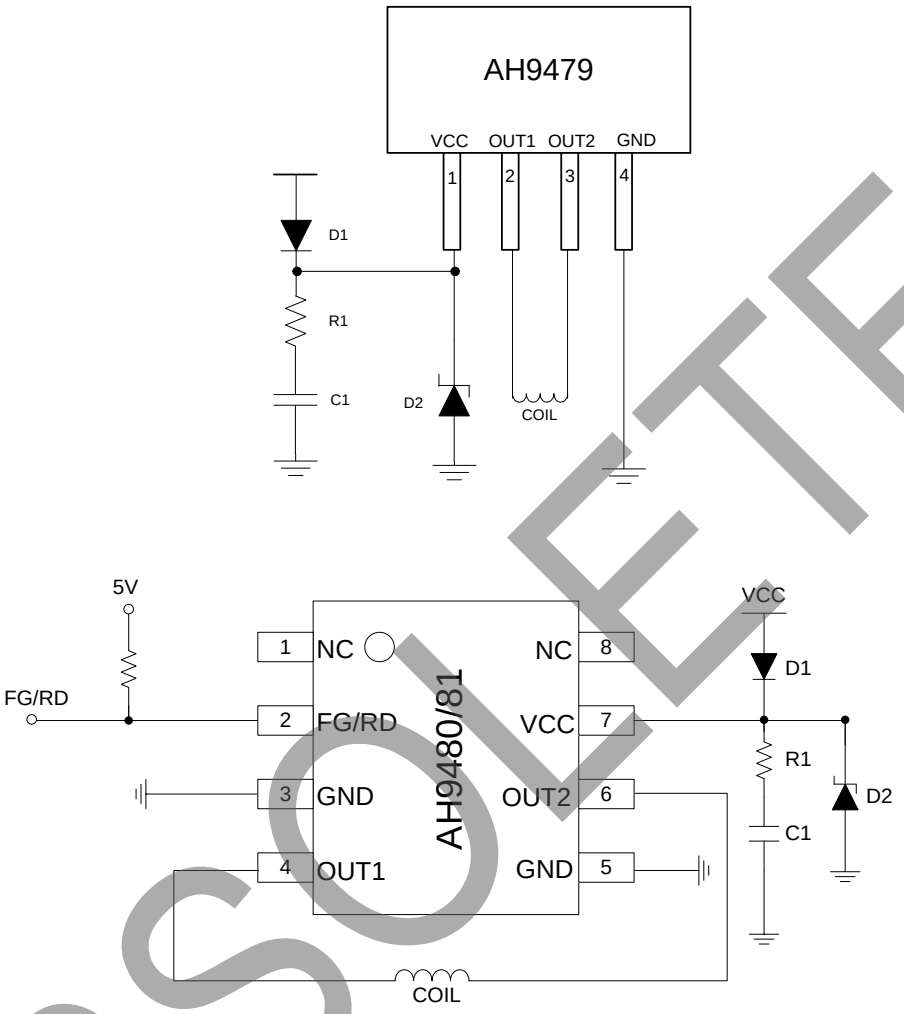
Typical Applications Circuit

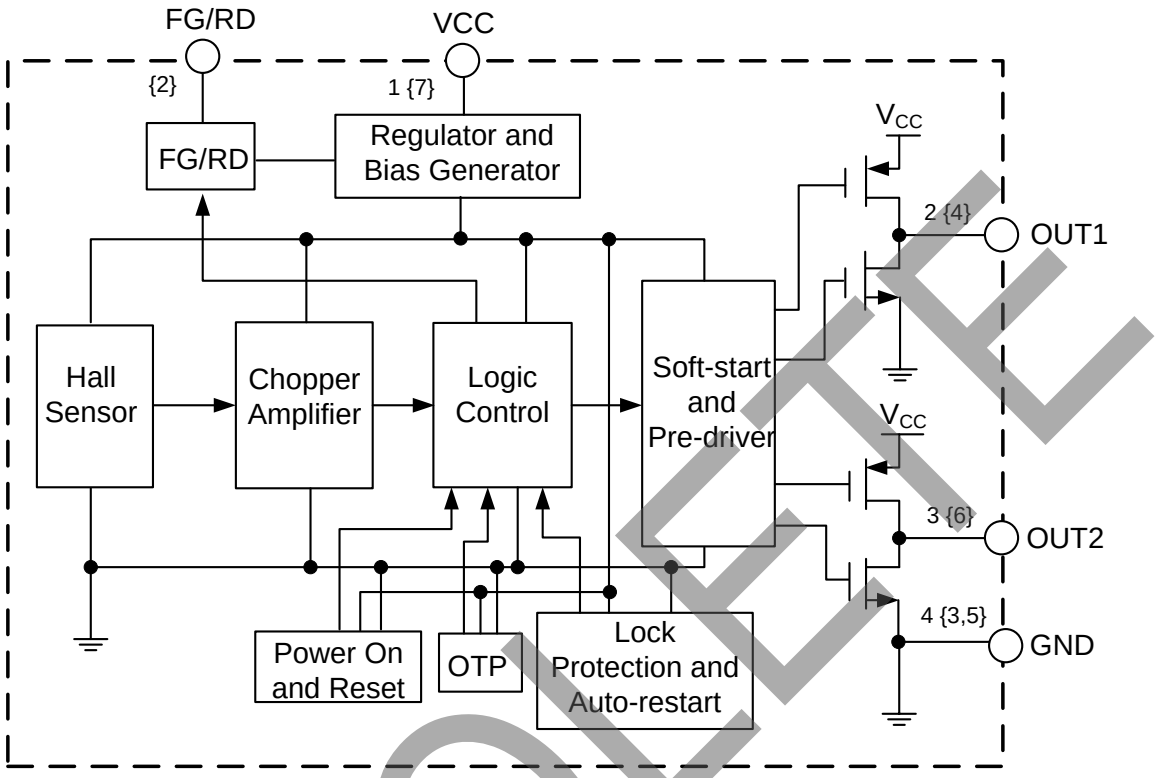


Note 1: C1 should be at least larger than 2.2μF, R1=0 to 10Ω

Pin Descriptions

Pin Number		Pin Name	Function
TO-94	MSOP-8		
_	2	FG/RD	Frequency generator (rotation detection) open drain output
1	7	VCC	Power supply pin
2	4	OUT1	Output pin 1
3	6	OUT2	Output pin 2
4	3, 5	GND	Ground pin
_	1, 8	NC	No connection

Functional Block Diagram



A {B}
A for TO-94
B for MSOP-8

Absolute Maximum Ratings (Note 2)

Symbol	Parameter	Value		Unit
V_{CC}	Supply Voltage	18		V
I_{OUT_P}	Peak Output Current	500		mA
I_{OUT_C}	Continuous Output Current	300		mA
V_{FG}/V_{RD}	FG/RD Pull-up Voltage	18		V
I_{FG}/I_{RD}	FG/RD Output Current	10		mA
P_D	Power Dissipation	TO-94	550	mW
		MSOP-8	585	
T_A	Operating Ambient Temperature	-40 to +85		°C
T_{STG}	Storage Temperature	-55 to +150		°C
θ_{JA}	Thermal Resistance (Junction to Ambient)	TO-94	227	°C/W
		MSOP-8	214	
ESD	ESD (Human Body Model)	6000		V
ESD	ESD (Machine Model)	200		V

Note 2: 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. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

Recommended Operating Conditions

Symbol	Parameter	Min	Max	Unit
V_{CC}	Supply Voltage	2.5	16	V
T_A	Operating Ambient Temperature	-40	+85	°C

