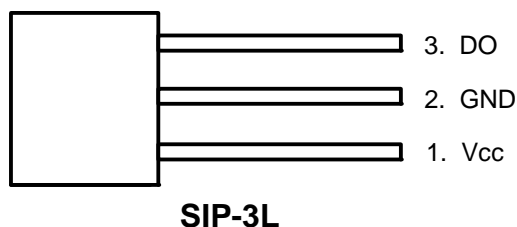




**Pin Assignments**

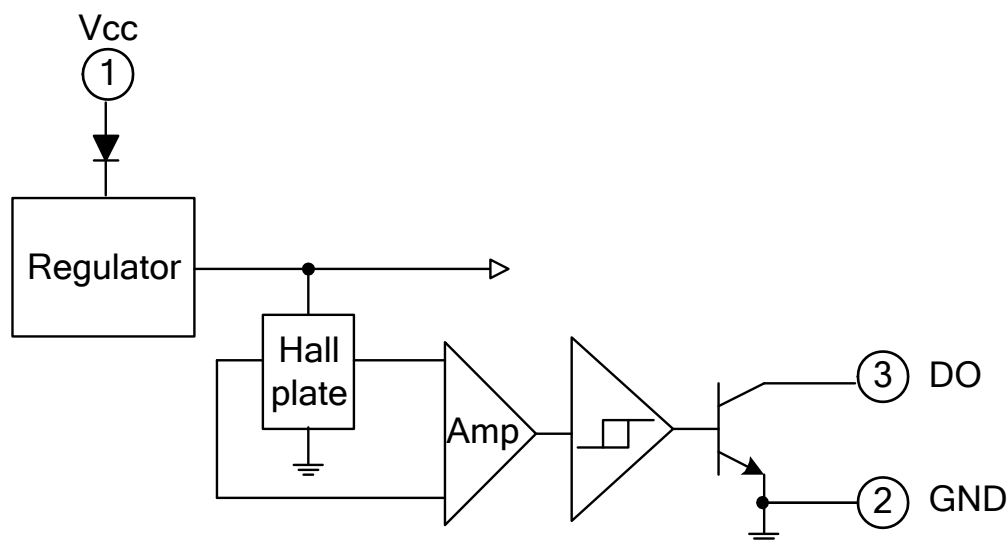
(Top view)



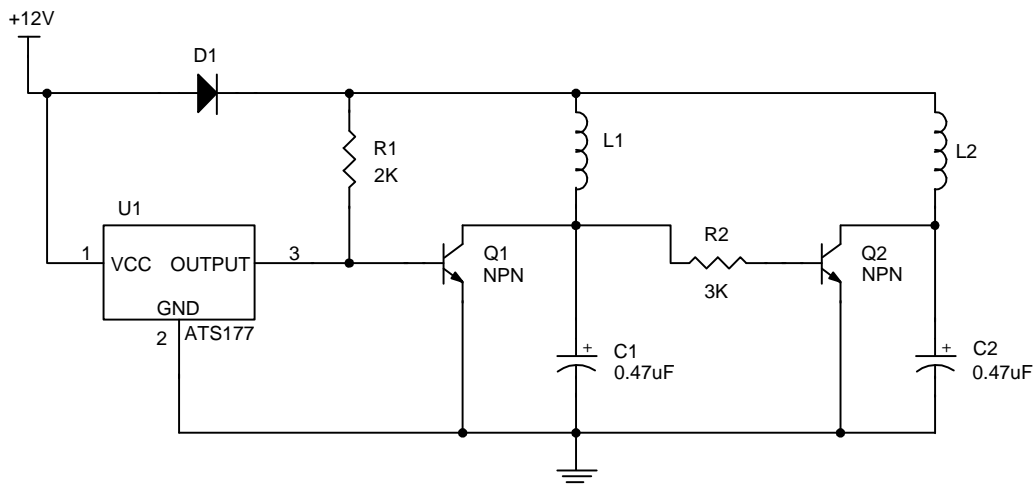
**Pin Descriptions**

Pin name	P/I/O	Pin #	Description
Vcc	P	1	Positive power supply
GND	P	2	Ground
DO	O	3	Digital output

