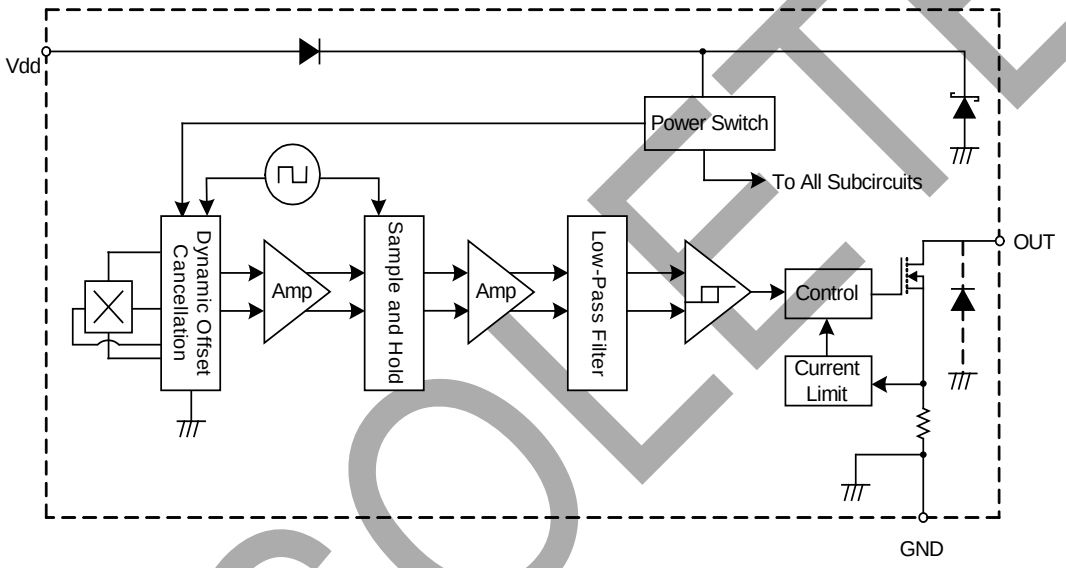
Pin Descriptions

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_A = +25°C)

Symbol	Characteristics		Values	Unit
V_{DD}	Supply Voltage		30	V
V_{RDD}	Reverse Battery Voltage		-30	V
B	Magnetic Flux Density		Unlimited	
V_{DS}	Output OFF Voltage		30	V
$I_{O(peak)}$	Output "On" Current (Peak)		100	mA
T_{ST}	Storage Temperature Range		-65 to +150	°C
$T_{J(MAX)}$	Maximum Junction Temperature		+150	°C
P_D	Package Power Dissipation	SIP-3 (Ammo Pack), SIP-3 (Bulk Pack)	550	mW
		SC59	230	mW
θ_{JC}	Thermal Resistance Junction to case	SIP-3 (Ammo Pack), SIP-3 (Bulk Pack)	227	°C/W
		SC59	543	°C/W

Recommended Operating Conditions

Symbol	Characteristic	Conditions	Min	Typ.	Max	Unit
V_{DD}	Supply Voltage	Operating	3	24	28	V
T_A	Operating Ambient Temperature	Operating	-40	-	+125	°C

Electrical Characteristics (T_A = +25°C, V_{DD} =24V, Note 4)

Symbol	Characteristic	Test Conditions	Min	Typ.	Max	Unit
$V_{O(SAT)}$	Output Saturation Voltage	Iout =20mA, B>Bop	-	300	500	mV
I_{OFF}	Output Leakage Current	V_O =24V, B<Bop	-	< 0.1	10	μA
I_{DD}	Supply Current	Output Open	-	4	6	mA
t_R	Output Rising Time	R_L =10kΩ, C_L =16pF	-	340	-	ns
t_F	Output Falling Time	R_L =10kΩ, C_L =16pF	-	20	-	ns
f_C	Chopping Frequency	-	-	300	-	kHz
I_{OM}	Output Current Limit	B>Bop (Note 5)	50	70	90	mA
t_{ST}	Start-up time of IC	V_{DD}>3V, B>Bop (Note 6)	-	47	-	μs

Notes: 4. Typical data is at T_A=+25°C, V_{DD}=24V and is design information only.

