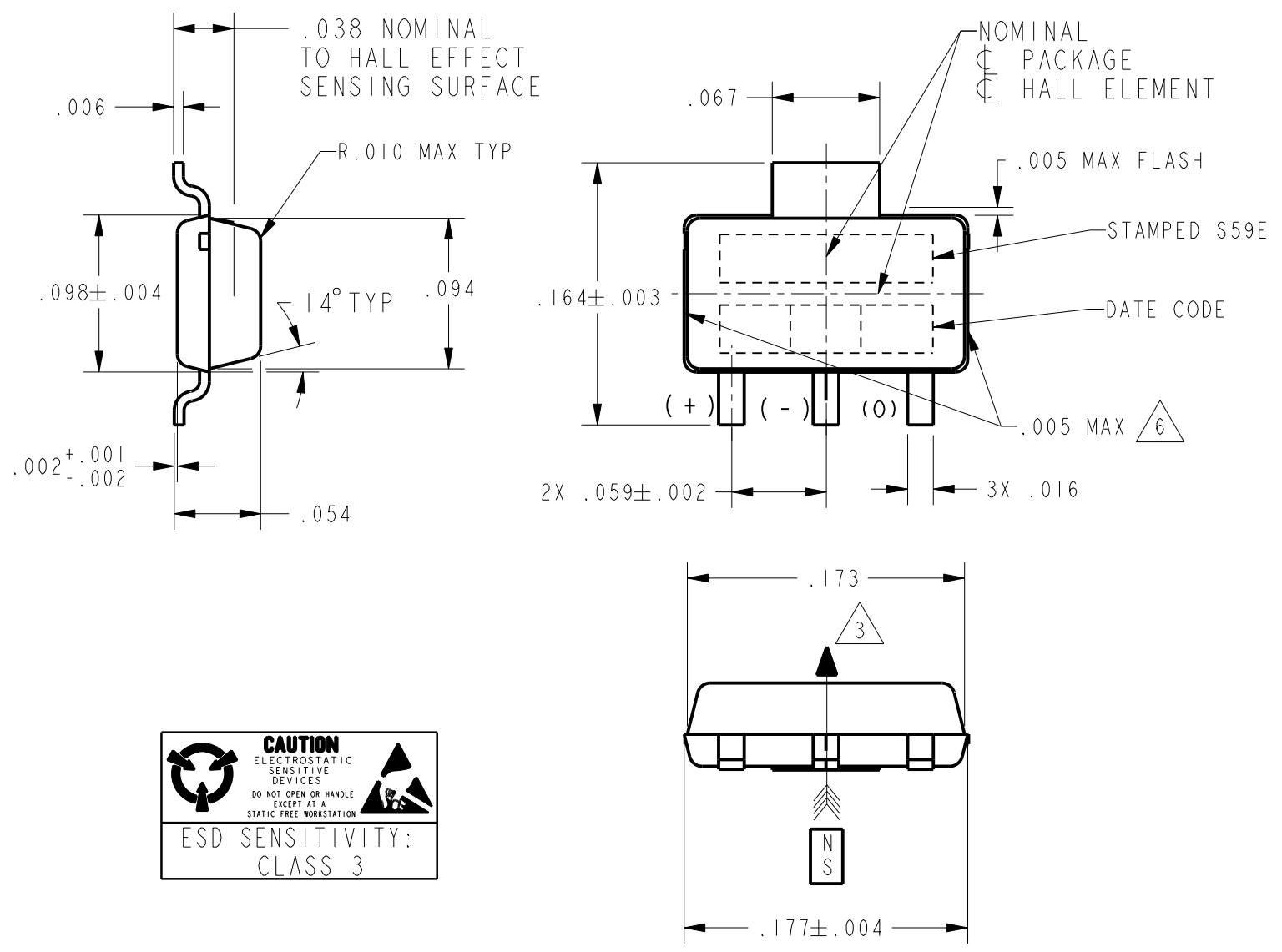


SS59ET  
PAGE 1 OF 3  
RELEASE NO. 207674  
REPLACES -  
18JAN06  
DGD  
CHECK  
12SEP05  
AK  
17 MAR 03  
SAV  
CHECK  
17 MAR 03  
GLH  
DRAWN  
PTC/CAD 3D

