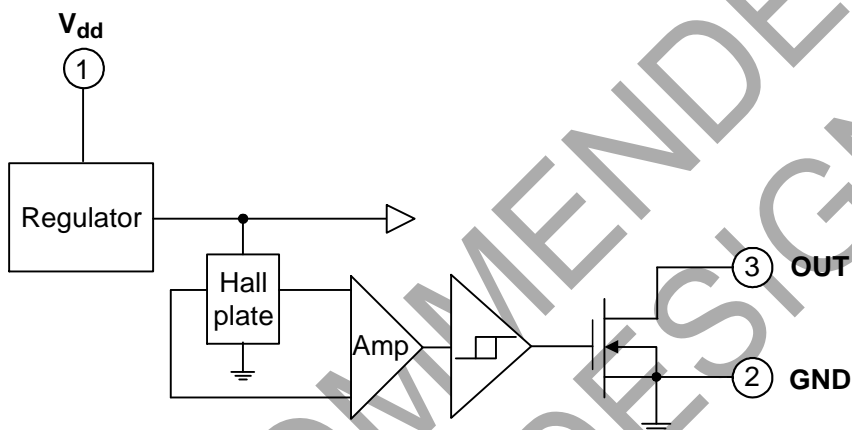


## Pin Descriptions

Pin Name	P/I/O	Pin #	Description
Vdd	P	1	Positive Power Supply
GND	P	2	Ground
OUT	O	3	Output Pin

## Functional Block Diagram



## Absolute Maximum Ratings (T<sub>A</sub> = +25°C)

Symbol	Characteristics		Values	Unit
V <sub>DD</sub>	Supply Voltage		20	V
B	Magnetic Flux Density		Unlimited	
V <sub>DS</sub>	Output OFF Voltage		30	V
I <sub>D</sub>	Output "On" Current	Continuous	25	mA
T <sub>S</sub>	Storage Temperature Range		-65 to +150	°C
T <sub>J(MAX)</sub>	Maximum Junction Temperature		+150	°C
P <sub>D</sub>	Package Power Dissipation	SIP-3 (Ammo Pack)	550	mW
		SIP-3 (Bulk Pack)	550	
		SC59	230	
θ <sub>JC</sub>	Thermal Resistance	SIP-3 (Ammo Pack)	227	°C/W
		SIP-3 (Bulk Pack)	227	
		SC59	543	

## Recommended Operating Conditions

Symbol	Parameter	Conditions	Min	Max	Unit
V <sub>DD</sub>	Supply Voltage (Note 4)	Operating	2.2	20	V
T <sub>A</sub>	Operating Ambient Temperature	Operating	-40	+125	°C

Notes: 4. The output of IC will be switched after the supply voltage is over 2.2V, but the magnetic characteristics won't be normal until the supply is over 2.5V.

## Electrical Characteristics (T<sub>A</sub> = +25°C, V<sub>dd</sub> = 12V)

Symbol	Characteristic	Test Conditions	Min	Typ.	Max	Unit
V <sub>DS(SAT)</sub>	Output Saturation Voltage	I <sub>OUT</sub> = 20mA	-	300	700	mV
I <sub>OFF</sub>	Output Leakage Current	V <sub>dd</sub> = 14V	-	<0.1	10	μA
I <sub>dd</sub>	Supply Current	Output Open	-	2	4	mA

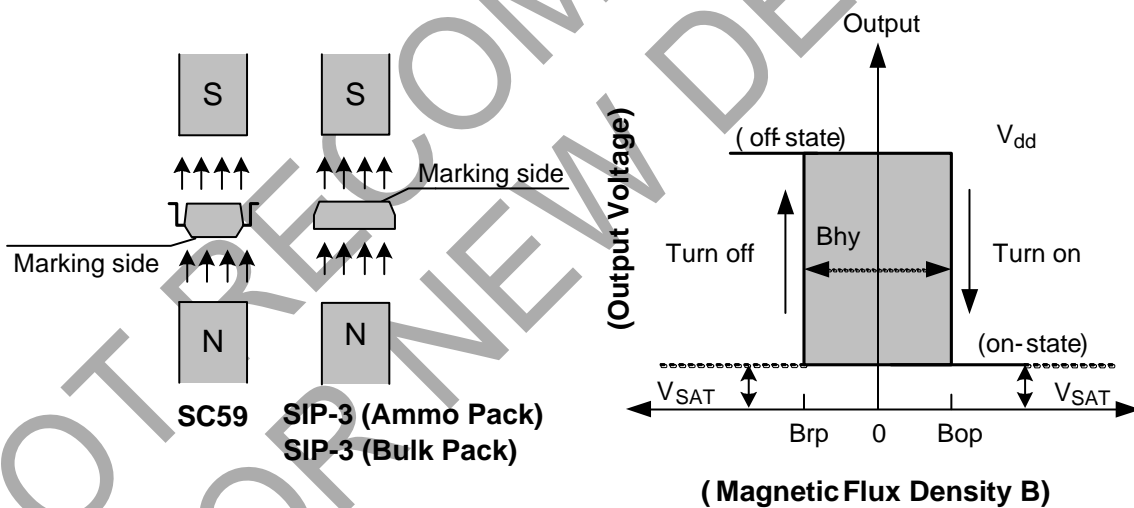
## Magnetic Characteristics (T<sub>A</sub> = +25°C, V<sub>dd</sub> = 2.5V to 20V, Note 5)

