

DATA SHEET

Hall Effect Current Sensor

PN : HCS-LSP

IPN = 20A - 25A

Features

- Closed loop
- High accuracy
- Supply voltage : +5 V DC
- Voltage output
- Small PCB mounting
- Can be customized

Very good linearity
 Low power consumption
 Good over-current capability

Applications

- Frequency drive control home appliances
- Solar power management system
- Inverter applications
- Uninterruptible power supplies (UPS)
- Current monitoring



ELECTRICAL DATA

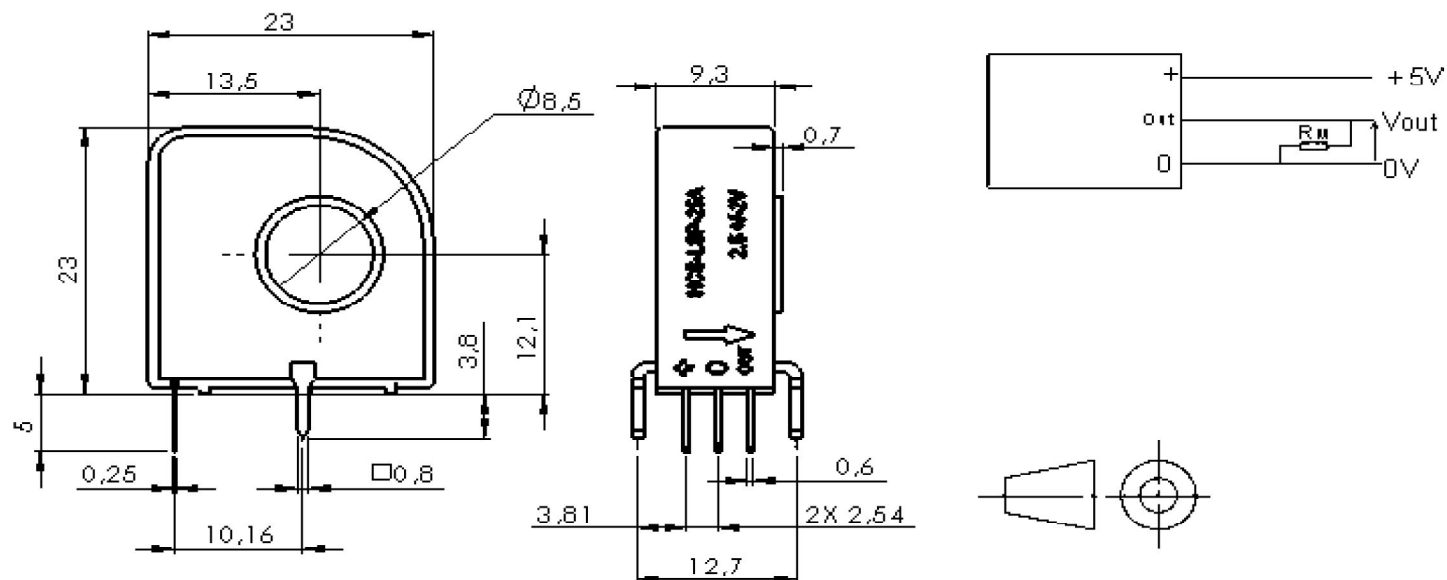
| HVS-LSP-... | 20 | 25 |
|--------------------------------|-------------------------------|----------|
| Maximum current I_P (A) | 20 | 25 |
| Measuring range I_{PM} (A) | ± 20 | ± 25 |
| Sampling resistor (Ω) | 50 | 100 |
| Secondary coil turns (T_S) | 1000 | 1250 |
| Rated output voltage V_O (V) | $V_{OE} \pm (I_P/I_{PN}) * 2$ | |
| Supply voltage V_C (Vdc) | $+5 \pm 5\%$ | |

ACCURACY DYNAMIC PERFORMANCE

GENERAL & ISOLATION CHARACTERISTICS

| | | | | | |
|--|----------------|----------------------|---|-------------|------------------|
| Zero offset voltage V_{OE} @ $I_P=0$, $T=25^\circ\text{C}$ | $2,5^{+0,015}$ | V | Operating temperature | -40 to +85 | $^\circ\text{C}$ |
| Offset voltage drift @ -40 $^\circ\text{C}$ to 85 $^\circ\text{C}$ | $\leq \pm 0,5$ | mV/ $^\circ\text{C}$ | Storage temperature | -40 to +126 | $^\circ\text{C}$ |
| Accuracy | $\pm 0,7$ | % | Weight | 10 | g |
| Linearity error ϵ_L | $\leq 0,1$ | % FS | Insulation voltage (50 Hz, 1min) | 3 | KV |
| di/dt accurately followed | > 50 | A/ μs | Impulse withstand voltage (1,2/50 μs) | > 8 | KV |
| Response time t_r | ≤ 1 | μs | Creepage distance (shell) | 15,4 | mm |
| Bandwidth (-1db) | DC to 200 | kHz | | | |

DIMENSIONS



MECHANICAL CHARACTERISTICS

| | |
|------------------------|-------------------------|
| General tolerance | $\pm 0,5$ mm |
| Through hole dimension | $\varnothing 8,5$ mm |
| Fixed tube feet | 0,8 mm x 0,9 mm |
| Terminal connection | 3 pins 0,25 mm x 0,5 mm |

Cautions :

I_S is positive when I_P flows in accordance with the arrow direction (see the side of the sensor);

Primary conductor temperature should not exceed 100 °C;

Best dynamic performances (di/dt and response time) are achieved with a single electrical conductor completely filling the through hole;

For the required connection circuit, see the drawing above.

WARNING : Incorrect wiring may cause damage to the sensor.