CATALOG LISTING  
ISSUE 5

REVISIONS

A	0000179	TRF	25 APR 03
B	0000946	JLH	21 JUL 03
C	0014910	RS	12 SEP 05
5	0018451	SR	18 JAN 06



**CAUTION**  
ELECTROSTATIC SENSITIVE DEVICES  
DO NOT OPEN OR HANDLE EXCEPT AT A STATIC FREE WORKSTATION

**ESD SENSITIVITY: CLASS 3**

NOTES

- 1 - SOLDERING INSTRUCTIONS: EXPOSURE TO HIGH TEMPERATURES SHOULD BE KEPT AT A MINIMUM MICRO SWITCH RECOMMENDS AN INFRARED REFLOW PROCESS WITH PEAK TEMPERATURES NOT EXCEEDING  $245^\circ\text{C}$  FOR 10 SECONDS MAXIMUM. DO NOT WAVE SOLDER THIS PRODUCT, AS THIS PROCESS MAY NEGATIVELY AFFECT THE SENSOR'S PERFORMANCE AND RELIABILITY. SUBJECTING THESE PRODUCTS TO WAVE SOLDERING WILL VOID MICRO SWITCH'S WARRANTY
- 2 ABSOLUTE MAXIMUM RATINGS ARE THE EXTREME LIMITS THE DEVICE WILL MOMENTARILY WITHSTAND WITHOUT DAMAGE TO THE DEVICE. ELECTRICAL AND MAGNETIC CHARACTERISTICS ARE NOT GUARANTEED IF THE SPECIFIED VOLTAGE AND/OR CURRENTS ARE EXCEEDED NOR WILL THE DEVICE NECESSARILY OPERATE AT ABSOLUTE MAXIMUM RATING
- 3 THE + MAGNETIC FLUX IS IN THE DIRECTION SHOWN (THIS ASSUMES THE CONVENTION THAT THE DIRECTION OF THE EXTERNAL FLUX OF A MAGNET IS FROM THE NORTH TO THE SOUTH POLE OF THE MAGNET)
- 4 THE DEVICE CANNOT BE DAMAGED BY MAGNETIC OVERDRIVE
- 5 THIS PRODUCT WILL BE SUPPLIED IN TAPE AND REEL FORM PER EIA STD 481
- 6 GATE VESAGE PERMITTED IN THESE AREAS. UNDERFLUSH BREAKOUT LIMITED TO  $.007$

CONVERSION TO METRIC DIMENSIONS

DIMENSION IN INCHES	METRIC REFERENCE EQUIVALENT, MM	DIMENSION IN INCHES	METRIC REFERENCE EQUIVALENT, MM
.001	0,025	.095	2,413
.002	0,051	.098	2,489
.003	0,076	.157	3,988
.004	0,102	.164	4,166
.005	0,127	.173	4,394
.006	0,152	.177	4,496
.007	0,178	.181	4,597
.008	0,203	.197	5,004
.015	0,381	.217	5,512
.016	0,406	.230	5,842
.030	0,762	.314	7,976
.031	0,787	.315	8,001
.038	0,965	.472	11,989
.050	1,270	.480	12,192
.059	1,499	.512	13,005
.067	1,702	.724	18,390
.069	1,753	1.300	33,020
.078	1,981	1.970	50,038
.079	2,007	7.010	178,054
.094	2,388	10.000	254,000