5. The device will shut down operating after the output current I_O is over the output current limit I_{OM} for 160μs (typically). The device will re-start up operating after resetting the supply voltage V_{DD}.

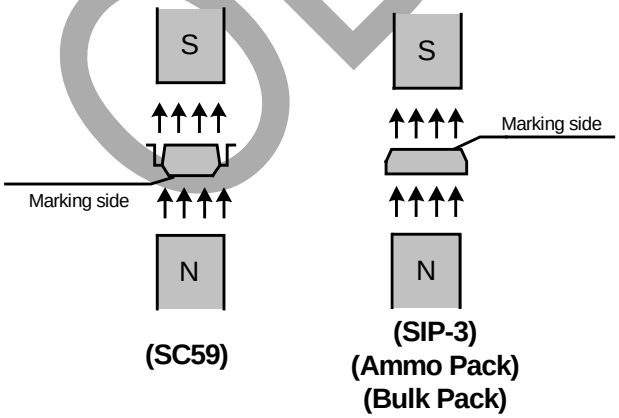
6. I_n initial power on time, the output state is kept in "High" in this start-up time of IC.

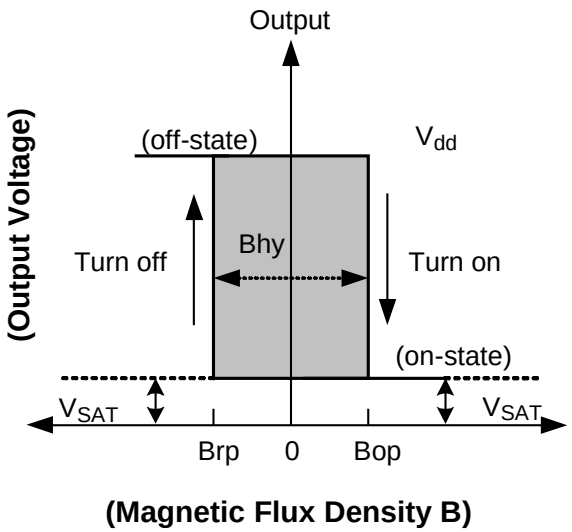
Magnetic Characteristics (T_A = +25°C, V_{DD} =3V to 28V, Note 7)

(1mT=10Gauss)

Symbol	Parameter	Min	Typ.	Max	Unit
Bop	Operate Point	5	30	60	Gauss
Brp	Release Point	-60	-30	-5	Gauss
Bhys	Hysteresis	-	60	-	Gauss

Notes: 7. Magnetic characteristics are for design information, which will vary with supply voltage, operating temperature and after soldering.



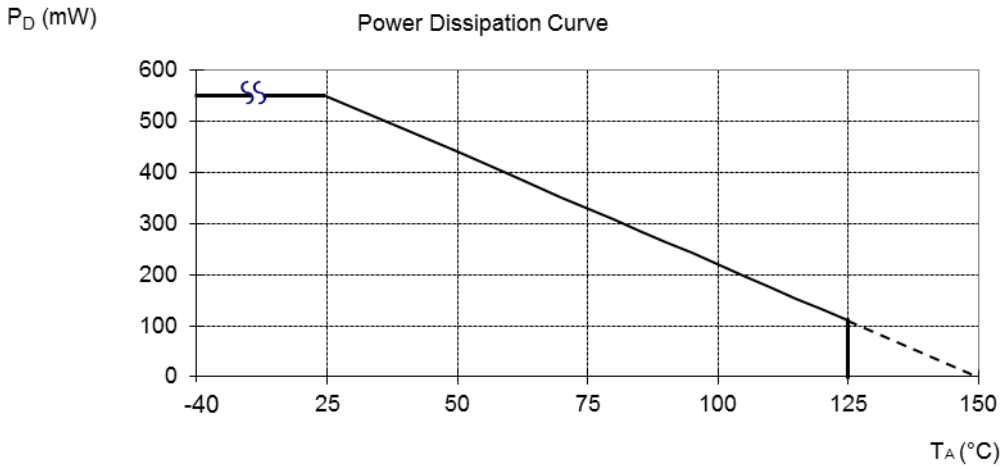


(Magnetic Flux Density B)

