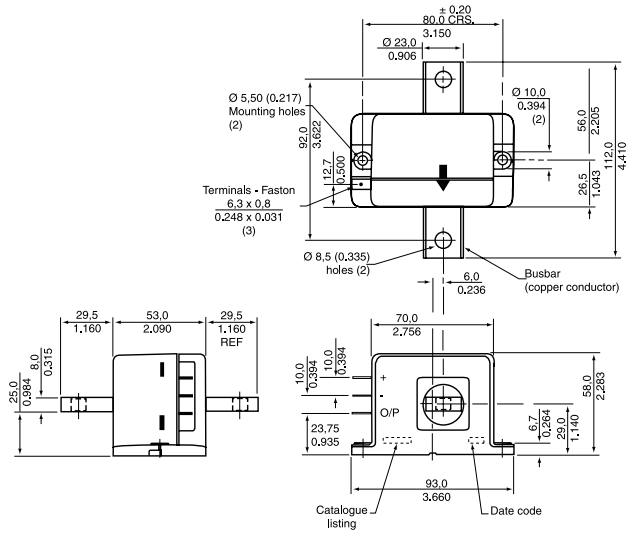
CSN Series
Closed Loop Current Sensors (Continued)

Mid range housed style

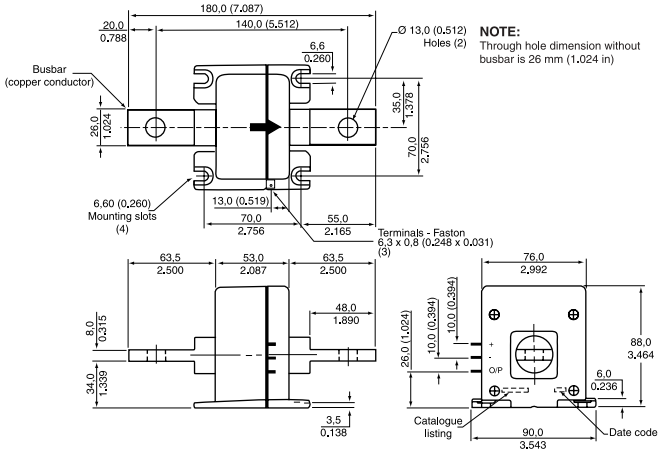
Housing material: Bayblend KU2-1468 (UL94-V0)
Mounting: Panel, spade terminals x 3



SENSED CURRENT RANGE	COIL TURNS	SUPPLY VOLTAGE	REFERENCE
± 600 A	2000 (25 Ohm coil)	± 12 to ± 18 Vdc	CSNJ481
± 600 A (fitted with busbar)	2000 (25 Ohm coil)	± 12 to ± 18 Vdc	CSNJ481-001

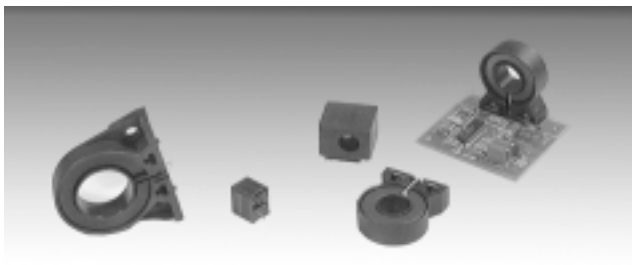
Large housed style

Housing material: Bayblend KU2-1468 (UL94-V0)
Mounting: Panel, spade terminals x 3



SENSED CURRENT RANGE	COIL TURNS	SUPPLY VOLTAGE	REFERENCE
± 1200 A	5000 (50 Ohm coil)	± 15 to ± 24 Vdc	CSNK591
± 1200 A (fitted with busbar)	5000 (50 Ohm coil)	± 15 to ± 24 Vdc	CSNK591-001

