

DATA SHEET

Hall Effect Current Sensor



PN: CHK_BS5S2

IPN=50-600A

Feature

- Open- loop
- Capable measurement of currents: DC, AC, pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC +5.0V

Advantages

- Easy installation
- No insertion losses
- Low power consumption
- Wide current measuring range
- High immunity to external interference

Applications

- Inverter applications
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Frequency drive control home appliances



RoHS



Electrical data: (Ta=25°C, Vc=+5.0VDC, RL=2KΩ)

| Parameter \ Ref | CHK50 BS5S2 | CHK100 BS5S2 | CHK200 BS5S2 | CHK300 BS5S2 | CHK400 BS5S2 | CHK600 BS5S2 |
|---|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Rated input Ipn(A) | 50 | 100 | 200 | 300 | 400 | 600 |
| Measuring range Ip(A) | 0~±50 | 0~±100 | 0~±200 | 0~±300 | 0~±400 | 0~±600 |
| Output voltage Vo(V) | 2.500±2.0*(IP/IPN) | | | | | |
| Output voltage Vo(V) | @IP=0, T=25°C | | 2.500 | | | |
| Load resistance RL(KΩ) | >2.0 | | | | | |
| Supply voltage VC(V) | +5.0 ±5% | | | | | |
| Accuracy XG(%) | @IPN, T=25°C | | < ±1.0 | | | |
| Offset voltage VOE(mV) | @IP=0, T=25°C | | < ±25 | | | |
| Temperature variation of VOE VOT(mV/°C) | @IP=0, -40 ~ +85°C | | < ±1.0 | | | |
| Hysteresis offset voltage VOH(mV) | @IP=0, after 1*IPN | | < ±20 | | | |
| Linearity error εr(%FS) | < 1.0 | | | | | |
| Di/dt accurately followed (A/μs) | > 100 | | | | | |
| Response time tra(μs) | @90% of IPN | | < 3.0 | | | |
| Power consumption IC(mA) | 15 | | | | | |
| Bandwidth Bw(KHZ) | @-3dB, IPN | | DC-20 | | | |

| | | |
|---------------------------|-------------------|-----|
| Insulation voltage Vd(KV) | @50/60Hz, 1min,AC | 2.5 |
|---------------------------|-------------------|-----|

General data:

| Parameter | Value |
|------------------------------|------------------------|
| Operating temperature TA(°C) | -40 ~ +85 |
| Storage temperature TS(°C) | -55~ +125 |
| Mass M(g) | 70 |
| Plastic material | PBT G30/G15, UL94- V0; |
| Standards | IEC60950-1:2001 |
| | EN50178:1998 |
| | SJ20790-2000 |

Dimensions(mm):

| CHK-BS5S2U | CHK-BS5S2M | Connection |
|------------|------------|---|
| | | |
| | | General tolerance |
| | | General tolerance: $\pm 0.5\text{mm}$ Primary through-hole: $10.5 \times 20.5 \pm 0.3$ Connection of secondary : 2510-04A (instead of the Molex 5045-04A) |

Remarks:

- When the current goes through the primary pin of a sensor, the voltage will be measured at the output end.
- Custom design is available for the different rated input current and the output voltage.
- The dynamic performance is the best when the primary hole is fully filled with.
- The primary conductor should be <math>< 100^\circ\text{C}</math>.

WARNING : Incorrect wiring may cause damage to the sensor.