Performance Characteristics

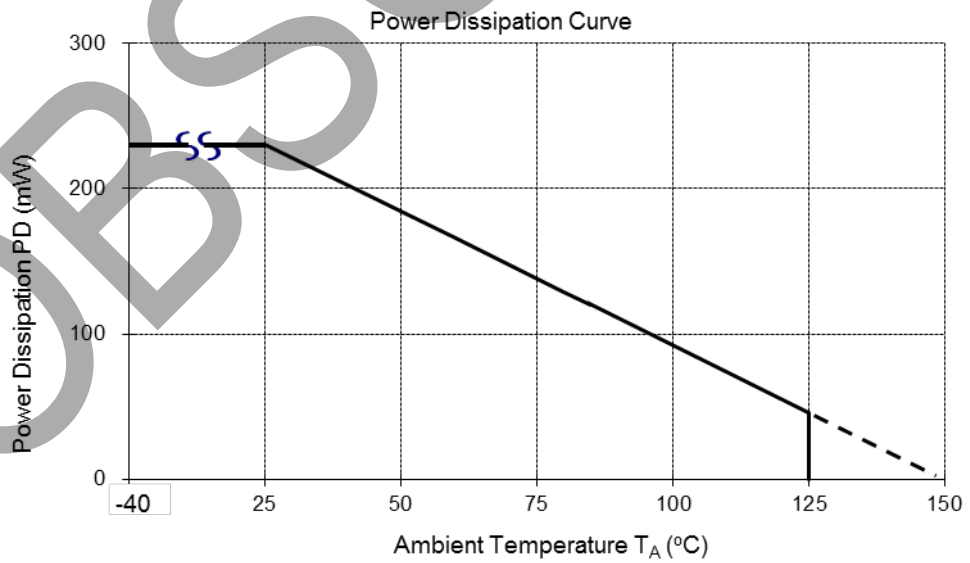
(1) SIP-3 (Ammo Pack), SIP-3 (Bulk Pack)

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

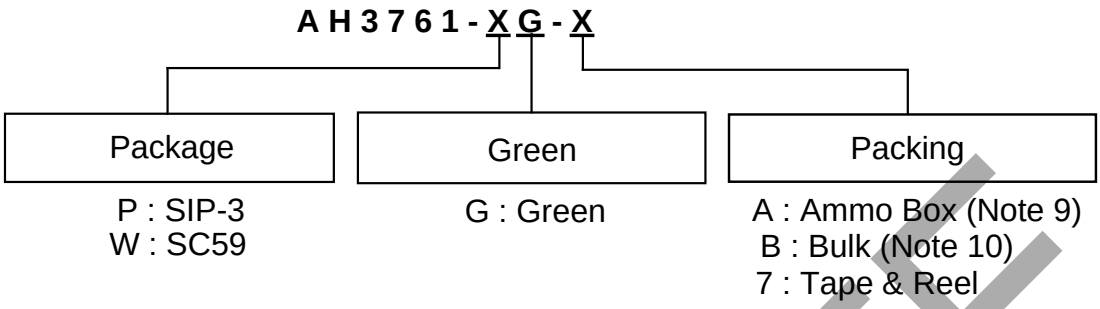


(2) SC59 (Commonly known as SOT23 in Asia)