CSLA Series
Open Loop Current Sensors

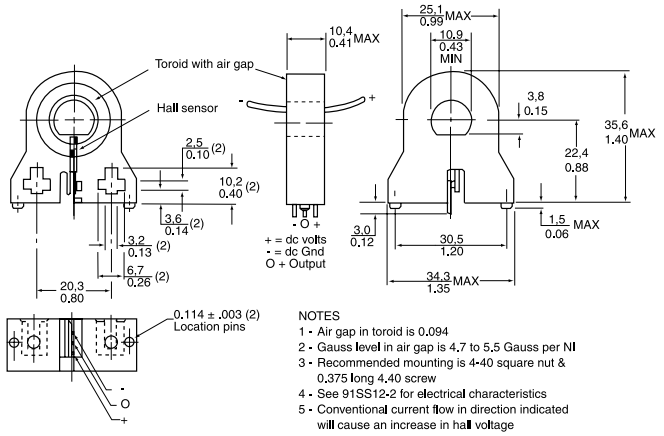


CS series linear current sensors incorporate our 91SS12-2 and SS94A1linear output Hall effect transducer (LOHET™). These sensors cover measuring ranges from 0-950 Amps. The sensing element is assembled in a printed circuit board mountable housing. This housing is available in four configurations. Normal mounting is with 0.375 inch long 4-40 screw and square nut (not provided) inserted in the housing or a 6-20 self-tapping screw. The combination of the sensor, flux collector, and housing comprises the holder assembly. These sensors are ratiometric.

Sensed current type: ac or dc
Housing: PBT Polyester

OPTIONS

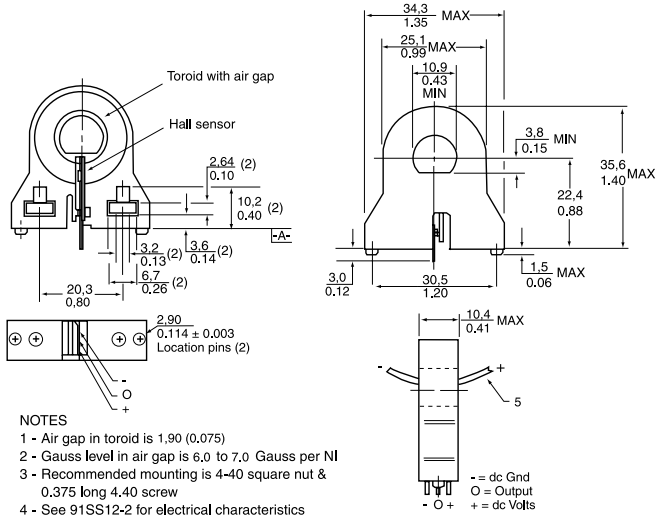
PCB bottom mount



NOTES
1 - Air gap in toroid is 0.094
2 - Gauss level in air gap is 4.7 to 5.5 Gauss per NI
3 - Recommended mounting is 4-40 square nut & 0.375 long 4.40 screw
4 - See 91SS12-2 for electrical characteristics
5 - Conventional current flow in direction indicated will cause an increase in hall voltage

SENSED CURRENT RANGE	SUPPLY VOLTAGE	REFERENCE
0 to 75 A	8 to 16 Vdc	CSLA1DE
0 to 92 A	6 to 12 Vdc	CSLA2DE
0 to 150 A	6 to 12 Vdc	CSLA2DG
0 to 225 A	8 to 16 Vdc	CSLA1DJ
0 to 225 A	6 to 12 Vdc	CSLA2DJ
0 to 325 A	8 to 16 Vdc	CSLA1DK
0 to 400 A	6 to 12 Vdc	CSLA2DK

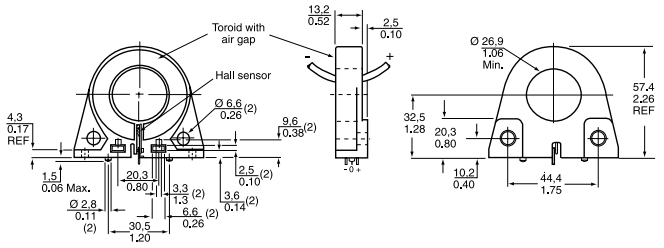
PCB bottom mount



NOTES
1 - Air gap in toroid is 1,90 (0.075)
2 - Gauss level in air gap is 6,0 to 7,0 Gauss per NI
3 - Recommended mounting is 4-40 square nut & 0.375 long 4.40 screw
4 - See 91SS12-2 for electrical characteristics
5 - Conventional current flow in direction indicated will cause an increase in hall voltage

