Pin Configuration

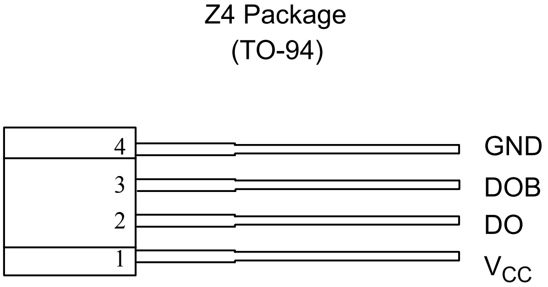


Figure 2. Pin Configuration of AH276 (Front View)

Pin Description

Pin Number	Pin Name	Function
1	V_{CC}	Supply voltage
2	DO	Output 1
3	DOB	Output 2
4	GND	Ground

Functional Block Diagram

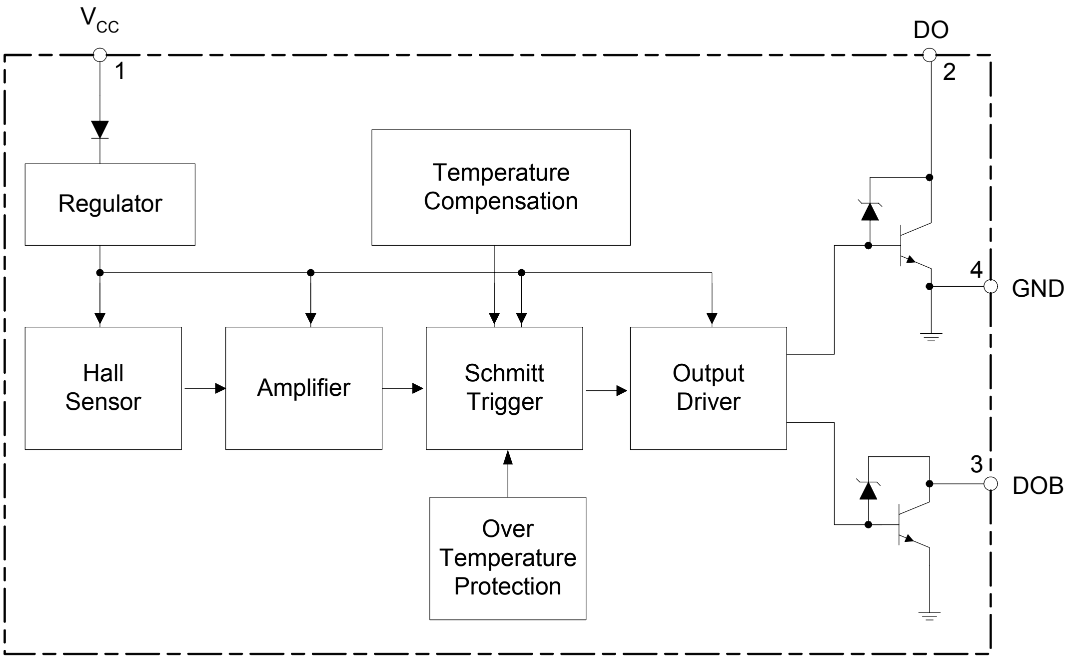
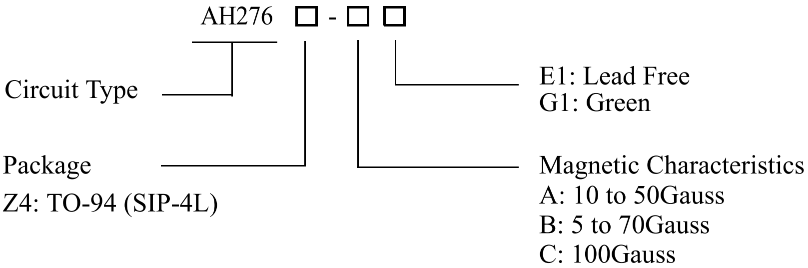


Figure 3. Functional Block Diagram of AH276

Ordering Information



Package	Temperature Range	Part Number		Marking ID		Packing Type
		Lead Free	Green	Lead Free	Green	
TO-94	-20 to 85 °C	AH276Z4-AE1	AH276Z4-AG1	AH276Z4-E1	AH276Z4-G1	Bulk
		AH276Z4-BE1	AH276Z4-BG1	AH276Z4-E1	AH276Z4-G1	Bulk
		AH276Z4-CE1	AH276Z4-CG1	AH276Z4-E1	AH276Z4-G1	Bulk

BCD Semiconductor's Pb-free products, as designated with "E1" suffix in the part number, are RoHS compliant. Products with "G1" suffix are available in green package.

