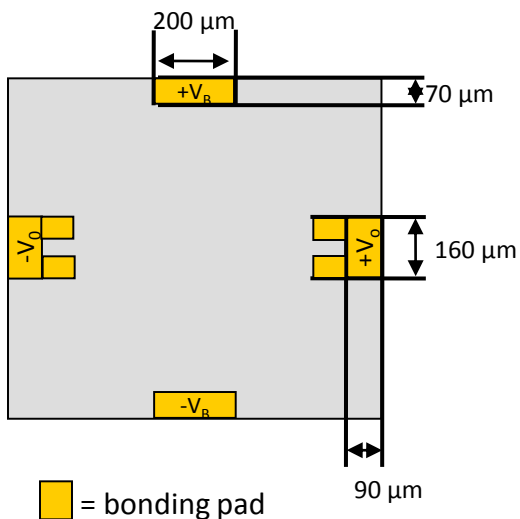


STJ-301 – Bare Die

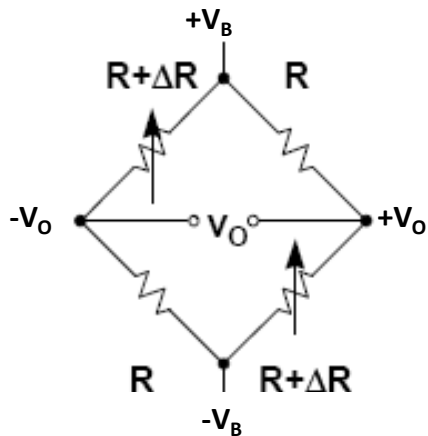
Sensing Direction



= bonding pad

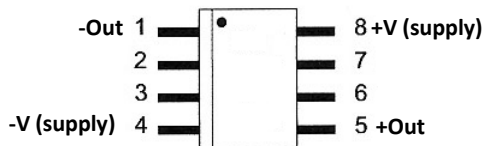
Die Dimensions – 1mm<sup>2</sup>  
Die Thickness - 0.3 mm

Equivalent Circuit



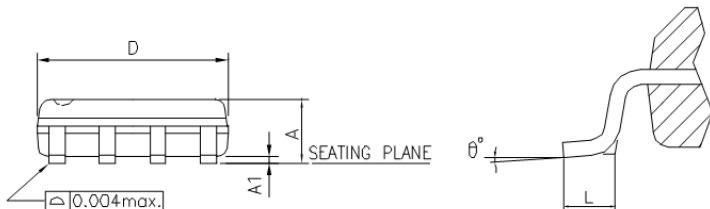
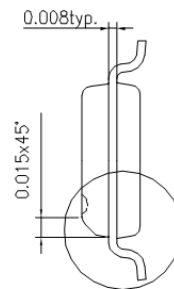
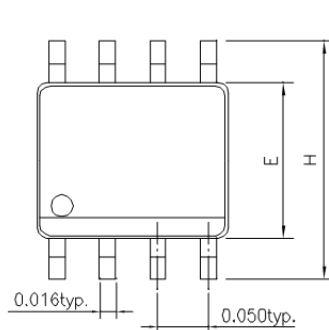
$V_B$  = Bias Terminals  
 $V_O$  = Output Terminal

STJ-340 – SOIC 8 Package Information



SYMBOLS	MIN.	MAX.
A	0.053	0.069
A1	0.004	0.010
D	0.189	0.196
E	0.150	0.157
H	0.228	0.244
L	0.016	0.050
$\theta^\circ$	0	8

UNIT : INCH



NOTES:

1. JEDEC OUTLINE : MS-012 AA
2. DIMENSIONS "D" DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH, PROTRUSIONS AND GATE BURRS SHALL NOT EXCEED .15mm (.006in) PER SIDE.
3. DIMENSIONS "E" DOES NOT INCLUDE INTER-LEAD FLASH, OR PROTRUSIONS. INTER-LEAD FLASH AND PROTRUSIONS SHALL NOT EXCEED .25mm (.010in) PER SIDE.

CHARACTERISTICS	Note	Min	Typical	Max	
Supply ( $V_B$ )	V Bridge ref to GND		5	12	V
Resistance <sup>1</sup>	V Bridge @ 5V	1000	5000	20000	$\Omega$
Voltage sensitivity		1	2	5	mV/V/Oe
Dynamic Range	Linear response	-10		+10	Gauss
Bridge Offset	% $V_B$	0	5	10	%

## STJ-340 – Notes and Handling Instructions

1. MTJ sensors will fail if subjected to a sufficiently large differential voltage. A good rule-of thumb is to **limit the voltage drop across the sensor element to 12 V** or less at all times.
2. Please store sensors as they were shipped and in a location which is away from sources of radiated electromagnetic fields (ESD/EMI).
3. Sensors are sensitive to electrostatic discharge (ESD). Be careful to ground tools and your hands when handling the sensors. If possible, be sure to wear grounding straps when handling the sensors.
4. To directly measure MTJ sensor resistance, connect to a constant current source, and measure the voltage drop directly across the two active leads. In order to limit the voltage drop across the MTJ sensor, initial applied current values should NOT exceed 50  $\mu$ A. If this amount of current is not sufficient to measure the device resistance, the current may be increased gradually until the sensor voltage is sufficient to make an accurate reading.