THIRD ANGLE PROJECTION

SCALE NONE

DO NOT SCALE PRINT

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE

ONE PLACE	(.0)	$\pm .030$
TWO PLACE	(.00)	$\pm .015$
THREE PLACE	(.000)	$\pm .005$
ANGLES		$\pm$
WEIGHT		

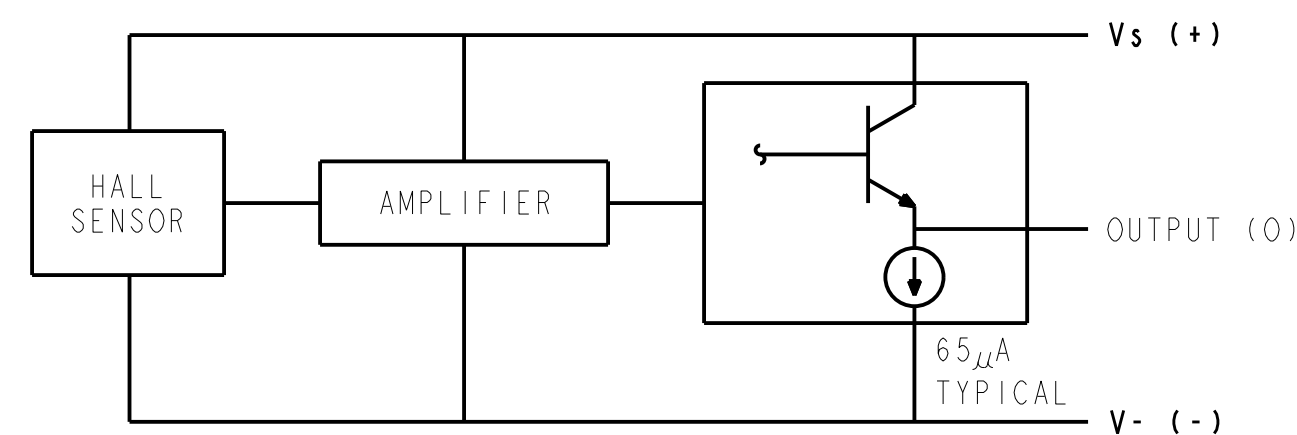




CHARACTERISTICS ARE AT  $V_s=5.00$  WITH 10K OUTPUT TO MINUS WITH  $T_A=-40^{\circ}\text{C}$  TO  $+85^{\circ}\text{C}$  UNLESS OTHERWISE SPECIFIED

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
SENSITIVITY	$T_A = 25^{\circ}\text{C}$	1.0	1.4	1.75	mV/GAUSS
NULL	$T_A = 25^{\circ}\text{C}$	2.25	2.50	2.75	VOLTS
SUPPLY CURRENT			6	10.	mA
OUTPUT CURRENT SOURCE	$V_s > 3.0$	1	1.5		mA
RESPONSE TIME			3		$\mu\text{S}$
OUTPUT VOLTAGE SWING VOM - VOM +	-B APPLIED	1.05	.95		VOLTS
	+B APPLIED	$V_s - 1.05$	$V_s - .95$		VOLTS
B LIMITS FOR LINEAR OPERATION	-B MAX	-650	-1000		GAUSS
	+B MAX	+650	+1000		GAUSS
$V_{null}$ DRIFT	$B = 0, T_A = -40^{\circ}\text{C}$ TO $+85^{\circ}\text{C}$	-.10		+.10	% / $^{\circ}\text{C}$
SENSITIVITY DRIFT	$T_A = +25^{\circ}\text{C}$ TO $+85^{\circ}\text{C}$	-.15		+.05	% / $^{\circ}\text{C}$
SENSITIVITY DRIFT	$T_A = -40^{\circ}\text{C}$ TO $+25^{\circ}\text{C}$	-.04		+.185	% / $^{\circ}\text{C}$
LINEARITY	$B = -650$ TO $+650$		-.7		% OF SPAN
SUPPLY VOLTAGE	$-40^{\circ}\text{C}$ TO $+100^{\circ}\text{C}$	2.7	5.0	6.5	VOLTS
OPERATING TEMP		-40		+100	$^{\circ}\text{C}$

