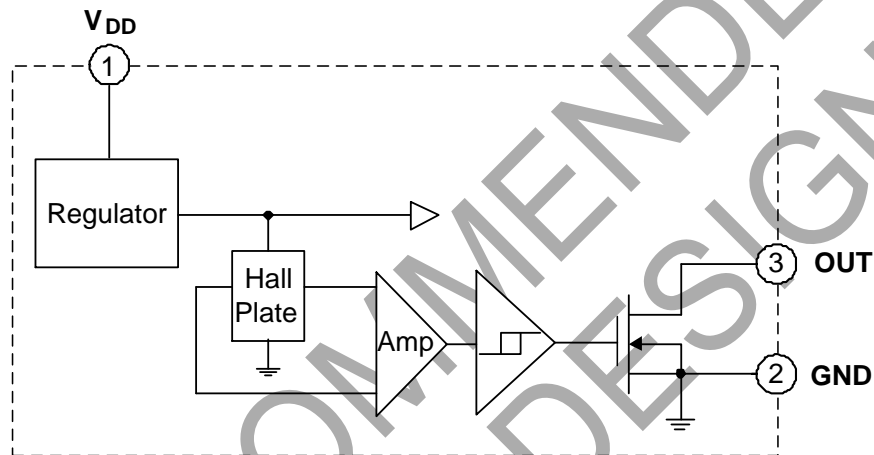


Pin Descriptions

Packages: SC59, SOT23, SIP-3 (Ammo Pack) and SIP-3 (Bulk Pack)

Pin Number	Pin Name	Function
1	V _{DD}	Power Supply Input
2	GND	Ground
3	OUT	Output

Functional Block Diagram



Absolute Maximum Ratings (Note 5) @ $T_A = +25^{\circ}\text{C}$, unless otherwise specified.)

Symbol	Characteristic	Value	Unit
V_{DD}	Supply Voltage (Note 6)	28	V
V_{OUT} (Off)	Output "Off" Voltage	28	V
I_O (Sink)	Output "On" Current (Sink)	25	mA
B	Magnetic Flux Density	Unlimited	
P_D	Package Power Dissipation	SIP-3 (Ammo Pack), SIP-3 (Bulk Pack)	550 mW
		SC59 and SOT23	230 mW
T_S	Storage Temperature Range	-65 to +150	$^{\circ}\text{C}$
T_J	Maximum Junction Temperature	+150	$^{\circ}\text{C}$

- Notes:
- 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.
 - The absolute maximum V_{DD} of 28V is a transient stress rating and is not meant as a functional operating condition. It is not recommended to operate the device at the absolute maximum rated conditions for any period of time.

Recommended Operating Conditions (@ $T_A = +25^{\circ}\text{C}$, unless otherwise specified.)

Symbol	Characteristic	Condition	Rating	Unit
V_{DD}	Supply Voltage (Note 7)	Operating	2.2 to 20	V
T_A	Operating Temperature Range	Operating	-40 to +125	$^{\circ}\text{C}$

- Note:
- The output of IC will be switched after the supply voltage is over 2.2V, but the magnetic characteristics will not be normal until the supply is over 2.5V.

Electrical Characteristics (@ $T_A = +25^{\circ}\text{C}$, $V_{DD} = 12\text{V}$, unless otherwise specified.)