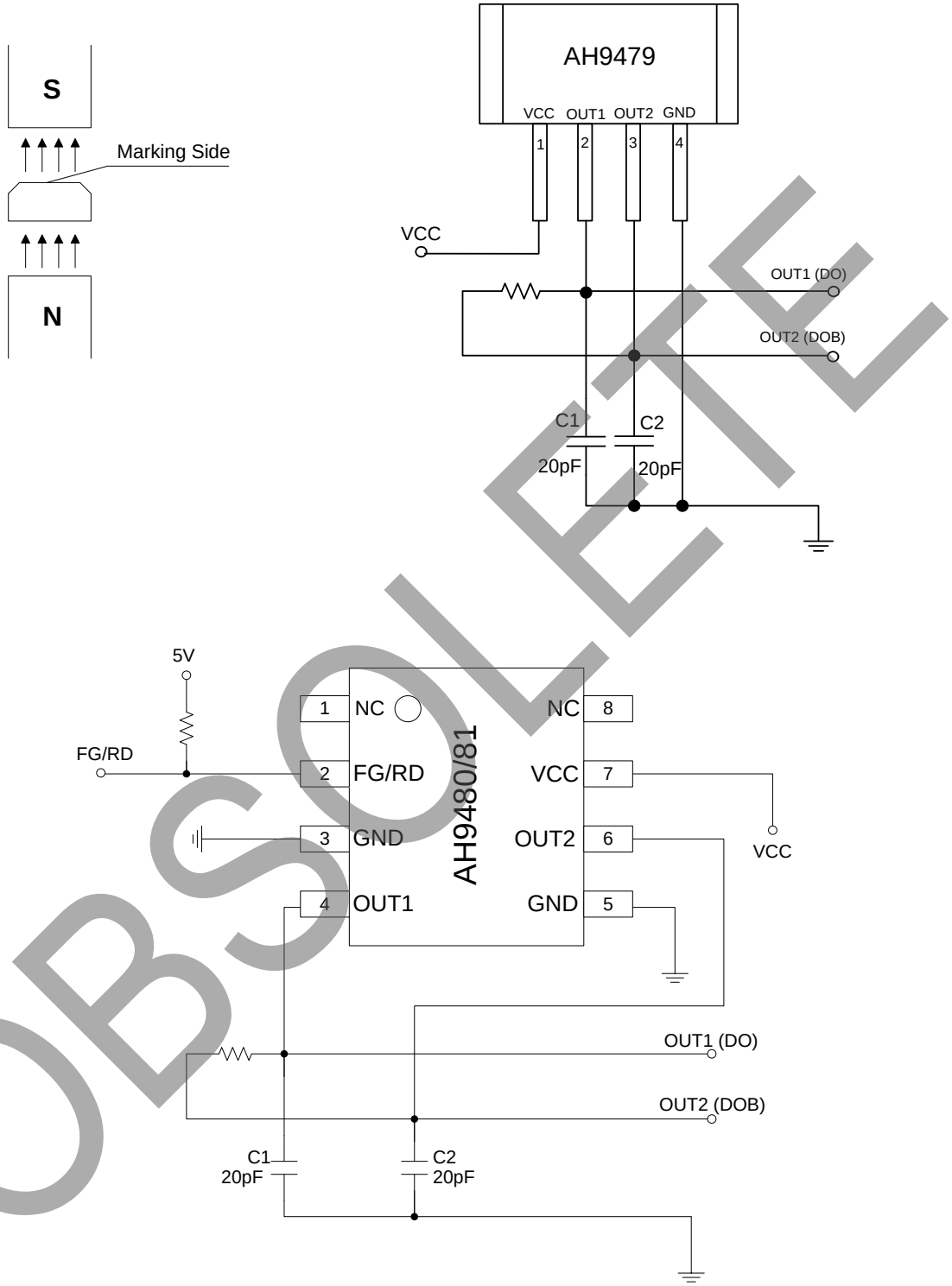
Electrical Characteristics (V_{CC}=12V, T_A=+25°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{CC}	Supply Voltage	Operating, R_{COIL}=100Ω	2.5	_	16	V
I_{CC}	Supply Current	_	_	4.3	12	mA
R_{DSON1_2}	ON Resistance (R_{PMOS}+R_{NMOS}=R_S)	V_{CC}=12V, T_A=+25°C, I_{OUT}=300mA	_	3.3	_	Ω
		V_{CC}=12V, T_J=+125°C, I_{OUT}=300mA	_	3.3	_	Ω
V_{OL}	FG/RD Output Low Voltage	I_{OL}=5mA	_	0.18	0.5	V
$I_{LEAKAGE}$	FG/RD Output Leakage Current	V_{FG} (V_{RD})=5V	_	0.15	10	μA
t_{ON}	Locked Rotor Period (ON)	V_{CC}>7V	_	0.4	_	s
t_{OFF}	Locked Rotor Period (OFF)	V_{CC}>7V	_	4	_	s
T_{OTP}	Protection Temperature	_	_	+175	_	°C

Magnetic Characteristics (V_{CC}=12V, T_A=+25°C, unless otherwise specified.)