**Functional Block Diagrams**



**Typical Circuit**



**Brush-less DC Fan**

**Absolute Maximum Ratings (at TA = 25°C)**

Symbol	Parameter	Rating	Unit
V <sub>CC</sub>	Supply Voltage	20	V
V <sub>RCC</sub>	Reverse V <sub>CC</sub> Polarity Voltage	-20	V
B	Magnetic Flux Density	Unlimited	
V <sub>CE</sub>	Output OFF Voltage	30	V
P <sub>D</sub>	Package Power Dissipation	SIP-3L	550
I <sub>C</sub>	Output "ON" Current	Continuous	25
T <sub>J(MAX)</sub>	Maximum Junction Temperature	150	°C
T <sub>ST</sub>	Storage Temperature Range	-65~+150	°C

**Recommended Operating Conditions**

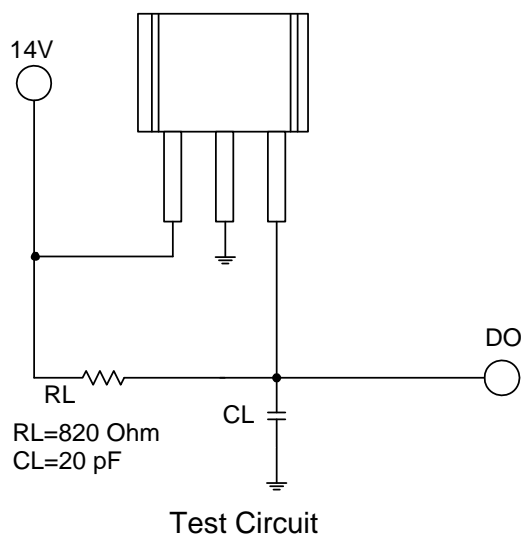
Symbol	Parameter	Conditions	Min	Max	Unit
V <sub>CC</sub>	Supply Voltage	Operating	3.5	20	V
T <sub>A</sub>	Operating Ambient Temperature (Note 5)	Operating	-20	85	°C

Notes: 5. Shall not exceed P<sub>D</sub> and Safety Operation Area.

**Electrical Characteristics** ( $T_A = +25^\circ\text{C}$ )

Symbol	Characteristic	Test Conditions	Min	Typ.	Max	Unit
$V_{CE(sat)}$	Output Saturation Voltage	$V_{CC} = 14\text{V}, I_c = 20\text{mA}$	-	300	700	mV
$I_{cex}$	Output Leakage Current	$V_{CE} = 14\text{V}, V_{CC} = 14\text{V}$	-	<0.1	10	$\mu\text{A}$
$I_{cc}$	Supply Current	$V_{CC} = 20\text{V}, \text{Output Open}$	-	5	10	mA
$t_r$	Output Rise Time	$V_{CC} = 14\text{V}, R_L = 820\Omega, C_L = 20\text{pF}$	-	0.3	1.5	$\mu\text{s}$
$t_f$	Output Falling Time	$V_{CC} = 14\text{V}, R_L = 820\Omega, C_L = 20\text{pF}$	-	0.3	1.5	$\mu\text{s}$

**Test Circuit**



**Magnetic Characteristics (TA = 25°C)**

(1mT=10 Gauss)

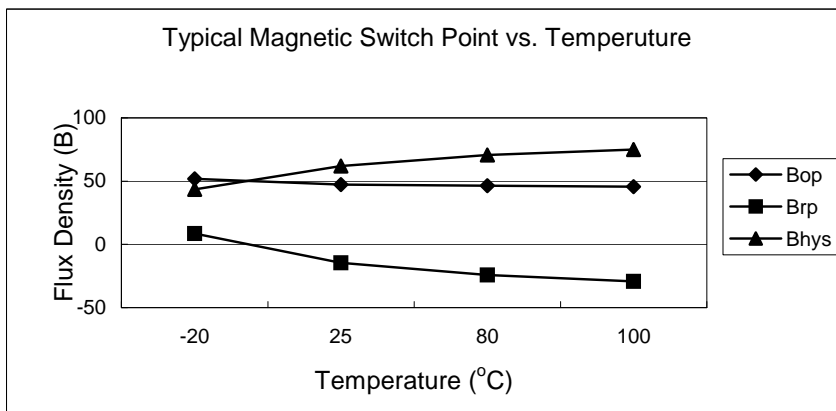
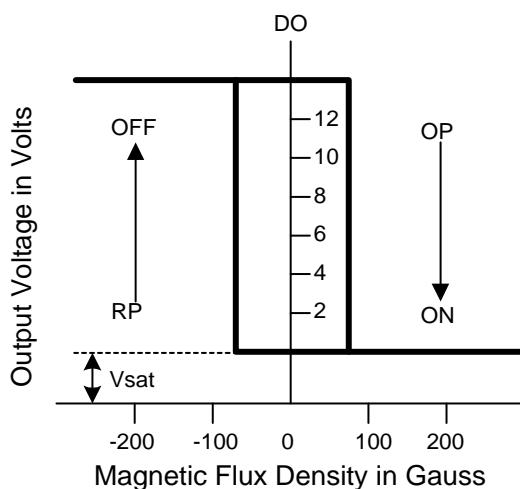
**A grade**