(1mT = 10 Gauss)

Symbol	Parameter	Min	Typ.	Max	Unit
B <sub>ops</sub> (South Pole to Brand Side)	Operation Point	5	30	60	Gauss
B <sub>rps</sub> (South Pole to Brand Side)	Release Point	-60	-30	-5	Gauss
B <sub>hy</sub> ( B <sub>opx</sub>   -  B <sub>rpx</sub>  )	Hysteresis	-	60	-	Gauss

Notes: 5. Magnetic characteristics may vary with supply voltage, operating temperature and after soldering.

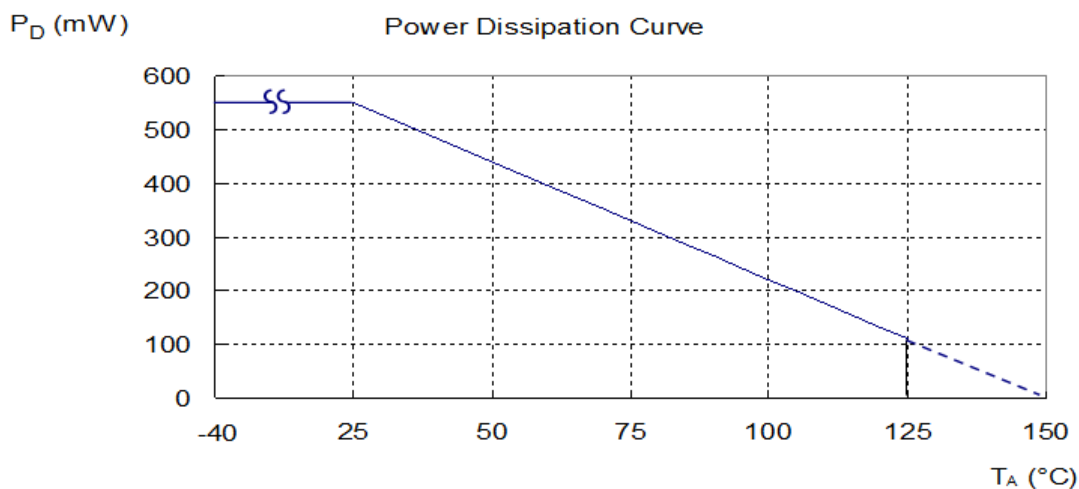
## Operating Characteristics



## Performance Characteristics

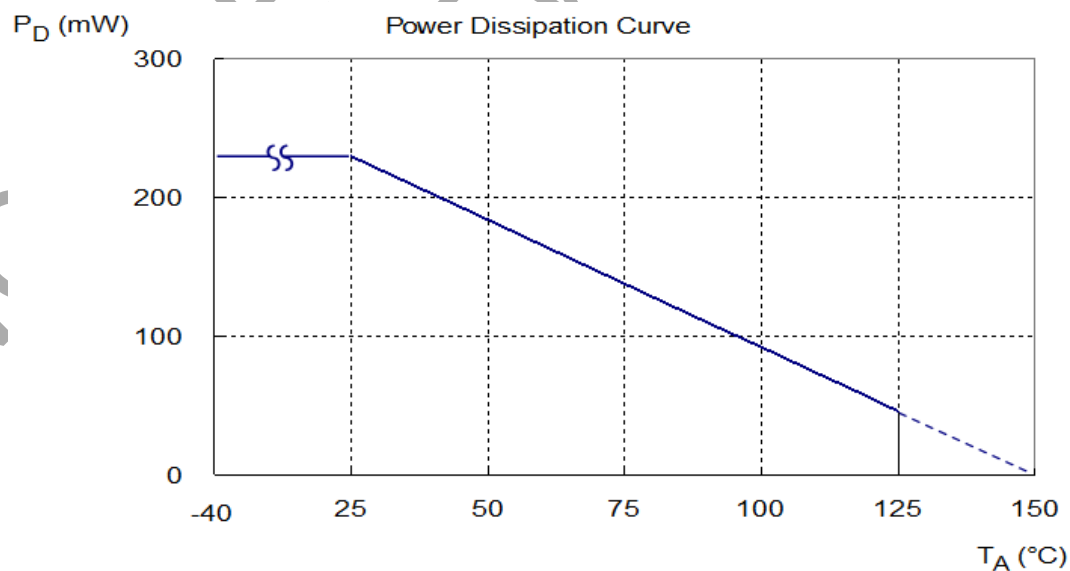
### (1) SIP-3 (Ammo Pack), SIP-3 (Bulk Pack)

