

CSLT Series

Miniature, Open-Loop Current Sensors



DESCRIPTION

Honeywell's CSLT Series miniature, open-loop current sensors incorporate our SS490 Series miniature ratiometric linear Hall-effect sensor (MRL™). The sensing element is encapsulated in a printed circuit board-mountable plastic package.

FEATURES

- Open-loop, through-hole design
- Output voltage isolation from input
- ac or dc current sensing
- Linear ratiometric output
- Current sinking or sourcing output for interfacing flexibility
- Fast response time
- Compact size
- Accurate, low-cost sensing
- Minimum energy dissipation
- Maximum current limited only by conductor size
- Built-in temperature compensation promotes reliable operation
- Operating temperature range -25 °C to 100 °C [-13 °F to 212 °F]
- RoHs compliant (lead-free)

The combination of sensor, flux collector and housing comprises the current sensor assembly. These sensors are ratiometric.

POTENTIAL APPLICATIONS

- Motor control in appliances, HVAC and consumer tools
- Current monitoring of electronic circuits
- Overcurrent protection
- Ground fault detectors
- Robotics
- Industrial process control
- UPS and telecommunication power supplies
- Welding current monitoring
- Battery management systems in mobile equipment
- Watt meters
- Variable speed drives

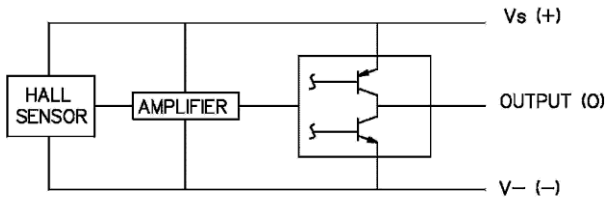
CSLT Series

PRODUCT SPECIFICATIONS

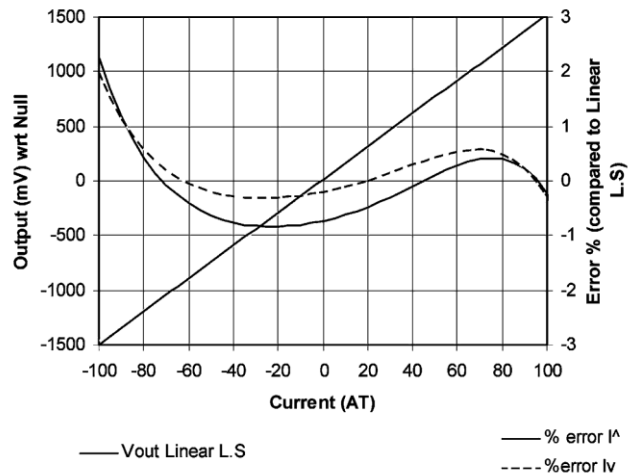
| | |
|--------------------------------|---|
| Product type | miniature hall-effect linear open-loop current sensor |
| Package quantity/type | 25 per box |
| Package style | PC board mount – radial lead IC |
| Supply voltage | 4.5 Vdc to 10.5 Vdc |
| Output type | sink/source |
| Magnetic actuation type | analog ratiometric |

| Parameter | Symbol | Min. | Typ. | Max. | Units | Condition |
|------------------------------------|-----------------------|--------|------|-------|-------|--|
| Current range | I_p | ±100 | — | — | AT | <±1.5 % error (-25 °C to 100 °C [-13 °F to 212 °F]) |
| Supply voltage | V_s | 4.5 | 5 | 10.5 | V | — |
| V_{out} @ 0 NI | V_o | 2.35 | 2.5 | 2.65 | V | — |
| Supply current | I_s | — | 7 | 9 | mA | no load |
| Sensitivity | $\Delta V/I$ | 13.5 | 16 | 18.5 | mV/AT | -25 °C to 100 °C [-13 °F to 212 °F] |
| Hysteresis | — | — | — | 0.5 | % | ±100 A |
| Temp error - null | $TC_{\Delta V_o/V_o}$ | -0.064 | — | 0.064 | %/°C | — |
| Temp error - gain | TC_G | -0.03 | — | 0.12 | %/°C | -25 °C to 100 °C [-13 °F to 212 °F] |
| Rise time | t_r | — | 3 | — | µs | 0 A to 2.0 A |

