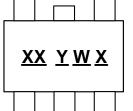
T _A (°C)	25	50	60	70	80	85	90	100	110	120	130	140	150
P _D (mW)	230	184	166	147	129	120	110	92	74	55	37	18	0



Marking Information

(1) SOT553





 $\frac{XX}{Y}: Identification Code \\ \underline{Y}: Year: 0~9$

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

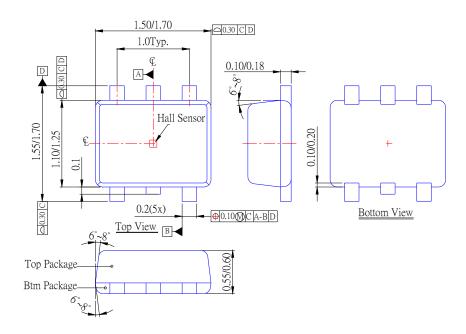
X : A~Z : Green

Part Number	Package	Identification Code
AH1884	SOT553	KR



Package Information (All Dimensions in mm)

(1) Package Type: SOT553



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