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

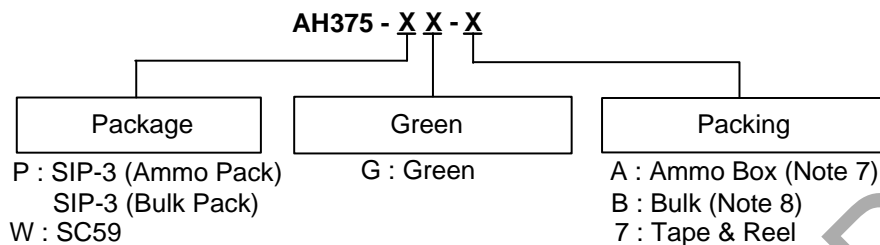


### (2) SC59 (Commonly Known as SOT23 in Asia)

$T_A$ (°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

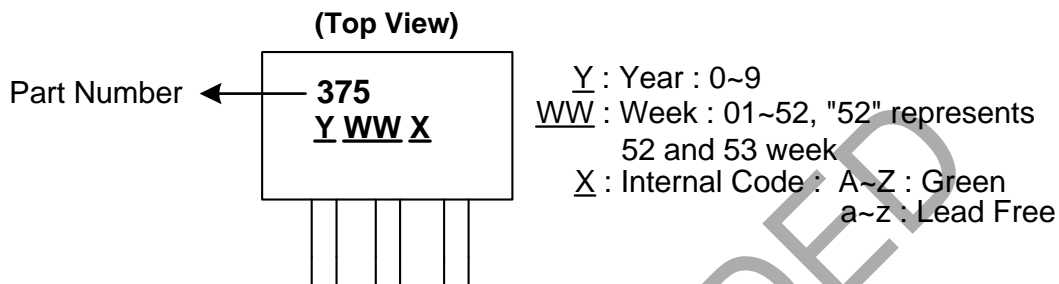


Part Number	Status (Note 9)	Package Code	Packaging (Note 6)	Bulk		7" Tape and Reel		Ammo Box	
				Quantity	Part Number Suffix	Quantity	Part Number Suffix	Quantity	Part Number Suffix
AH375-PG-A	NRND	P	SIP-3 (Ammo Pack)	NA	NA	NA	NA	4000/Box	-A
AH375-PG-B	NRND	P	SIP-3 (Bulk Pack)	1000	-B	NA	NA	NA	NA
AH375-WG-7	NRND	W	SC59	NA	NA	3000/Tape & Reel	-7	NA	NA

- Notes:
6. Pad layout as shown on Diodes Incorporated's suggested pad layout document, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
  7. Ammo Box is for SIP-3 Spread Lead.
  8. Bulk is for SIP-3 Straight Lead.
  9. NRND = Not Recommended for New Design

## Marking Information

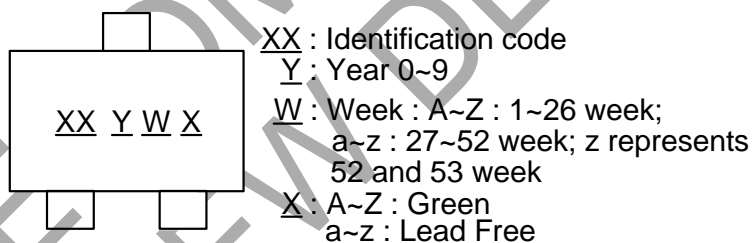
(1) Package Types: SIP-3 (Ammo Pack), SIP-3 (Bulk Pack)



Part Number	Package	Identification Code
AH375	SIP-3 (Ammo Pack)	375
AH375	SIP-3 (Bulk Pack)	375

(2) Package Type: SC59

(Top View)