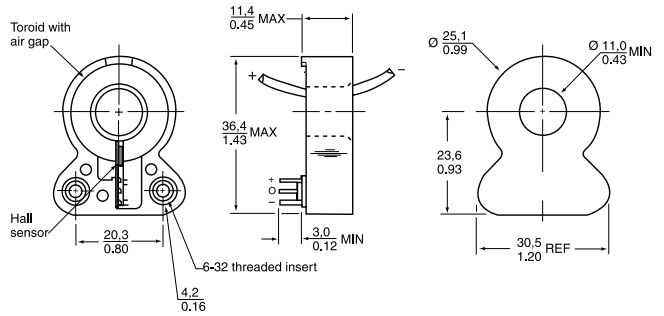
SENSED CURRENT RANGE	SUPPLY VOLTAGE	REFERENCE
0 to 57 A	8 to 16 Vdc	CSLA1CD
0 to 72 A	6 to 12 Vdc	CSLA2CD
0 to 100 A	8 to 16 Vdc	CSLA1CF
0 to 150 A	8 to 16 Vdc	CSLA1CH

PCB bottom mount



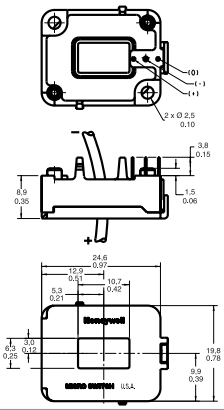
SENSED CURRENT RANGE	SUPPLY VOLTAGE	REFERENCE
0 to 310 A	6 to 12 Vdc	CSLA2EJ
0 to 550 A	6 to 12 Vdc	CSLA2EL
0 to 625 A	8 to 16 Vdc	CSLA1EL
0 to 765 A	6 to 12 Vdc	CSLA2EM
0 to 950 A	6 to 12 Vdc	CSLA2EN

PCB side mount



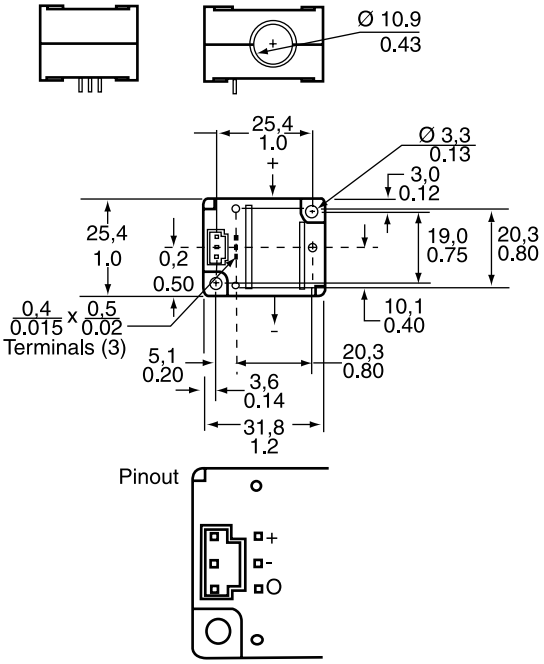
SENSED CURRENT RANGE	SUPPLY VOLTAGE	REFERENCE
0 to 57 A	8 to 16 Vdc	CSLA1GD
0 to 72 A	6 to 12 Vdc	CSLA2GD