Symbol	Parameter	Min	Typ.	Max	Unit
Bops(south pole to brand side)	Operate Point	5	-	70	Gauss
Brps(south pole to brand side)	Release Point	-70	-	-5	Gauss
Bhy( Bopx - Brpx )	Hysteresis	-	80	-	Gauss

**B grade**

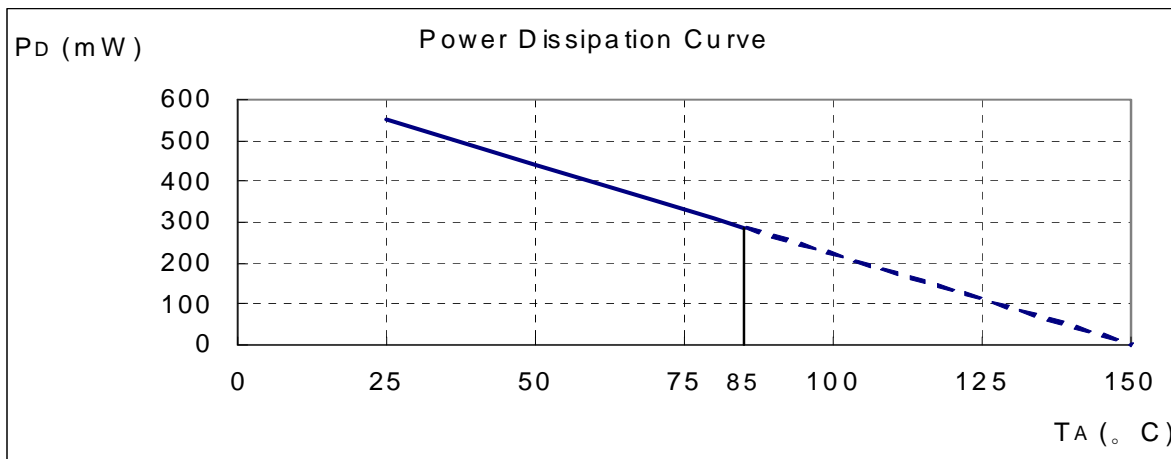
Symbol	Parameter	Min	Typ.	Max	Unit
Bops(south pole to brand side)	Operate Point	-	-	100	Gauss
Brps(south pole to brand side)	Release Point	-100	-	-	Gauss
Bhy( Bopx - Brpx )	Hysteresis	-	80	-	Gauss

\*B grade is for SIP-3L package only.



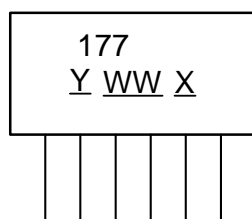
**Performance Characteristics**

$T_A$ (°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



**Marking Information**

( Top View )

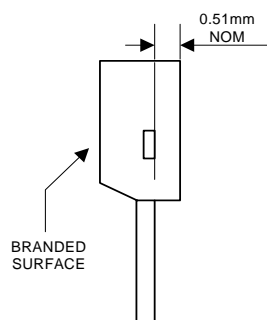


**SIP-3L**

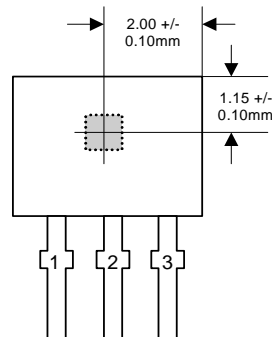
Y : Year : "7" = 2007  
"8" = 2008  
WW : Nth Week 01~52  
X : Internal code  
a~z : Lead Free

