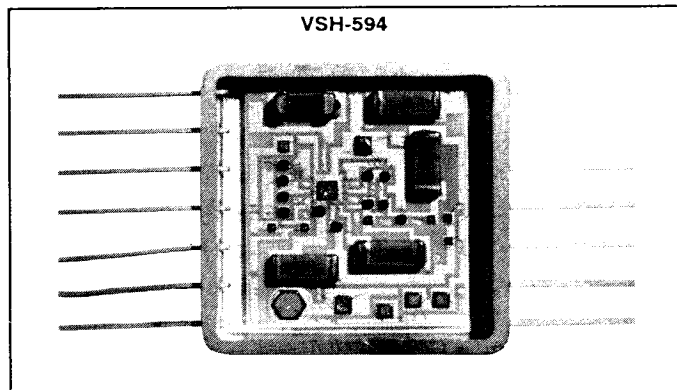




VSH-594

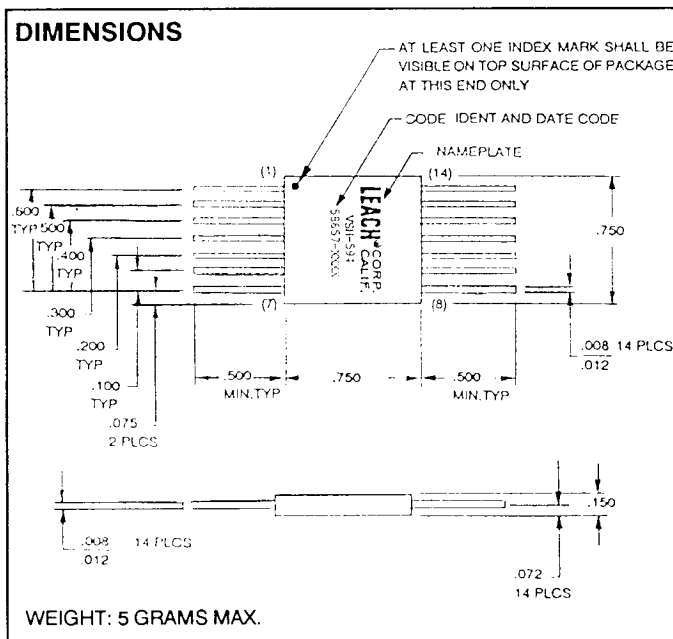
DESCRIPTION

The VSH-594 hybrid DC voltage sensor has been designed with thick film hybrid microelectronic circuits packaged in a hermetically sealed enclosure.

This sensor can be packaged with MIL-R-6106 relays and is ideally suited for monitoring DC power supplies and control systems and for test and measurement applications in research, engineering, design, and quality control.

FEATURES

- Small size and weight
- High-reliability
- Hermetic packaging
- Thick film hybrid technology
- Full military temperature range



ELECTRICAL SPECIFICATIONS

Input Parameters

Operation:	
a. Input	20 to 30 VDC
b. Under voltage trip point range	1 to 50 VDC (adjustable)
c. Over voltage trip point range	5 to 55 VDC (adjustable)
d. Voltage Hysteresis	0.5 VDC, Min.
e. Operating Current	Contact Factory
f. Pin Connection	See Table I

Output (Load) Parameters

Contact Form	SPNO
Contact Rating	28 VDC, 250 mA Steady State

ENVIRONMENTAL SCREENING

Internal Visual	Per MIL-STD 883, Method 2017, Condition B
Pre-seal Electrical	25°C Only
Temperature Cycle, per MIL-STD-883, Method 1010.1, Condition C	10 Cycles @ -55°C to 125°C
Constant Acceleration, per MIL-STD-883, Method 2001, Condition B	Y1 Axis Only @ 10 KG's

Transient Specifications

a. Positive Transients	80 V per MIL-STD-704A
b. Negative Transients	-600 V for 100 microseconds
c. Single Event Spike Transient	± 600 V per MIL-STD-704A
Electromagnetic Interference	Per MIL-STD-461A
Operate Time	1 to 9.9 seconds (adjustable)
Release Time	0.1 to 0.9 seconds (adjustable)
Dielectric Withstanding Voltage	500 VRMS, 60 Hz
Insulation Resistance at 500 VDC	1000 megohms, Min.

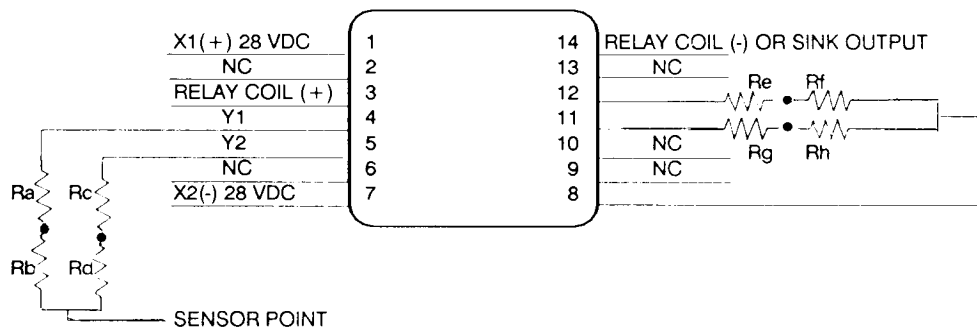
ENVIRONMENTAL SPECIFICATIONS

Ambient Temperature Range:	
a. Operating	-55° to + 125°C
b. Non-Operating	-55° to + 125°C
Vibration:	
a. 5.5-28 Hz	1.5 G, .036 DA
b. 28-44 Hz	3.5 G
c. 44-500 Hz	
Shock, 11 ± 1 ms, 1/2 Sine, 3 Axis	50 G
Acceleration, in any Axis	20 G
Altitude	80,000 feet Max.
Humidity	0-100%
Fine/Gross/Leak per MIL-STD-883, Method 1014.1, Condition A & C	-2 x 10 ⁻⁷ atm cc/sec

TABLE I
PIN CONNECTIONS

PIN NUMBER	FUNCTION
1	X1 (+) 28 VDC
2	NC
3	COIL (+)
4	Y1, OVER VOLTAGE
5	Y2, UNDER VOLTAGE
6	NC
7	X2 (-) 28 VDC
8	TIME DELAY RETURN
9	NC
10	NC
11	TIME DELAY ON OPERATE
12	TIME DELAY ON RELEASE
13	NC
14	COIL (-) SINK OUTPUT

NC = NO CONNECTIONS



SENSING RANGE	RESISTIVE RANGE Ω	RESISTORS
1V TO 50V	1K TO 99K	Ra, Rb
5V TO 55V	9K TO 109K	Rc, Rd

TIME DELAY SEC	RESISTIVE RANGE Ω	RESISTORS
ON OPERATE 1 TO 9.9	1.7M TO 17M	Rg, Rh
ON RELEASE	122K TO 1.1M	Re, Rf

REFERENCES:

MIL-STD-883 Test Methods and Procedures for Microelectronics, Method 5008
MIL-STD-38510 General Specification for Microelectronics, Appendix G

Note: Unless otherwise specified, dimensions are in inches.