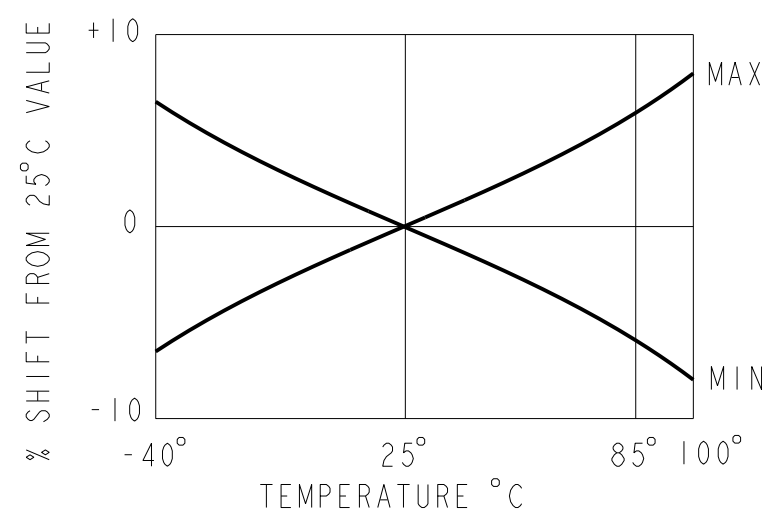
BLOCK DIAGRAM CURRENT SOURCING OUTPUT



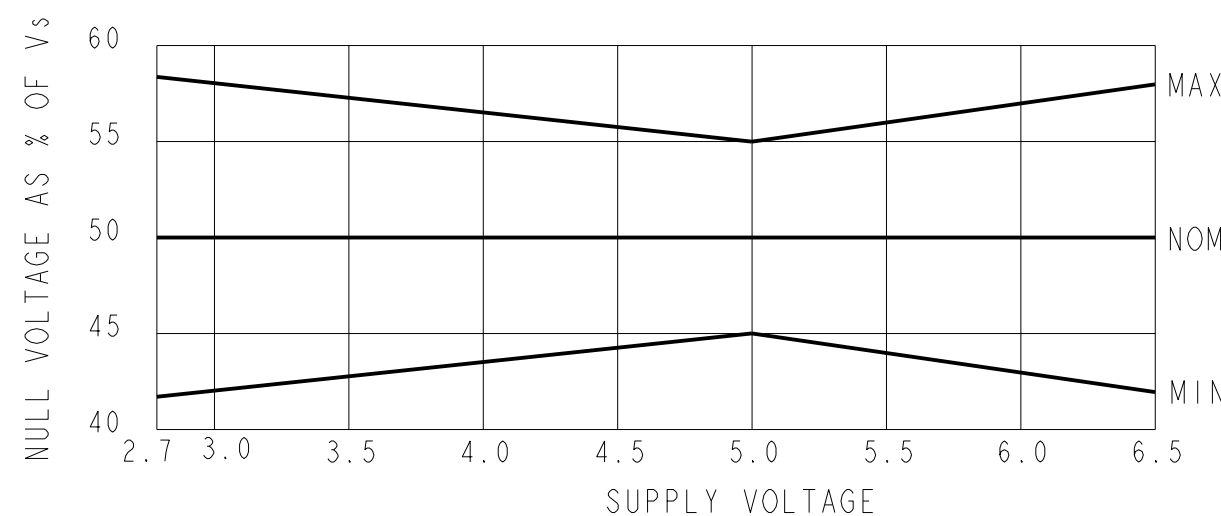
ABSOLUTE MAXIMUM CHARACTERISTICS  $\Delta$

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
SUPPLY VOLTAGE	$V_s$		-0.5	8	V
OUTPUT VOLTAGE	$V_{out}$		-0.5	8	V
OUTPUT CURRENT	$I_{out}$	SOURCE		10	mA
TEMPERATURE	$T_A$	OPERATING	-40	100	$^{\circ}\text{C}$
	$T_s$	STORAGE ( $V_s=0$ )	-55	165	$^{\circ}\text{C}$