PCB side mount



SENSED CURRENT RANGE	SUPPLY VOLTAGE	REFERENCE
± 45 A	4.5 to 10.5 Vdc	CSLH3A45

Digital current sensor

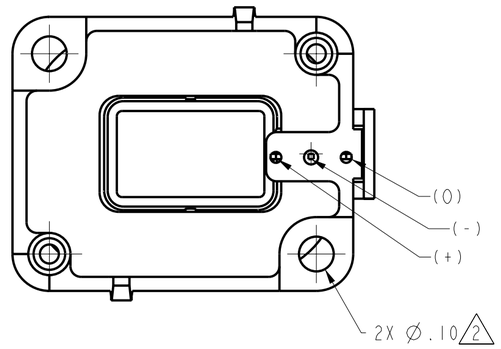


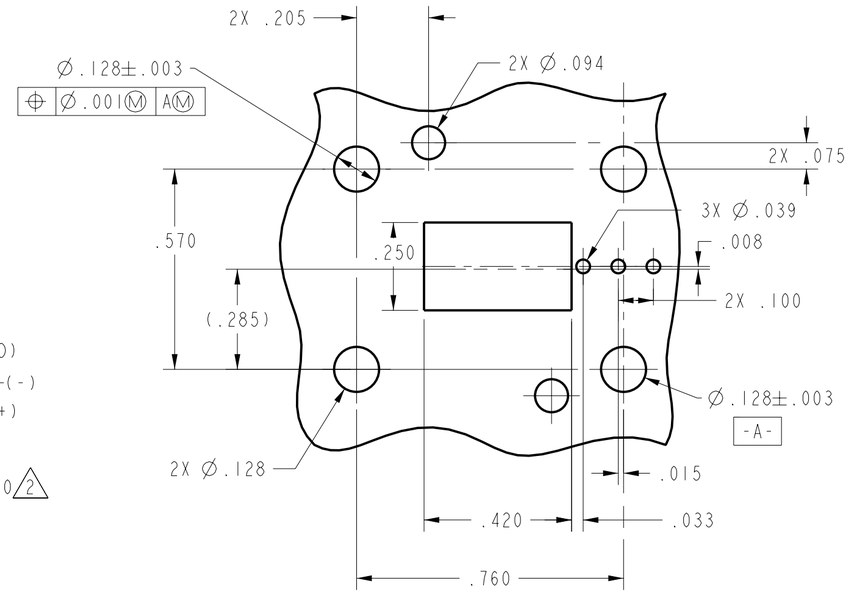
OPERATE CURRENT	SUPPLY VOLTAGE	REFERENCE
3.5 A.t Nominal	6 to 16 Vdc	CSDA1BC

CSLH3A45

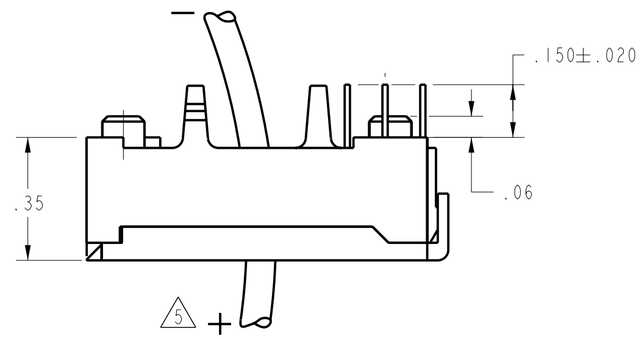
CHARACTERISTICS

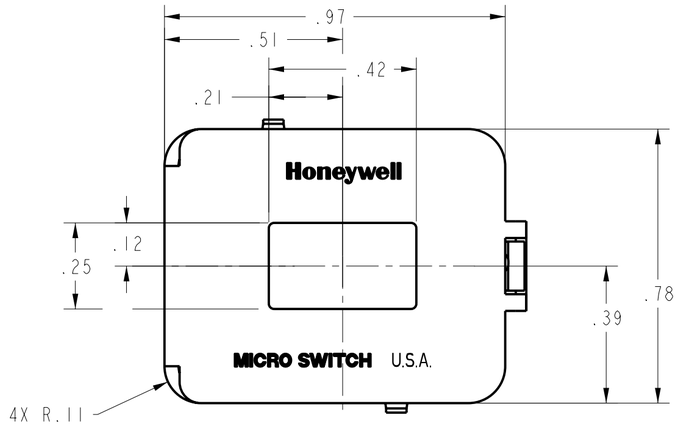
PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS/REMARKS
SUPPLY VOLTAGE	4.5	5.0	10.5	VOLTS	-25°C TO 85°C
SUPPLY CURRENT		7.0	11.0	mA	MAX @ -25°C TYP @ 25°C, Vs = 5.0V EXCLUDES LOAD
OUTPUT CURRENT	1	1.5		mA	SINKING OR SOURCING @ 5.0V (.6mA @ 4.5 VOLT)
OUTPUT VOLTAGE SWING	(-V)+.4		(+V)-.4	VOLTS	
SENSITIVITY	15.0		22.0	mV/NI	@ Vs = 5.0 VOLTS & 25°c
LINEARITY	0		1%	% OF SPAN	DEV FROM STR LINE FROM -1 MAX TO + 1 MAX △1
V out @Ø NI	.5(Vs)-4%		.5(VS)+4%	VOLTS	25°C @ 5.0 VOLTS
TEMP ERROR - NULL	-.06		+.06	%/°C	-25°C TO 85°C
TEMP ERROR - GAIN	-.03		+.04	%/°C	-25°C TO 85°C