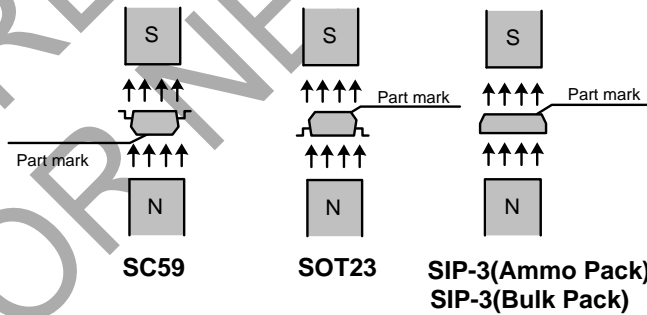
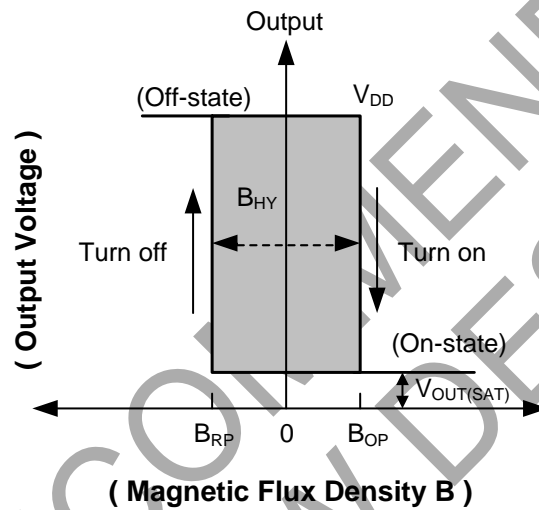
Symbol	Characteristic	Condition	Min	Typ	Max	Unit
V_{OUT}	Output On Voltage	$I_{OUT} = 20\text{mA}$	—	300	400	mV
I_{DD}	Supply Current	$B < B_{RP}$	—	2	4	mA
I_{OFF}	Output Leakage Current	Output off	—	< 0.1	10	μA

Magnetic Characteristics (Note 8) (@ $T_A = +25^\circ\text{C}$, $V_{DD} = 2.5\text{V to } 20\text{V}$, unless otherwise specified.)

(1mT=10 Gauss)

Symbol	Characteristic	Min	Typ	Max	Unit
B_{OP} (South pole to part marking side for SIP-3 (Ammo Pack), SIP-3 (Bulk Pack) and SOT23 package ; South pole to the non-part marking side for SC59 package. See diagram below)	Operation Point	5	30	60	Gauss
B_{RP} (North pole to part marking side for SIP-3 (Ammo Pack), SIP-3 (Bulk Pack) and SOT23 package; North pole to the non-part marking side for SC59 package. See diagram below)	Release Point	-60	-30	-5	
$B_{HY} (B_{OPX} - B_{RPX})$	Hysteresis	—	60	—	

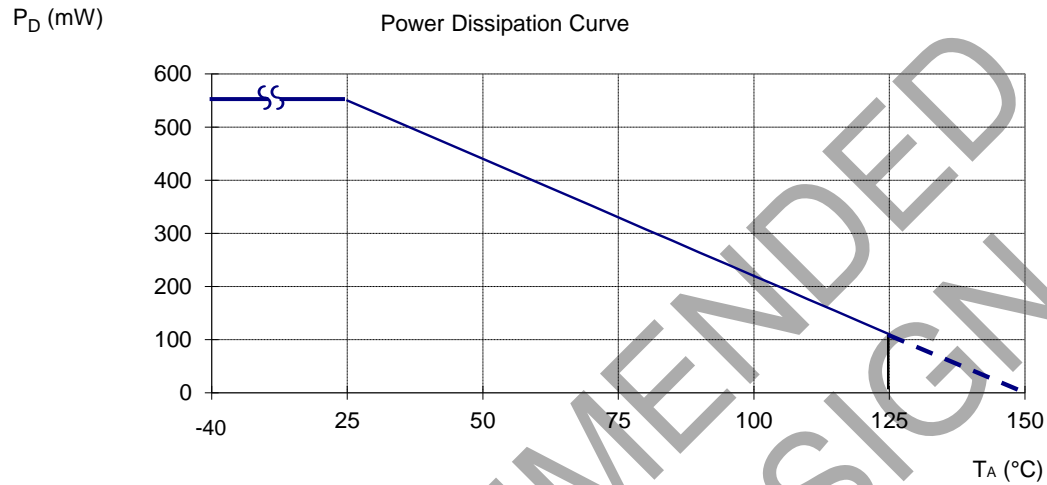
Note: 8. The magnetic characteristics may vary with supply voltage, operating temperature and after soldering.