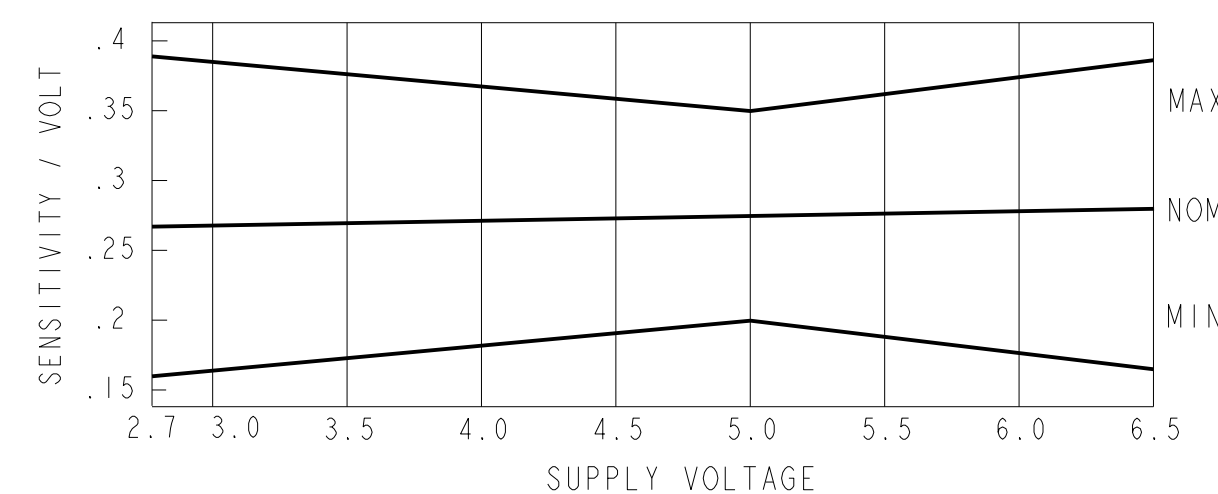
NULL SHIFT VERSUS TEMPERATURE



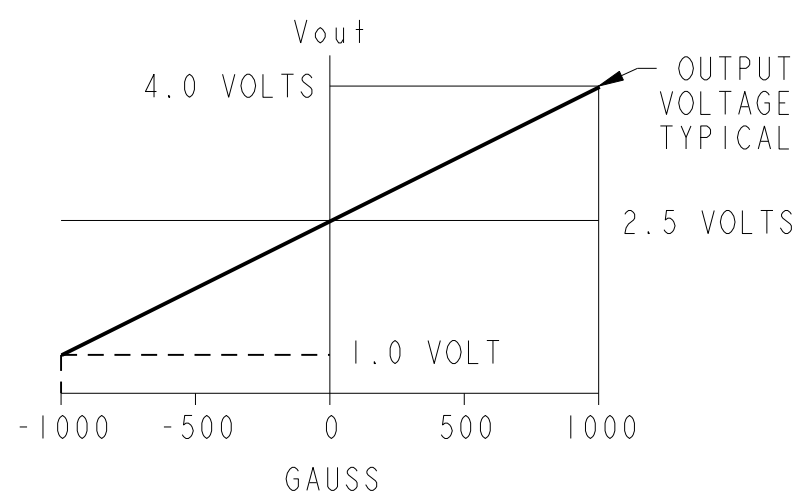
RATIO OF  $V_{null}$  TO  $V_s$



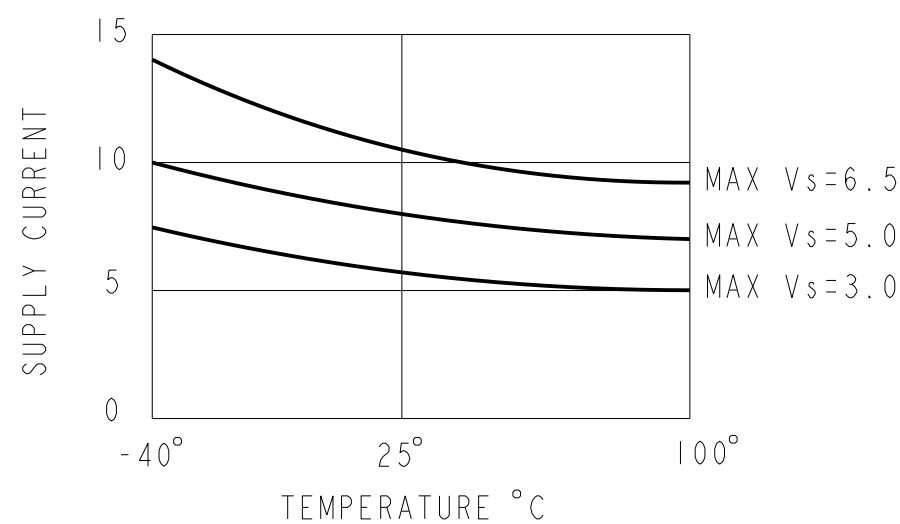
SENSITIVITY/V VERSUS  $V_s$   
(mV/Gauss/Volt)