SUGGESTED HOLE DETAIL





NOTES

1 - SUGGESTED MAXIMUM CURRENT FOR LINEAR OPERATION IS 45.0 AMPS PEAK

△2 RECOMMENDED MOUNTING IS 2X 4-40 SELF-TAPPING SCREWS (MAX LENGTH OF .285, TORQUE SHOULD NOT EXCEED 2.5 IN/LBS) PRIOR TO SOLDERING

3 - THE DEVICE CANNOT BE DAMAGED BY MAGNETIC OVERDRIVE

4 - SENSING ELEMENT IS SS495A DEVICE IS RATIO METRIC

△5 CONVENTIONAL CURRENT FLOW IN DIRECTION INDICATED WILL CAUSE AN INCREASE IN OUTPUT VOLTAGE

6 RESPONSE TIME IS 50.0 MICRO SECONDS MAXIMUM

CSLH3A45 | REPLACES X99344-CS | PAGE 1 OF 1 | RELEASE NO. PR-22435 | DRAWING NUMBER | ISSUE 1 | CHECK | REVISIONS | CHECK | CHECK | CHECK | DRAWN KAG 5MAR97 | PTC/CAD

MASTER REDUCED
ANSI Y14.5M-1982 APPLIES

MICRO SWITCH a Honeywell Division
FED. MFG. CODE 91929

CURRENT SENSOR

CATALOG LISTING
CSLH3A45

THIRD ANGLE PROJECTION

SCALE 3:1

DO NOT SCALE PRINT

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE

ONE PLACE	(.0)	± .030
TWO PLACES	(.00)	±.015
THREE PLACES	(.000)	± .005
ANGLES		±

WEIGHT

Solid State Sensors
Linear Current Sensors

CS Series

FEATURES
- Linear output
- AC or DC current sensing
- Through-hole design
- Fast response time
- Output voltage isolation from input
- Minimum energy dissipation
- Maximum current limited only by conductor size
- Adjustable performance and built-in temperature compensation assures reliable operation
- Accurate, low cost sensing
- Operating temperature range –25 to 85°C
- Housing: PET polyester

LINEAR CURRENT SENSORS

MICRO SWITCH CS series linear current sensors incorporate our 91SS12-2 and SS94A1 linear output Hall effect transducer (LOHET™). The sensing element is assembled in a printed circuit board mountable housing. This housing is available in four configuration as shown in mounting dimension figures 1, 1a, 2 and 2a. Normal mounting is with 0.375 inch long 4-40 screw and square nut (not provided) inserted in the housing or a 6-20 self-tapping screw. The combination of the sensor, flux collector, and housing comprises the holder assembly. These sensors are ratiometric.