Absolute Maximum Ratings (Note 1)

(T_A=25°C)

Parameter		Symbol	Value	Unit
Supply Voltage		V_{CC}	20	V
Reverse Protection Voltage		V_{RCC}	-20	V
Magnetic Flux Density		B	Unlimited	Gauss
Output Current	Continuous	I_O	350	mA
	Hold		550	mA
	Peak (start up)		750	mA
Power Dissipation		P_D	550	mW
Thermal Resistance	Die to atmosphere	θJA	227	°C/W
	Die to package case	θJC	49	°C/W
Storage Temperature		T_{STG}	-50 to 150	°C
ESD (Machine Model)			300	V
ESD (Human Body Model)			2500	V

Note 1: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. "Absolute Maximum Ratings" for extended period may affect device reliability.

Recommended Operating Conditions

(T_A=25°C)

Parameter	Symbol	Min	Max	Unit
Supply Voltage	V_{CC}	3.5	16	V
Ambient Temperature	T_A	-20	85	°C

Electrical Characteristics

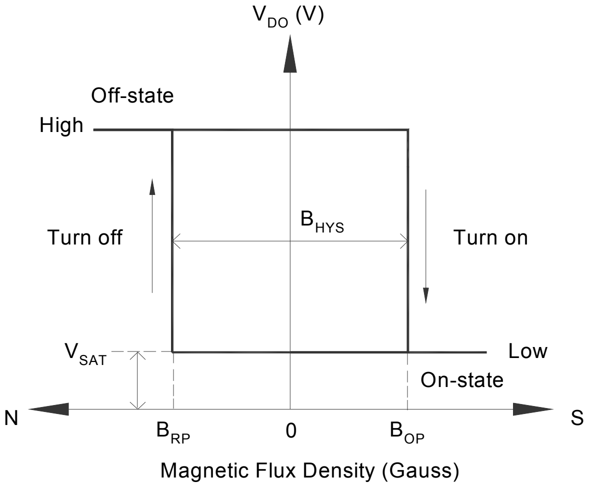
($T_A=25^oC$, $V_{CC}=14V$, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output Saturation Voltage	V_{SAT}	$V_{CC}=3.5V$, $I_O=100mA$		0.3		V
		$I_O=350mA$		0.35	0.6	V
Output Leakage Current	I_{OL}	$V_{CE}=16V$		0.1	10	µA
Supply Current	I_{CC}	$V_{CC}=16V$, Output Open		12	16	mA
Output Rise Time	tr	$R_L=820\Omega$, $C_L=20pF$		3.0	10	µs
Output Fall Time	tf	$R_L=820\Omega$, $C_L=20pF$		0.3	1.5	µs
Switch Time Differential	Δt	$R_L=820\Omega$, $C_L=20pF$		3.0	10	µs
Output Zener Breakdown Voltage	V_Z			55		V
Thermal Protection Temperature	TSD			178		^oC
Thermal Protection Hysteresis	ΔTSD			40		^oC

Magnetic Characteristics

($T_A=25^oC$)

Parameter	Symbol	Grade	Min	Typ	Max	Unit
Operating Point	B_{OP}	A	10		50	Gauss
		B	5		70	Gauss
		C			100	Gauss
Releasing Point	B_{RP}	A	-50		-10	Gauss
		B	-70		-5	Gauss
		C	-100			Gauss
Hysteresis	B_{HYS}			75		Gauss



Magnetic Characteristics (Continued)