Thermal Performance Characteristics

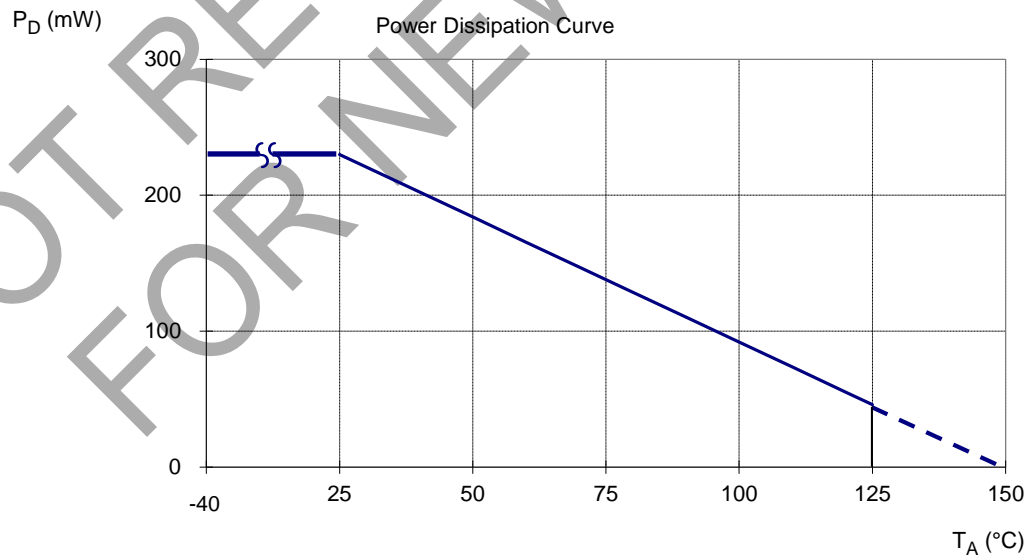
(1) Package Type: SIP-3 (Ammo Pack), SIP-3 (Bulk Pack)

T _A (°C)	25	50	60	70	80	85	90	95	100	105	110	115	120	125	130	135	140	150
P _D (mW)	550	440	396	352	308	286	264	242	220	198	176	154	132	110	88	66	44	0



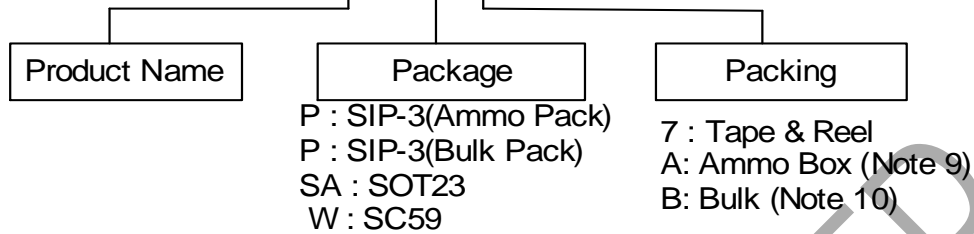
(2) Package Type: SC59 and SOT23

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

AH374 - X - X



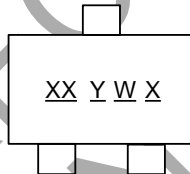
Part Number	Status (Note 11)	Package Code	Packaging	Bulk Box		7" Tape and Reel		Ammo Box	
				Quantity	Part Number Suffix	Quantity	Part Number Suffix	Quantity	Part Number Suffix
AH374-P-A	NRND	P	SIP-3 (Ammo Pack)	NA	NA	NA	NA	4000/Box	-A
AH374-P-B	NRND	P	SIP-3 (Bulk Pack)	1000	-B	NA	NA	NA	NA
AH374-SA-7	NRND	SA	SOT23	NA	NA	3000/Tape & Reel	-7	NA	NA
AH374-W-7	NRND	W	SC59	NA	NA	3000/Tape & Reel	-7	NA	NA