ORDER GUIDE — BOTTOM MOUNT WITH 9SS SENSOR, SOURCE OUTPUT

Catalog Listing	Mtg. Dim. Fig.	Supply Volt. (Volts DC)	Supply Current (mA Max.)	Sensed Current (Amps Peak)	Offset Volt. (Volts±10%)	Sensitivity mV•N* At 12 VDC		Offset Shift (%/°C)	Response Time (μ Sec.)
						Nominal	± TOL		
CSLA1CD	1	8 to 16	19	57	Vcc/2	49.6	5.8	±.05	3
CSLA1CE	1	8 to 16	19	75	Vcc/2	39.4	4.4	±.05	3
CSLA1DE	2	8 to 16	19	75	Vcc/2	39.1	4.8	±.05	3
CSLA1CF	1	8 to 16	19	100	Vcc/2	29.7	2.7	±.05	3
CSLA1DG	2	8 to 16	19	120	Vcc/2	24.6	2.1	±.05	3
CSLA1CH	1	8 to 16	19	150	Vcc/2	19.6	1.8	±.05	3
CSLA1DJ	2	8 to 16	19	225	Vcc/2	13.2	1.2	±.05	3
CSLA1EJ	1a	8 to 16	19	225	Vcc/2	13.2	1.5	±.05	3
CSLA1DK	2	8 to 16	19	325	Vcc/2	9.1	1.7	±.05	3
CSLA1EK	1a	8 to 16	19	325	Vcc/2	9.4	1.3	±.05	3
CSLA1EL	1a	8 to 16	19	625	Vcc/2	5.6	1.3	±.05	3

BOTTOM MOUNT WITH SS9 SENSOR, SINK/SOURCE OUTPUT

Catalog Listing	Mtg. Dim. Fig.	Supply Volt. (Volts DC)	Supply Current (mA Max.)	Sensed Current (Amps Peak)	Offset Volt. (Volts±2%)	Sensitivity mV•N* At 8 VDC		Offset Shift (%/°C)	Response Time (μ Sec.)
						Nominal	± TOL		
CSLA2CD	1	6 to 12	20	72	Vcc/2	32.7	3.0	±.02	3
CSLA2CE	1	6 to 12	20	92	Vcc/2	26.1	2.1	±.02	3
CSLA2DE	2	6 to 12	20	92	Vcc/2	25.6	2.2	±.02	3
CSLA2CF	1	6 to 12	20	125	Vcc/2	19.6	1.3	±.02	3
CSLA2DG	2	6 to 12	20	150	Vcc/2	16.2	1.1	±.02	3
CSLA2DJ	2	6 to 12	20	225	Vcc/2	8.7	0.6	±.020	3
CSLA2DH	2	6 to 12	20	235	Vcc/2	9.8	1.1	±.0125	3
CSLA2EJ	1a	6 to 12	20	310	Vcc/2	7.6	0.7	±.0125	3
CSLA2DK	2	6 to 12	20	400	Vcc/2	5.8	0.5	±.0125	3
CSLA2EL	1a	6 to 12	20	550	Vcc/2	4.3	0.4	±.0125	3
CSLA2EM	1a	6 to 12	20	765	Vcc/2	3.1	0.3	±.007	3
CSLA2EN	1a	6 to 12	20	950	Vcc/2	2.3	0.2	±.007	3

NOTE: When monitoring purely AC current with zero DC component, a capacitor can be inserted in series with the output of the current sensor. The capacitor will block out the effect of the temperature variation of the offset voltage which increases the accuracy of the device.

* N = number of turns

SIDE MOUNT WITH 9SS SENSOR, SOURCE OUTPUT

Catalog Listing	Mtg. Dim. Fig.	Supply Volt. (Volts DC)	Supply Current (mA Max.)	Current (Amps Peak)	Sensed Offset Volt. (Volts±10%)	Sensitivity mV•N* At 12 VDC Nominal	Sensitivity mV•N* At 12 VDC ± TOL	Offset Shift (%/°C)	Response Time (µ Sec.)
CSLA1GD	2a	8 to 16	19	57	Vcc/2	49.6	5.8	±.05	3
CSLA1GE	2a	8 to 16	19	75	Vcc/2	39.4	4.4	±.05	3
CSLA1GF	2a	8 to 16	19	100	Vcc/2	29.7	2.7	±.05	3