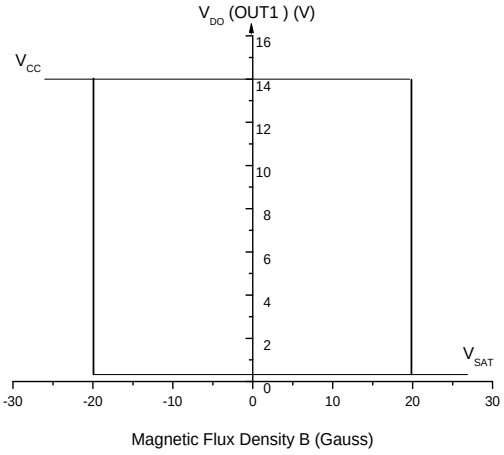
Symbol	Parameter	Min	Typ	Max	Unit
B_{OP}	Operating Point	0	20	50	Gauss
B_{RP}	Releasing Point	-50	-20	0	Gauss
B_{HYS}	Hysteresis	_	40	_	Gauss

Test Circuit

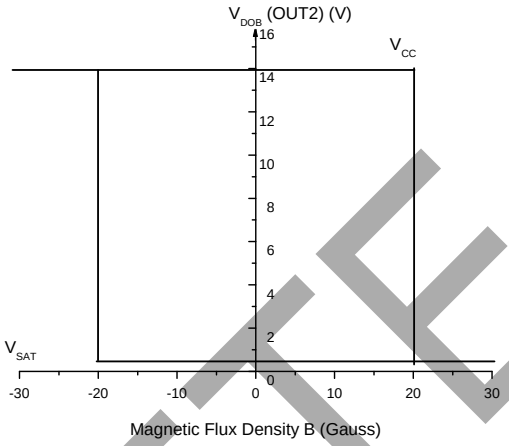


Basic Test Circuit

Hysteresis Characteristics



V_{DO} vs. Magnetic Flux Density



V_{DOB} vs. Magnetic Flux Density

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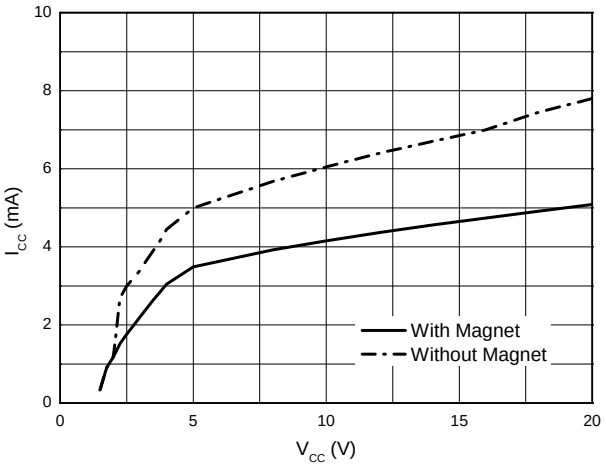
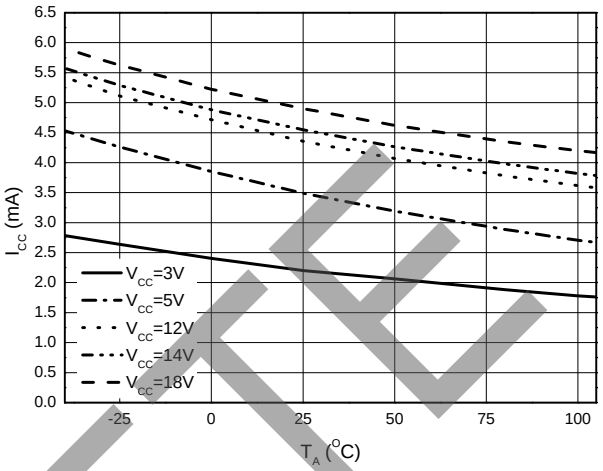
Performance Characteristics