BLOCK DIAGRAM

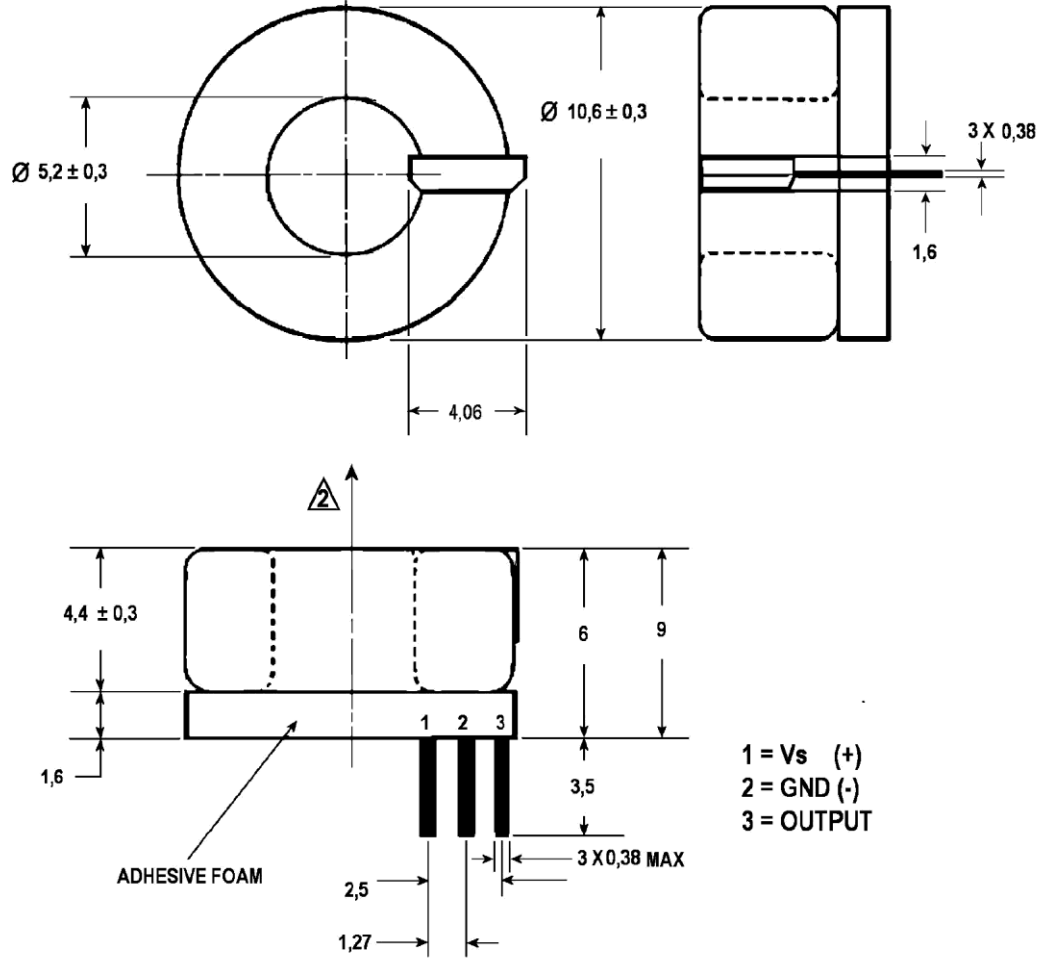


CSLT6B100 TYPICAL TRANSFER FUNCTION [25 °C]



Miniature, Open-Loop Current Sensors

DIMENSIONAL DRAWING (For reference only [mm])



1 = Vs (+)
 2 = GND (-)
 3 = OUTPUT

ORDER GUIDE

| Catalog Listing | Description |
|-----------------|---|
| CSLT6B100 | CSLT Series, Miniature, Open-Loop Current Sensor, 100 A |

WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

WARNING

MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

SALES AND SERVICE

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

E-mail: info.sc@honeywell.com

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Phone and Fax:

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