Notes: 9. Ammo Box is for SIP-3 (Ammo Pack) Spread Lead.
 10. Bulk is for SIP-3 (Bulk Pack) Straight Lead.
 11. NRND = Not Recommended for New Design

Marking Information

(1) Package Type: SC59 and SOT23

(Top View)

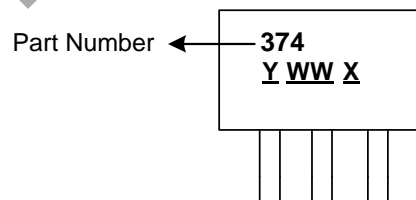


XX : Identification code
 Y : Year 0 to 9
 W : Week : A to Z : 1 to 26 week;
 a to z : 27 to 52 week; z represents
 52 and 53 week
 X : Internal Code:

Part Number	Package	Identification Code
AH374	SC59	XJ
AH374	SOT23	YJ

(2) Package Type: SIP-3 (Ammo Pack), SIP-3 (Bulk Pack)

(Top View)



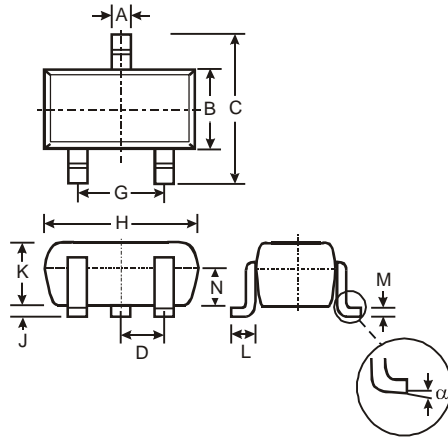
Y : Year : 0~9
 WW : Week : 01~52, "52" represents
 52 and 53 week
 X : Internal Code:

Part Number	Package	Identification Code
AH374	SIP-3	374

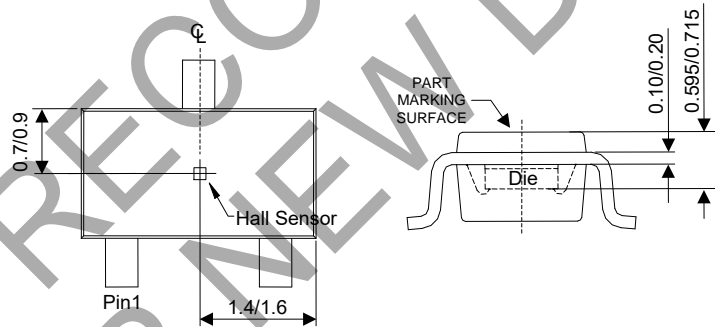
Package Outline Dimensions (All dimensions in mm.)

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

(1) Package Type: SC59



SC59			
Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	-	-	0.95
G	-	-	1.90
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
N	0.70	0.80	0.75
α	0°	8°	-
All Dimensions in mm			