T_A (°C)	25	50	60	70	80	90	100	110	120	125	130	140	150
P_D (mW)	230	184	166	147	129	110	92	74	55	46	37	18	0



Ordering Information

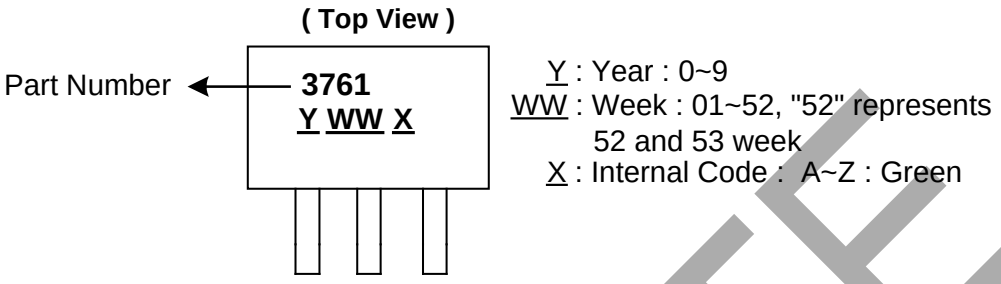


Device	Status (Note 11)	Package Code	Packaging (Note 8)	Bulk		7" Tape and Reel		Ammo Box	
				Quantity	Part Number Suffix	Quantity	Part Number Suffix	Quantity	Part Number Suffix
AH3761-PG-A	EOL	P	SIP-3(Ammo Pack)	NA	NA	NA	NA	4000/Box	-A
AH3761-PG-B	NRND	P	SIP-3(Bulk Pack)	1000	-B	NA	NA	NA	NA
AH3761-WG-7	NRND	W	SC59	NA	NA	3000/Tape & Reel	-7	NA	NA

Notes:
8. 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.
9. Ammo Box is for SIP-3 Spread Lead.
10. Bulk is for SIP-3 Straight Lead.
11. NRND = Not Recommended for New Design.
EOL = End of Life.

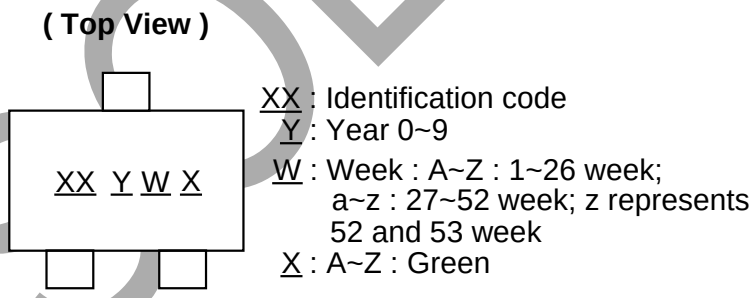
Marking Information

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



Part Number	Package	Identification Code
AH3761	SIP-3 (Ammo Pack)	3761
AH3761	SIP-3 (Bulk Pack)	3761

(2) Package Type: SC59

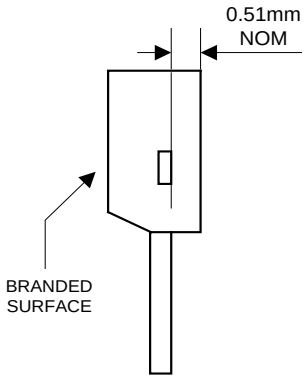


Part Number	Package	Identification Code
AH3761	SC59	P8

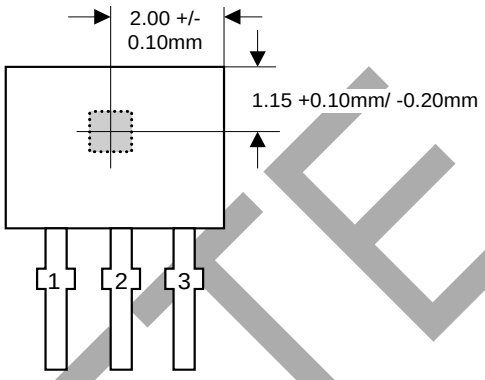
Package Outline Dimensions (All Dimensions in mm)