**Package Information (All Dimensions in mm)**

**(1) Package Type: SIP-3L for Bulk Pack**

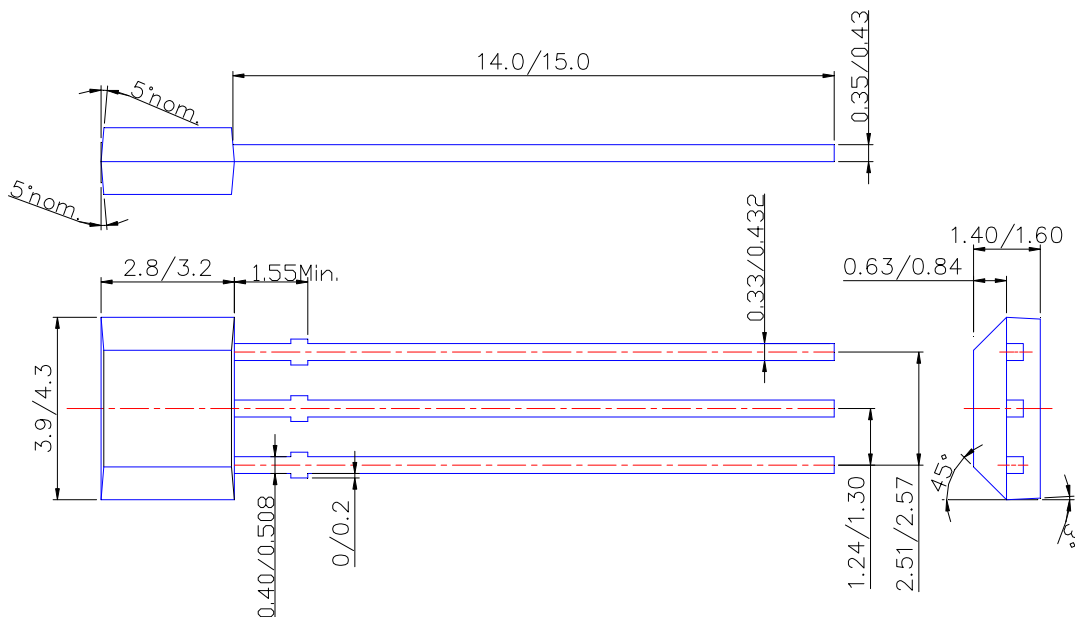


Active Area Depth



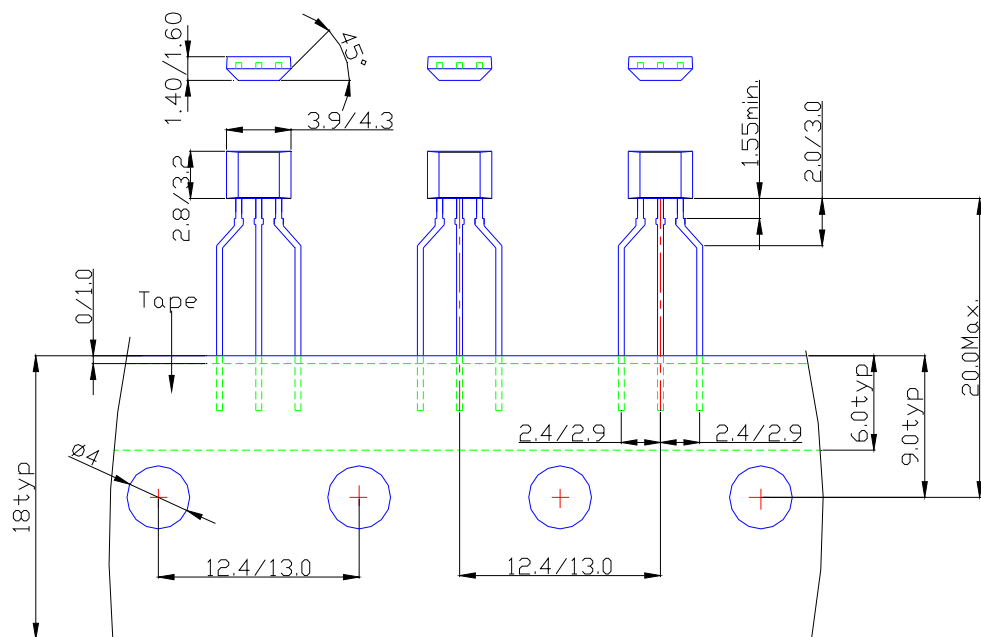
Sensor Location

**Package Dimension**



**Package Information (Continued)**

**(2) Package Type: SIP-3L for Ammo Pack-only**



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