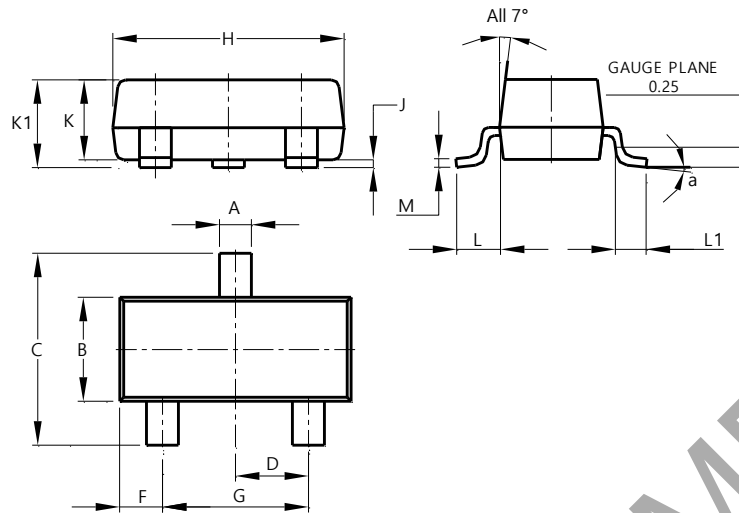


Sensor location

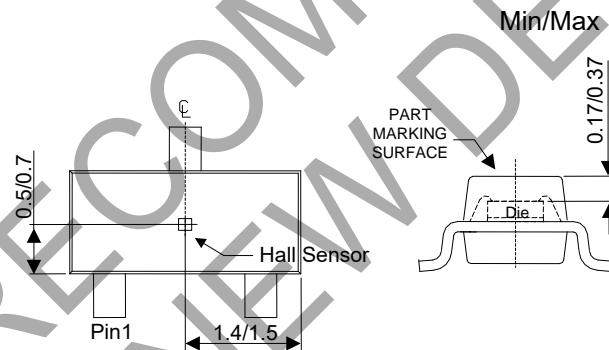
Package Outline Dimensions (Cont.) (All dimensions in mm.)

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

(2) Package Type: SOT23



SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

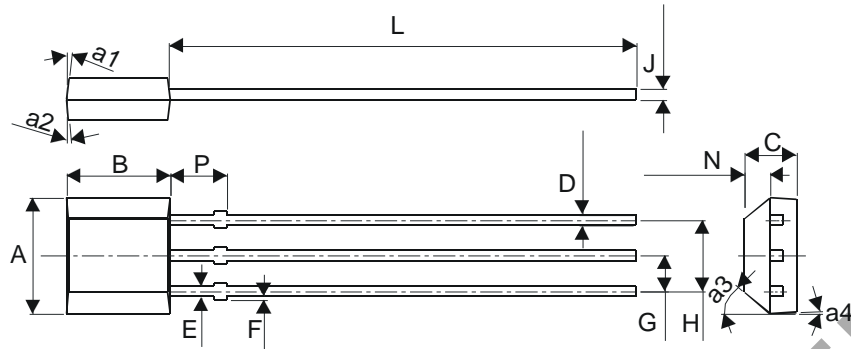


Sensor Location

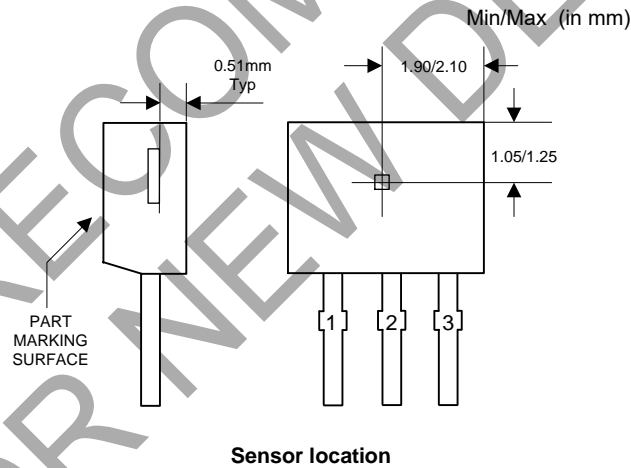
Package Outline Dimensions (Cont.) (All dimensions in mm.)