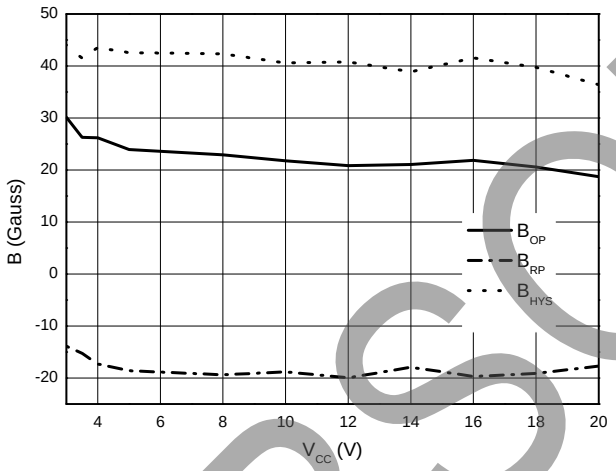
I_{CC} vs. V_{CC}



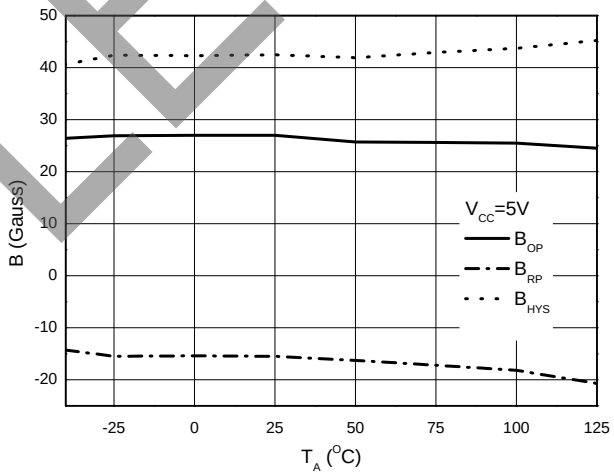
I_{CC} vs. T_A



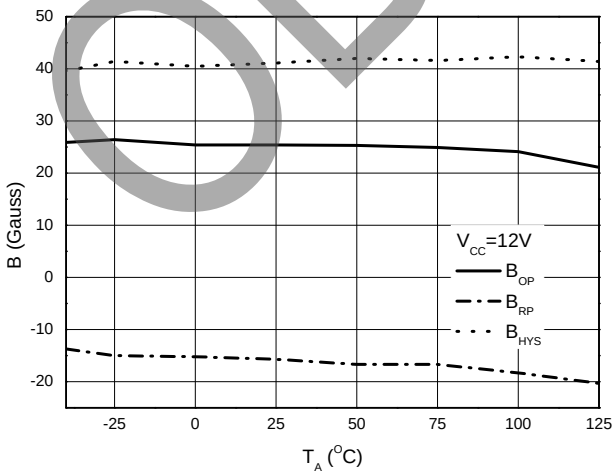
$B_{OP}/B_{RP}/B_{HYS}$ vs. V_{CC}



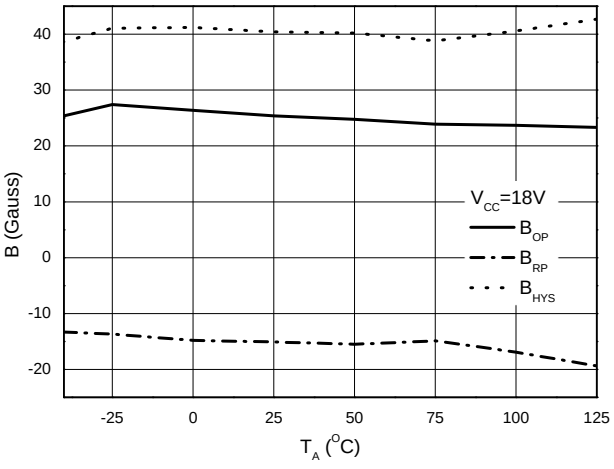
$B_{OP}/B_{RP}/B_{HYS}$ vs. T_A (V_{CC}=5V)



$B_{OP}/B_{RP}/B_{HYS}$ vs. T_A (V_{CC}=12V)

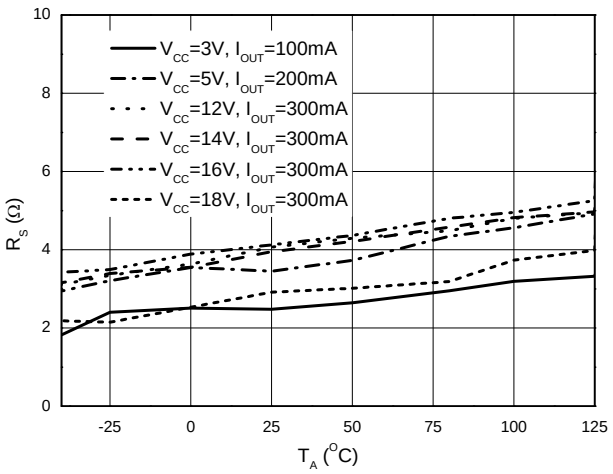


$B_{OP}/B_{RP}/B_{HYS}$ vs. T_A (V_{CC}=18V)

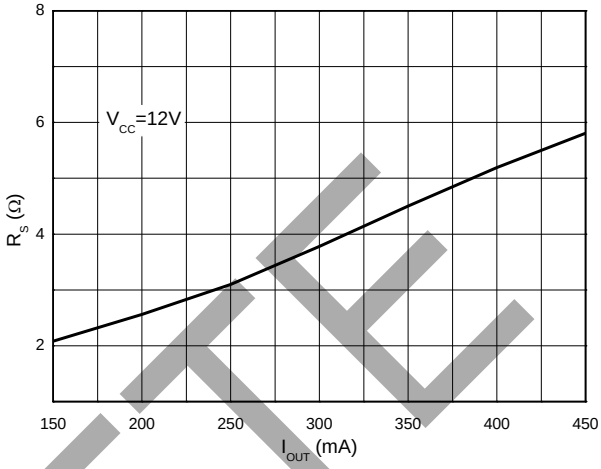


Performance Characteristics (Cont..)