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

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

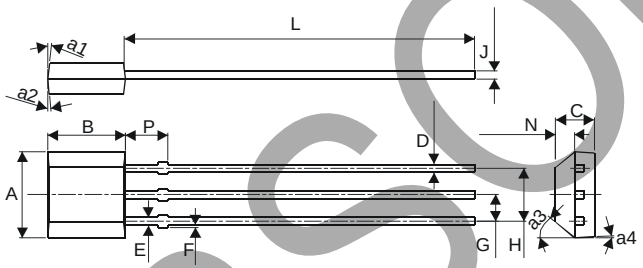


Active Area Depth



Sensor Location

Package Dimension

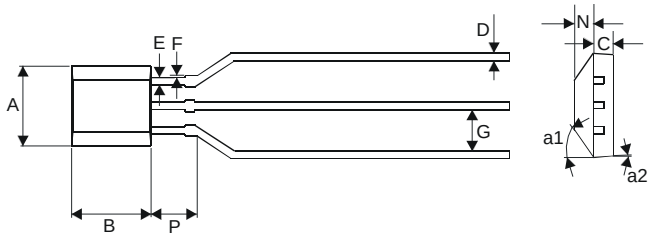


SIP-3 (Bulk Pack)		
Dim	**Min**	**Max**
A	3.9	4.3
a1	5□ □yp	
a2	5	□ Ty
a3	45	□ Ty
a4	3	□ Ty
B	2.8	3.2
C	1.40	1.60
D	0.33	0.432
E	0.40	0.508
F	0	0.2
G	1.24	1.30
H	2.51	2.57
J	0.35	0.43
L	14.0	15.0
N	0.63	0.84
P	1.55	-
All Dimensions in mm		

Package Outline Dimensions (Cont.)

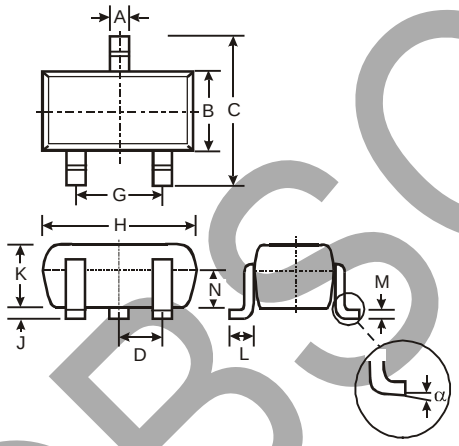
Please see http://www.diodes.com/package-outlines.html for the latest version.

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

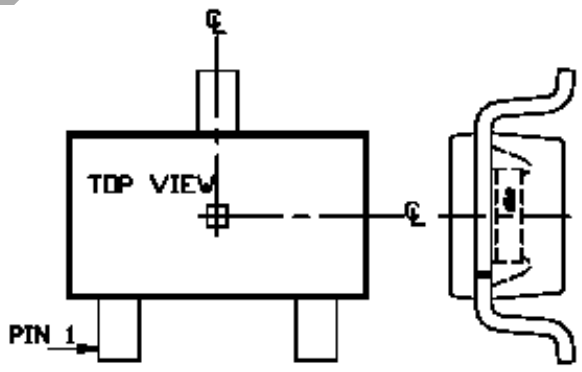


SIP-3 (Ammo Pack)		
Dim	**Min**	**Max**
A	3.9	4.3
a1	45	□ Ty
a2	3	□ Ty
B	2.8	3.2
C	1.40	1.□0
□	0□35	0.41
E	0.43	0.48
F	0	0.2
G	2.4	2.9
N	0.63	0.84
P	1.55	-
All Dimensions in mm		

(3) Package Type: SC59



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
□	0°	8°	-
All Dimensions in mm			

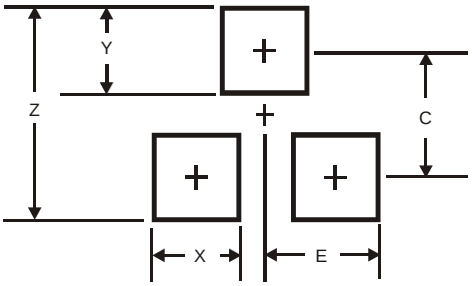


℄ =Package Center Line

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

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or
2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

www.diodes.com