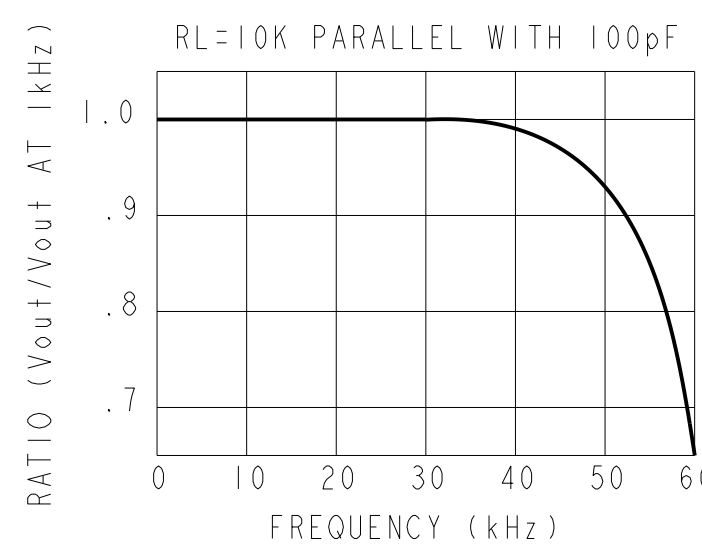
TRANSFER CHARACTERISTICS  
AT  $V_s=5.0$  VDC



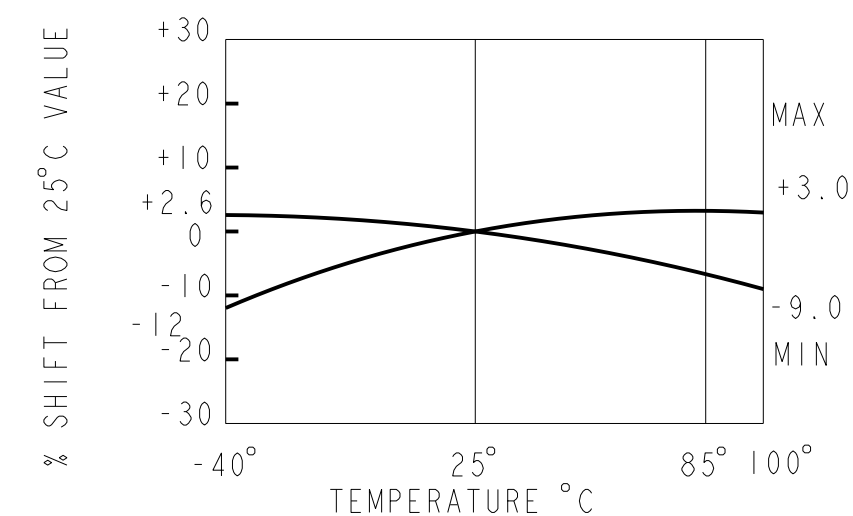
SUPPLY CURRENT  
VERSUS TEMPERATURE



TYPICAL FREQUENCY RESPONSE



SENSITIVITY  
SHIFT VERSUS TEMPERATURE



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TWO PLACES	(.00)	±.015
THREE PLACES	(.000)	±.005
ANGLES		±
WEIGHT		

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**MICRO SWITCH**  
a Honeywell Division

**LINEAR HALL EFFECT SENSOR**

CATALOG LISTING  
**SS59ET**

ANSI Y14.5M-1982 APPLIES  
FED. MFG. CODE 91929