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

(3) Package Type: SIP-3 (Bulk Pack)



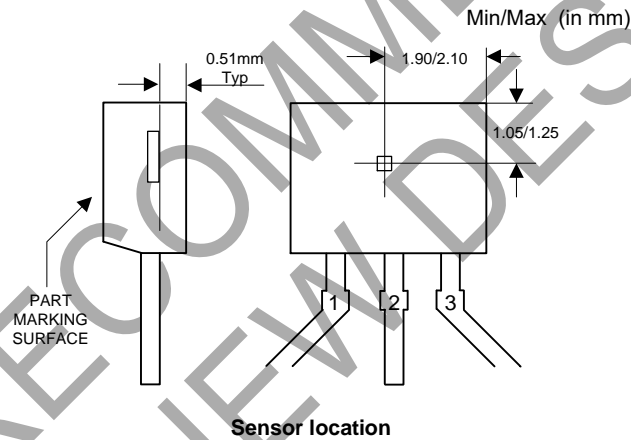
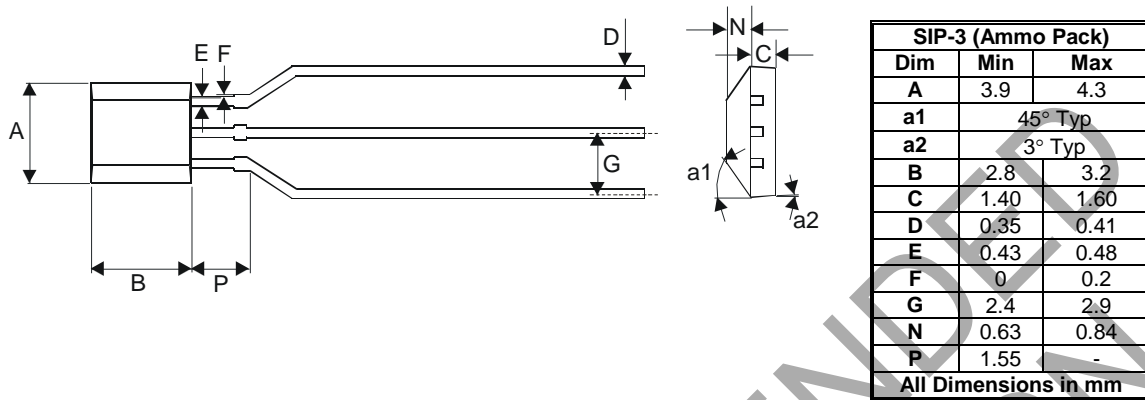
SIP-3 (Bulk Pack)		
Dim	Min	Max
A	3.9	4.3
a1	5° Typ	
a2	5° Typ	
a3	45° Typ	
a4	3° Typ	
B	2.8	3.2
C	1.40	1.60
D	0.33	0.432
E	0.40	0.508
F	0	0.2
G	1.24	1.30
H	2.51	2.57
J	0.35	0.43
L	14.0	15.0
N	0.63	0.84
P	1.55	-
All Dimensions in mm		



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

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

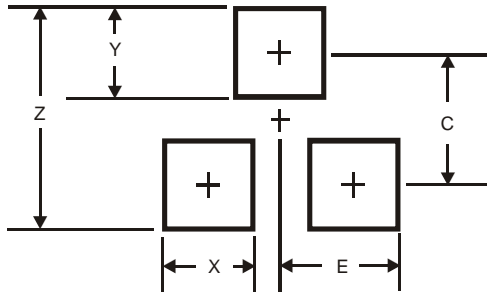
(4) Package Type: SIP-3 (Ammo Pack)



Suggested Pad Layout

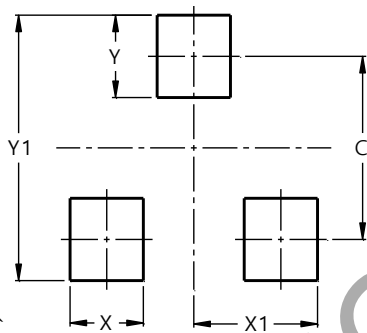
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

(1) Package Type: SC59



Dimensions	Value (in mm)
Z	3.4
X	0.8
Y	1.0
C	2.4
E	1.35

(2) Package Type: SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9

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