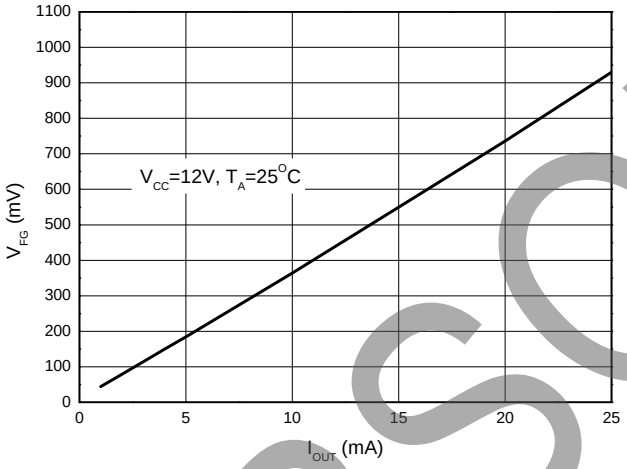
R_S vs. T_A



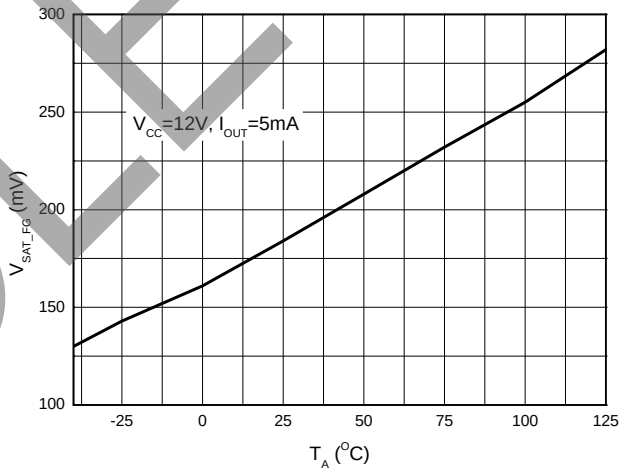
R_S vs. I_{OUT}



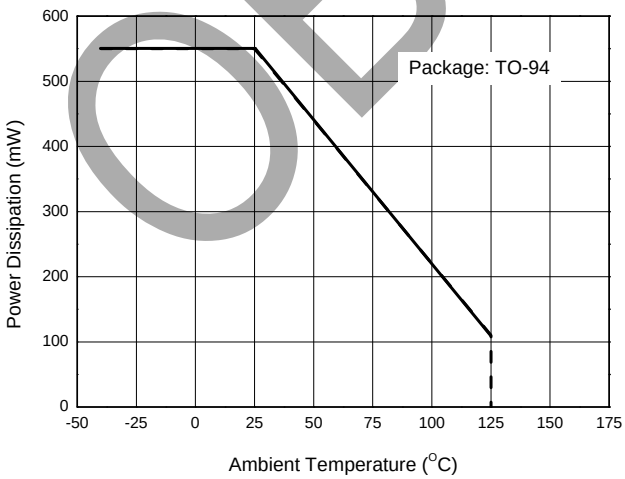
V_{FG} vs. I_{OUT}



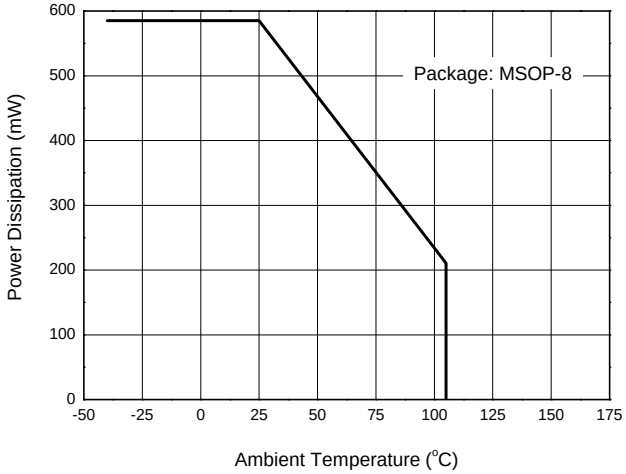
V_{SAT_FG} vs. T_A



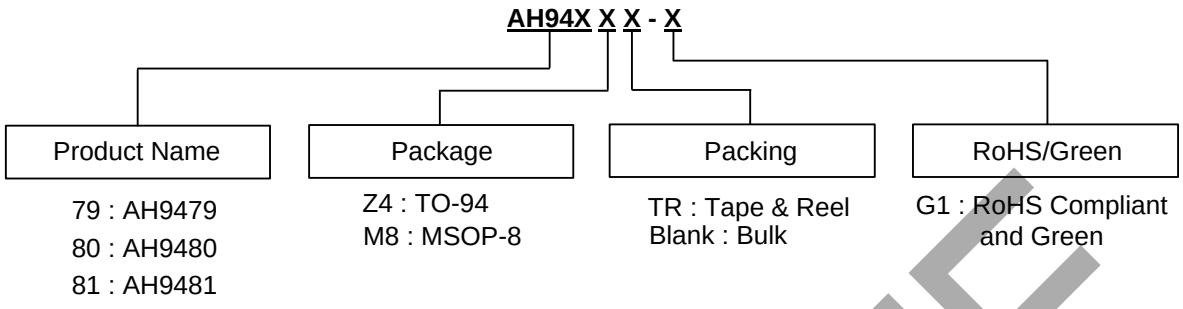
Power Dissipation vs. T_A



Power Dissipation vs. T_A