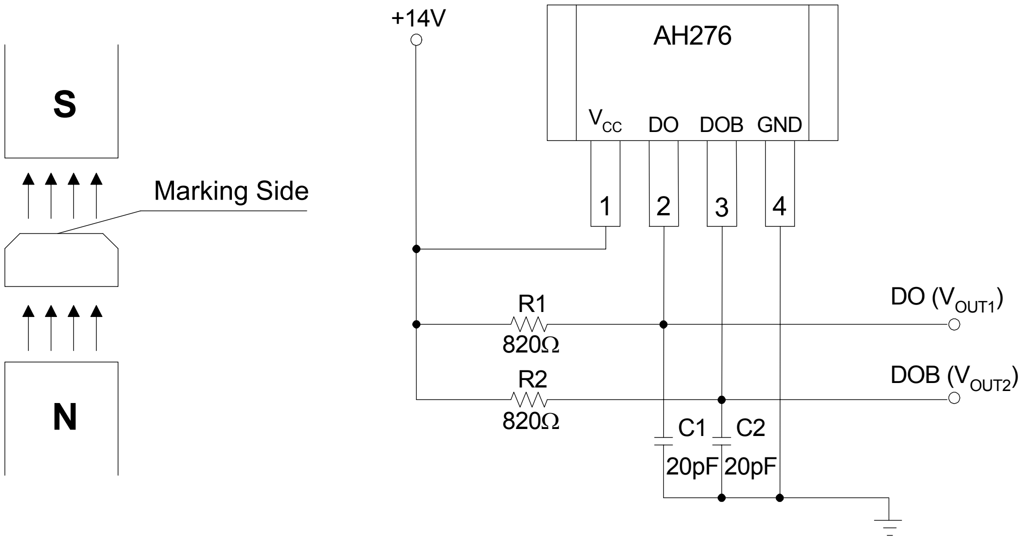


Figure 4. Basic Test Circuit

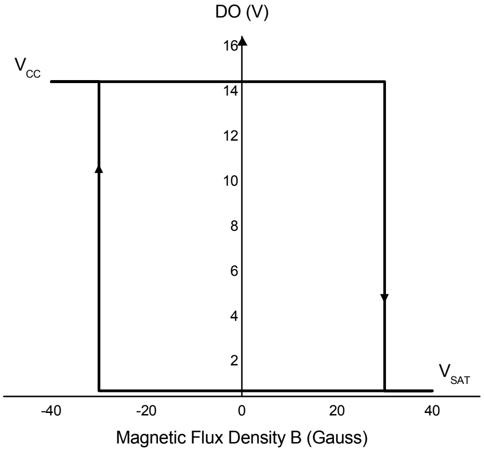


Figure 5. V_{DO} vs. Magnetic Flux Density

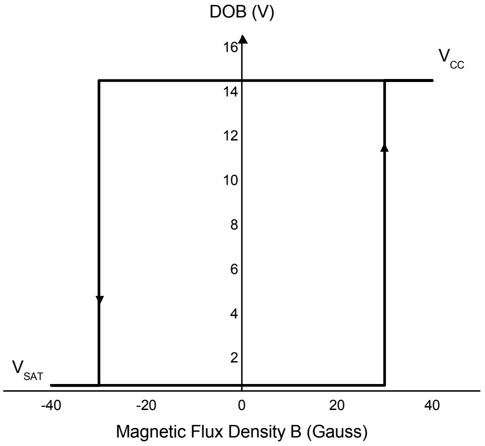


Figure 6. V_{DOB} vs. Magnetic Flux Density

Typical Performance Characteristics

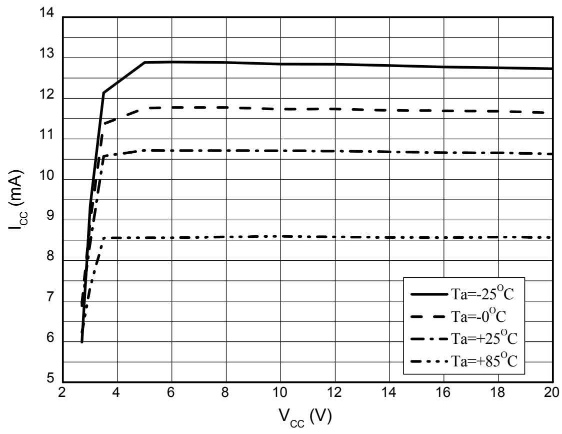


Figure 7. I_{CC} vs. V_{CC}

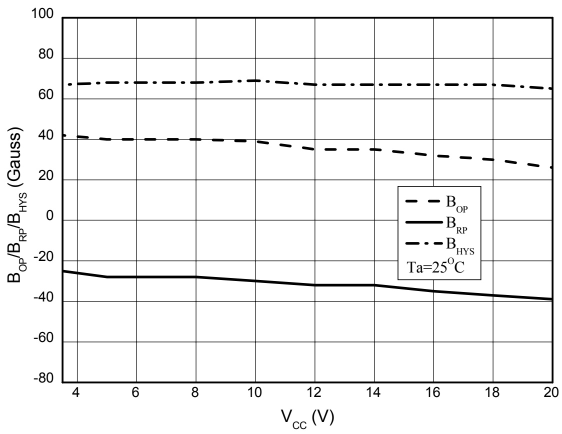


Figure 8. $B_{OP}/B_{RP}/B_{HYS}$ vs. V_{CC}

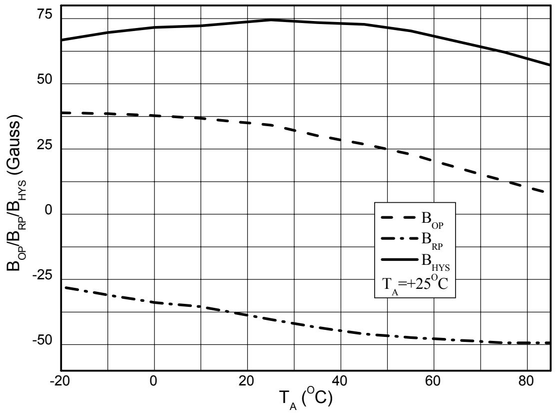


Figure 9. $B_{OP}/B_{RP}/B_{HYS}$ vs. Ambient Temperature

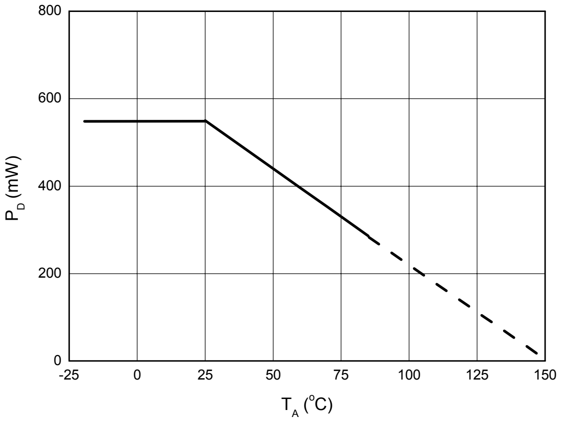


Figure 10. P_D vs. Ambient Temperature

Typical Performance Characteristics (Continued)