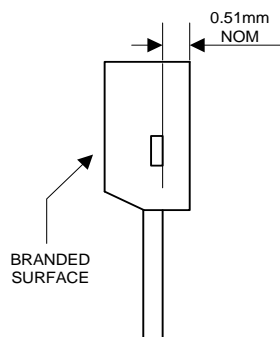


Part Number	Package	Identification Code
AH375	SC59	P3

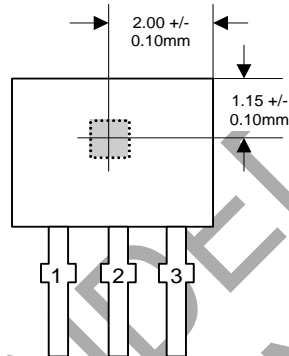
## Package Outline Dimensions (All Dimensions in mm)

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

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

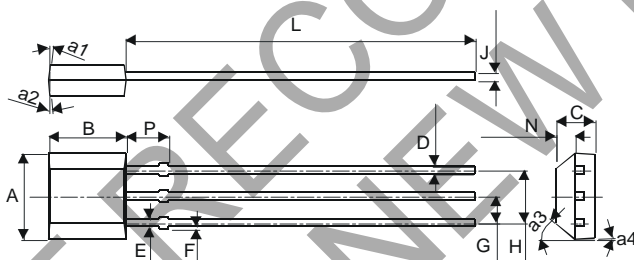


Active Area Depth



Sensor Location

### Package Dimensions

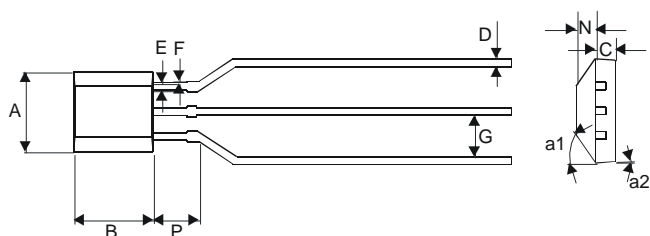


SIP-3 (Bulk Pack)		
Dim	Min	Max
A	3.9	4.3
a1	5° Typ	
a2	5° Typ	
a3	45° Typ	
a4	3° Typ	
B	2.8	3.2
C	1.40	1.60
D	0.33	0.432
E	0.40	0.508
F	0	0.2
G	1.24	1.30
H	2.51	2.57
J	0.35	0.43
L	14.0	15.0
N	0.63	0.84
P	1.55	-
All Dimensions in mm		

## Package Outline Dimensions (Continued)

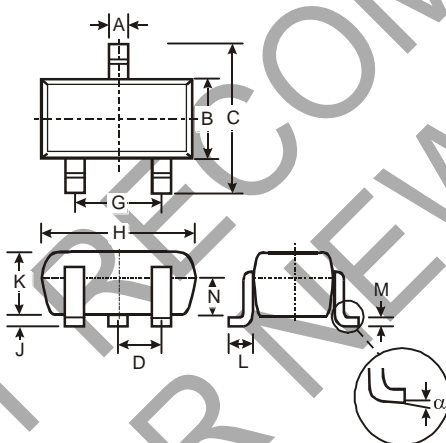
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### (2) Package Type: SIP-3 (Ammo Pack)

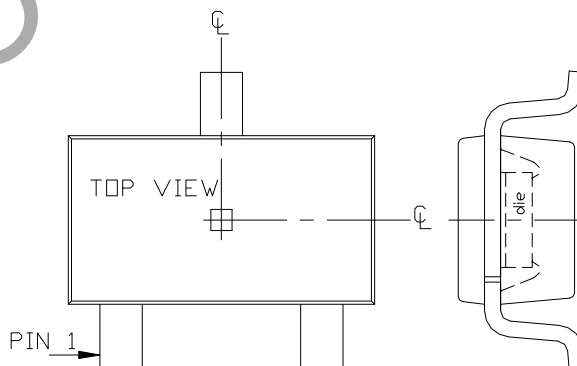


SIP-3 (Ammo Pack)		
Dim	Min	Max
A	3.9	4.3
a1	45° Typ	
a2	3° Typ	
B	2.8	3.2
C	1.40	1.60
D	0.35	0.41
E	0.43	0.48
F	0	0.2
G	2.4	2.9
N	0.63	0.84
P	1.55	-
All Dimensions in mm		

### (3) Package Type: SC59 (Commonly Known as SOT23 in Asia)



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			

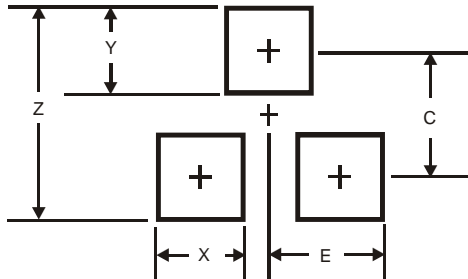


CL = Package Center Line

## Suggested Pad Layout

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

### (1) Package Type: SC59 (Commonly Known as SOT23 in Asia)



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

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