SIDE MOUNT WITH SS9 SENSOR, SINK/SOURCE OUTPUT

Catalog Listing	Mtg. Dim. Fig.	Supply Volt. (Volts DC)	Supply Current (mA Max.)	Sensed Current (Amps Peak)	Offset Volt. (Volts±2%)	Sensitivity mV•N* At 8 VDC Nominal	Sensitivity mV•N* At 8 VDC ± TOL	Offset Shift (%/°C)	Response Time (µ Sec.)
CSLA2GD	2a	6 to 12	20	72	Vcc/2	32.7	3.0	±.02	8
CSLA2GE	2a	6 to 12	20	92	Vcc/2	26.1	2.1	±.02	8
CSLA2GF	2a	6 to 12	20	125	Vcc/2	19.6	1.3	±.02	8
CSLA2GG	2a	6 to 12	20	150	Vcc/2	12.7	0.6	±.02	8

NOTE: When monitoring purely AC current with zero DC component, a capacitor can be inserted in series with the output of the current sensor. The capacitor will block out the effect of the temperature variation of the offset voltage which increases the accuracy of the device.

*N = number of turns.

MOUNTING DIMENSIONS (for reference only)

Figure 1

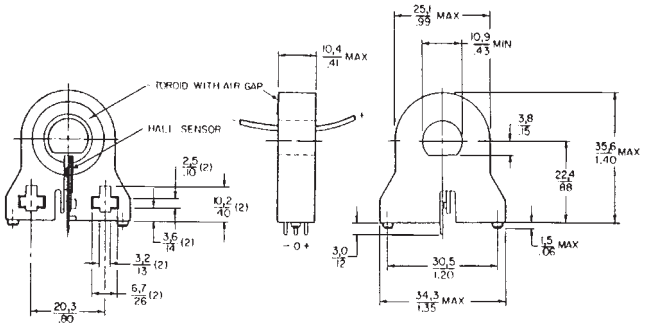


Figure 2

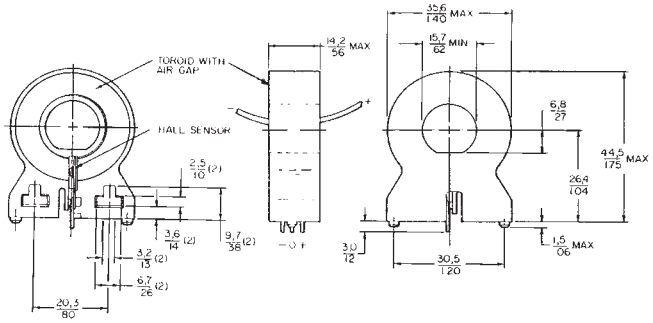


Figure 1a

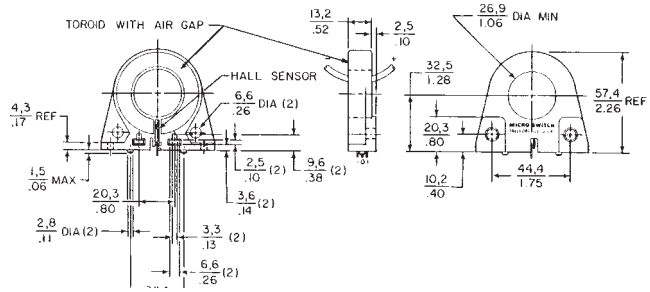
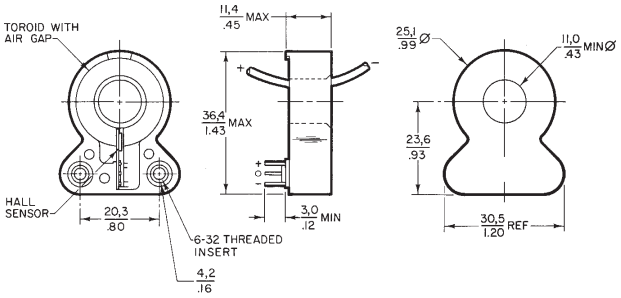


Figure 2a



* Application consideration: The output is clamped at the high end. Clamping voltage may be as low as 9VDC. The output will not exceed the clamping voltage regardless of field strength or supply voltage.

Current