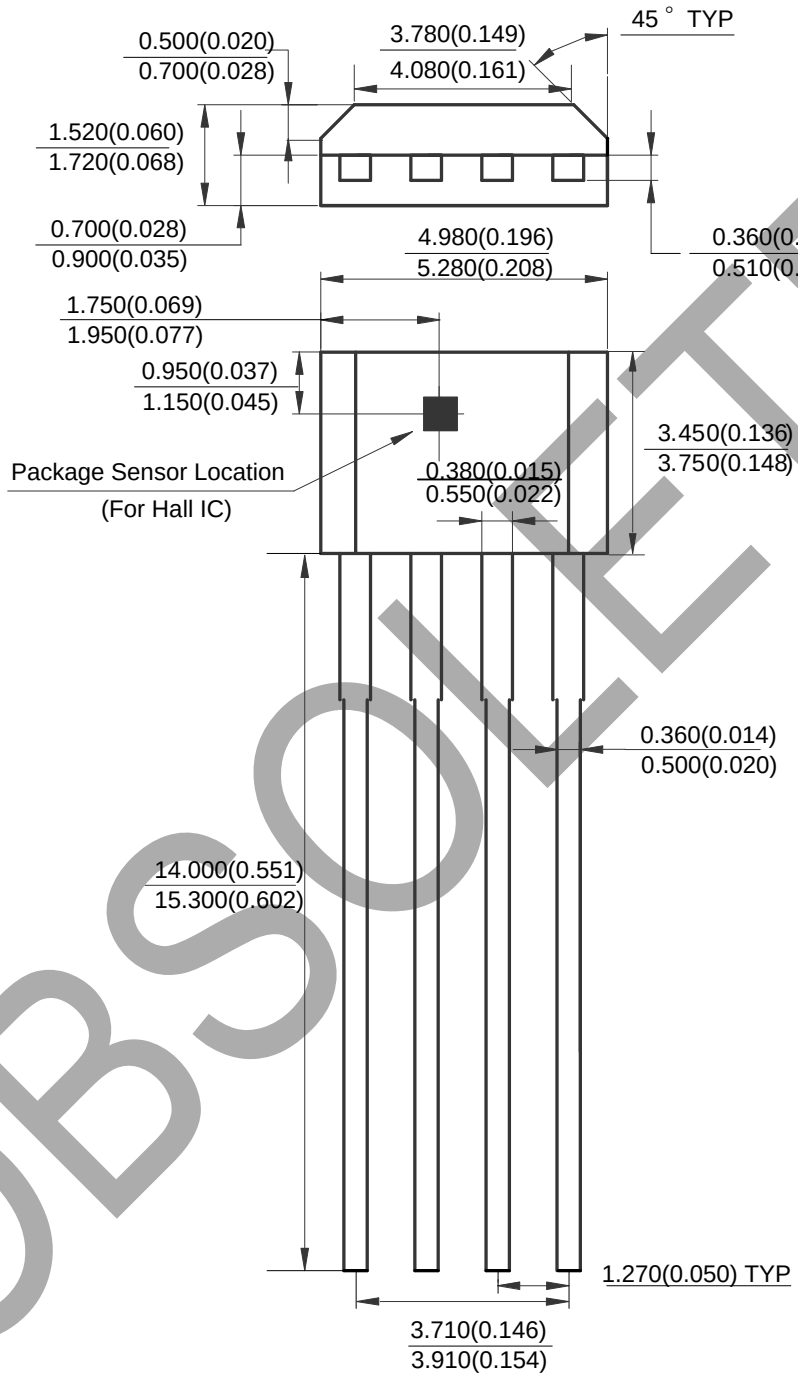
Ordering Information



Package	Temperature Range	Output Signal	Part Number	Marking ID	Packing
TO-94	-40 to +85°C	_	AH9479Z4-G1	9479Z4-G1	Bulk
MSOP-8		FG	AH9480M8TR-G1	9480M8-G1	Tape & Reel
		RD	AH9481M8TR-G1	9481M8-G1	Tape & Reel

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