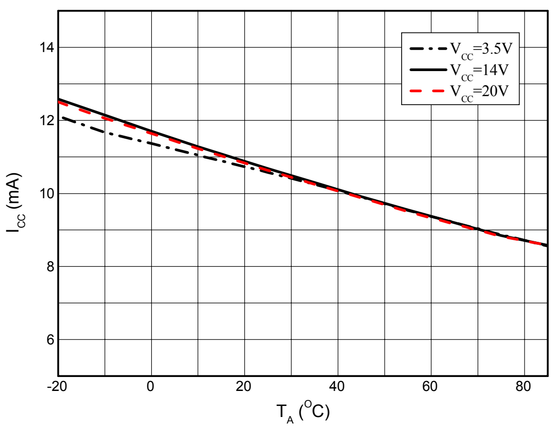


Figure 11. I_{CC} vs. Ambient Temperature

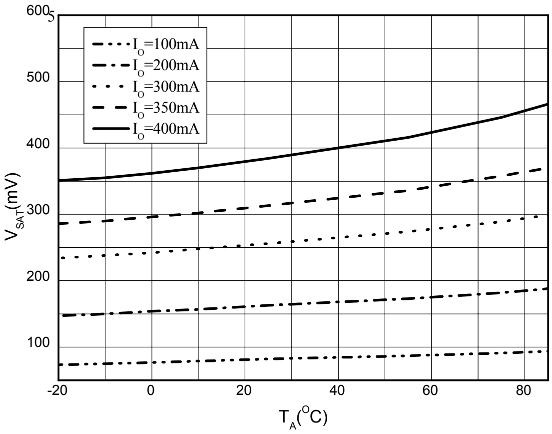


Figure 12. V_{SAT} vs. Ambient Temperature

Typical Applications

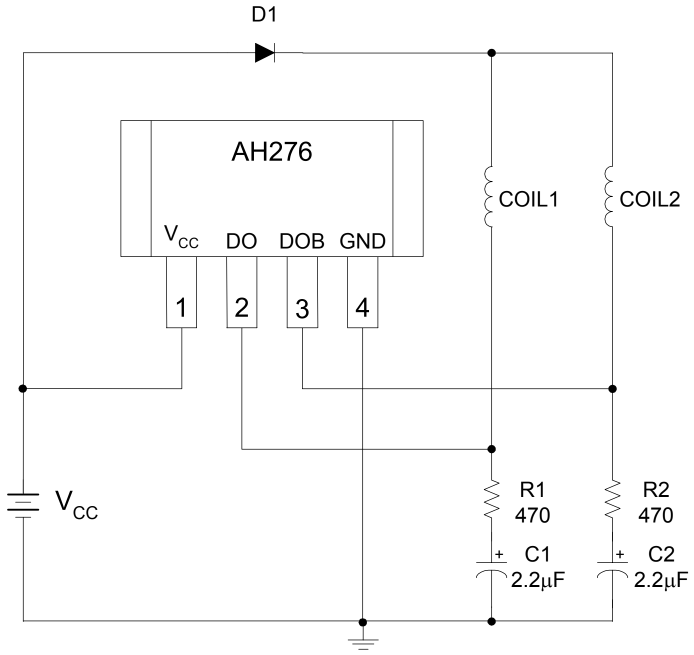
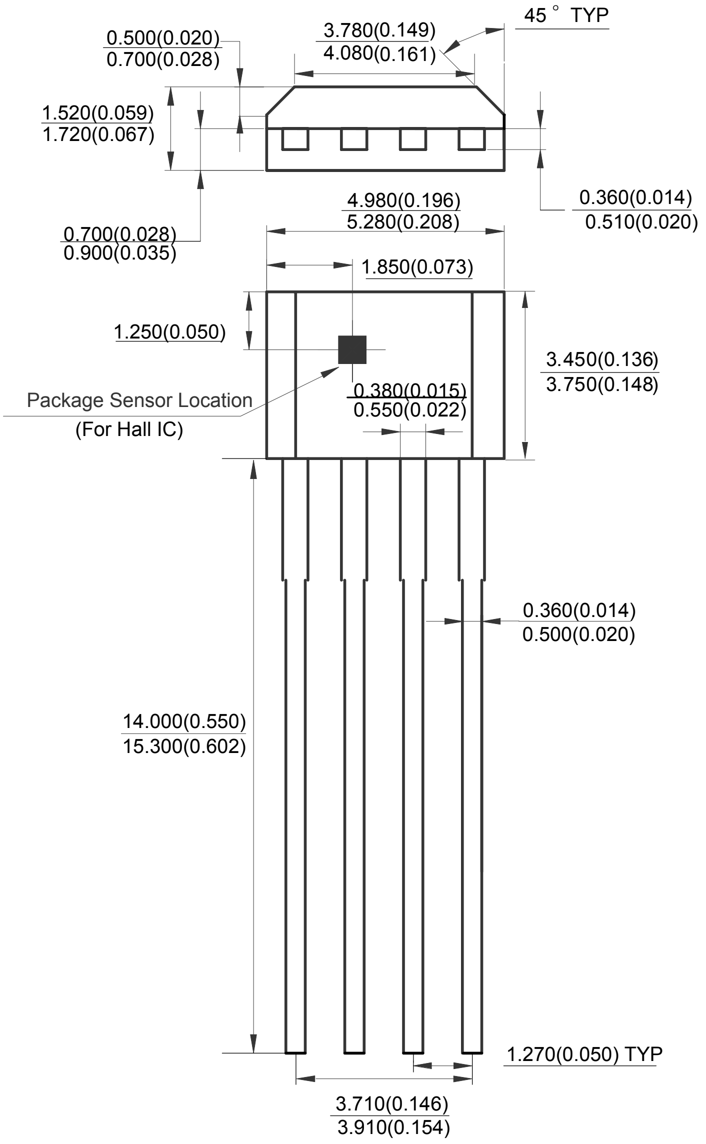


Figure 12. Typical Application Circuit

Mechanical Dimensions

TO-94 **Unit: mm(inch)**



BCD Semiconductor Manufacturing Limited

http://www.bcdsemi.com

IMPORTANT NOTICE

MAIN SITE

- Headquarters
BCD Semiconductor Manufacturing Limited
No. 1600, Zi Xing Road, Shanghai ZiZhu Science-based Industrial Park, 200241, China
Tel: +86-21-24162266, Fax: +86-21-24162277

- Wafer Fab
Shanghai SIM-BCD Semiconductor Manufacturing Co., Ltd.
800 Yi Shan Road, Shanghai 200233, China
Tel: +86-21-6485 1491, Fax: +86-21-5450 0008

REGIONAL SALES OFFICE

Shenzhen Office
Shanghai SIM-BCD Semiconductor Manufacturing Co., Ltd., Shenzhen Office
Unit A Room 1203, Skyworth Bldg., Gaoxin Ave.1.S., Nanshan District, Shenzhen, China
Tel: +86-755-8826 7951
Fax: +86-755-8826 7865

Taiwan Office
BCD Semiconductor (Taiwan) Company Limited
4F, 298-1, Rui Guang Road, Nei-Hu District, Taipei, Taiwan
Tel: +886-2-2656 2808
Fax: +886-2-2656 2806

USA Office
BCD Semiconductor Corp.
30920 Huntwood Ave. Hayward, CA 94544, USA
Tel : +1-510-324-2988
Fax: +1-510-324-2788