



# DATA SHEET

## Hall Effect Current Sensor

PN: CHB\_DSR5S6H

IPN=06~50A

### Feature

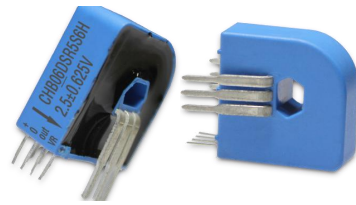
- Closed- loop (compensated) current transducer
- Capable measurement of currents: DC, AC,pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC +5.0V
- PCB mounting installation

### Advantages

- High accuracy
- Low temperature drift
- Optimized response time, no insertion losses
- Low power consumption
- Very good linearity
- Can be customized

### Applications

- The application of variable frequency electrical appliances
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Inverter applications



RoHS

Electrical data: (Ta=25°C, Vc=+5.0VDC,RL=2KΩ,CL=10000pF)

Parameter	Ref	CHB06DSR5S 6H	CHB15DSR5S 6H	CH25DSR5S 6H	CHB50DSR5S 6H
Rated input I <sub>pn</sub> (A)		06	15	25	50
Measuring range I <sub>p</sub> (A)		0~±19.2	0~±48	0~±84	0~±150
Turns ratio N <sub>p</sub> /N <sub>s</sub> (T)		1:960	1:1200	1:1000	1:2000
Inside resistance R <sub>M</sub> (Ω)		100±0.1%	50±0.1%	25±0.1%	25±0.1%
Output voltage V <sub>o</sub> (V)		VR±0.625*(IP/IPN)			
Output voltage V <sub>o</sub> (V)	@IP=0,T=25°C	2.500			
Reference voltage V <sub>R</sub> (V)	@Internal ref,ref out model	2.500			
Reference voltage V <sub>R</sub> (V)	@External ref,ref in model	1.9~2.7			
Supply voltage V <sub>C</sub> (V)		+5.0 ±5%			
Accuracy X <sub>G</sub> (%)	@IPN,T=25°C	< ±0.5			
Offset voltage V <sub>OE</sub> (mV)	@IP=0,T=25°C	< ±10			
Temperature variation of V <sub>OE</sub> V <sub>OT</sub> (mV/°C)	@IP=0,-40 ~ +85°C	< ±0.05			
Linearity error e <sub>r</sub> (%FS)		< 0.1			
Di/dt accurately followed (A/μs)		> 50			
Response time t <sub>ra</sub> (μs)	@90% of IPN	< 1.0			
Power consumption I <sub>C</sub> (mA)		10+I <sub>s</sub>			
Bandwidth BW(KHZ)	@-3dB,IPN	DC-200			



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Insulation voltage Vd(KV)	@50/60Hz, 1min,AC	4.0
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## General data:

Parameter	Value
Operating temperature TA(°C)	-40 ~ +85
Storage temperature TS(°C)	-55~ +125
Mass M(g)	10
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

## Dimensions(mm):

### Connection

### General tolerance

General tolerance: <math>\pm 0.2\text{mm}</math>  
 Primary through-hole & size of Primary pin :  
 $4.4 \times 6.6 \pm 0.15\text{mm}$  ;  $0.8 \times 0.9 \pm 0.15\text{mm}$  ;  
 Secondary pin: 4pin  $0.25 \times 0.5$ ;

Primary turns NP(T)	Rated input INP INP(A)				Rated output Voltage(V) VO(V)	Connection of primary pin
	$\pm 6.0$	$\pm 15.0$	$\pm 25.0$	$\pm 50.0$		
1	$\pm 6.0$	$\pm 15.0$	$\pm 25.0$	$\pm 50.0$	2.500 $\pm$ 0.625	
2	$\pm 3.0$	$\pm 7.5$	$\pm 12.5$	$\pm 25.0$	2.500 $\pm$ 0.625	
3	$\pm 2.0$	$\pm 5.0$	$\pm 8.3$	$\pm 16.6$	2.500 $\pm$ 0.625	

## 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.**