(1) Package Type: TO-94



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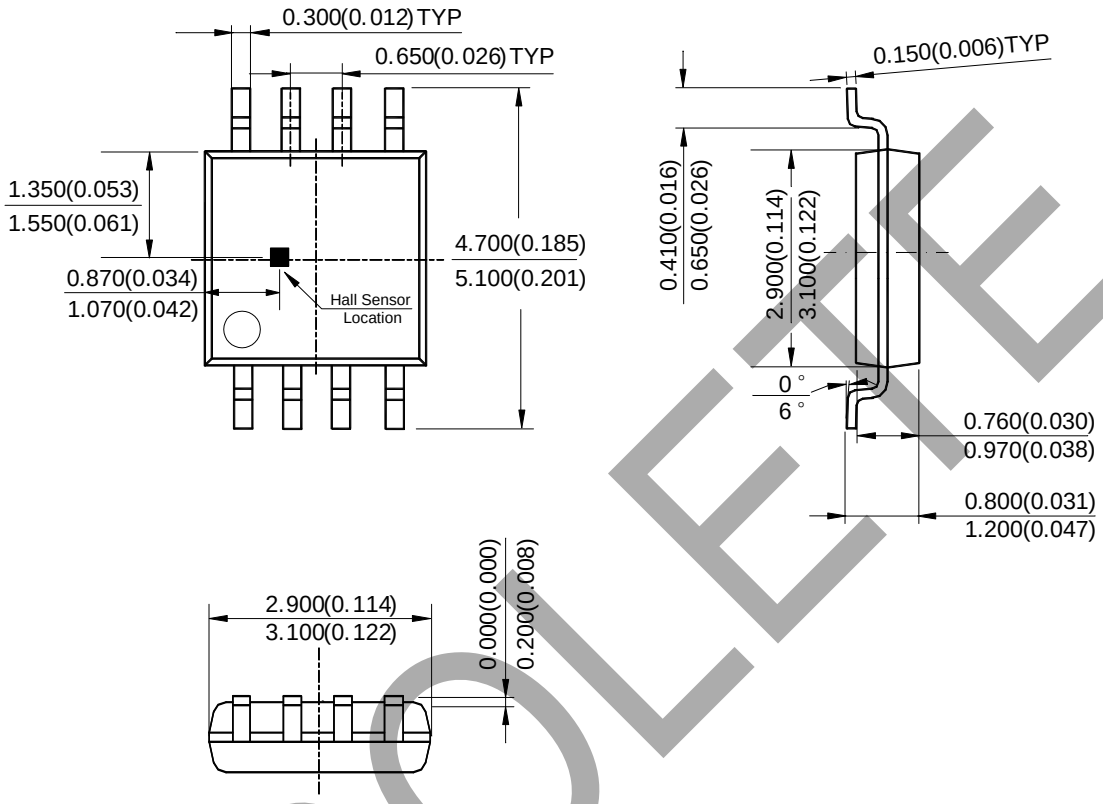
Package Outline Dimensions (Cont. All dimensions in mm(inch).)

(2) Package Type: MSOP-8



Note: Eject hole , oriented hole and mold mark is optional

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