

# DATA SHEET

## Hall Effect Current Sensor



**PN: CHB\_ES5S2**

**IPN=10~75A**

### 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

- Excellent accuracy
- Low temperature drift
- Optimized response time, no insertion losses
- Low power consumption

### Applications

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



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

Parmeter \ Ref	CHB10ES5S2	CHB25ES5S2	CH50ES5S2	CHB75ES5S2
Rated input Ipn(A)	10	25	50	75
Measuring range Ip(A)	0~±10	0~±25	0~±50	0~±75
Turns ratio Np/NS (T)	1:500	1:1250	1:2500	1:1500
Inside resistance RM(Ω)	100±0.1%	100±0.1%	100±0.1%	40±0.1%
Output voltage Vo(V)	2.500±2.000*(IP/IPN)			
Output voltage Vo(V)	@IP=0,T=25°C		2.500	
Reference voltage VR(V)	@Internal reference,re out		2.500	
Supply voltage VC(V)	+5.0 ±5%			
Accuracy XG(%)	@IPN,T=25°C		< ±0.7	
Offset voltage VOE(mV)	@IP=0,T=25°C		< ±25	
Temperature variation of VOE VOT(mV/°C)	@IP=0,-40 ~ +85°C		< ±0.5	
Linearity error εr(%FS)	< 0.1			
Di/dt accurately followed (A/μs)	> 50			
Response time tra(μs)	@90% of IPN		< 1.0	
Power consumption IC(mA)	10+Is			
Bandwidth BW(KHZ)	@-3dB,IPN		DC-200	
Insulation voltage Vd(KV)	@50/60Hz, 1min,AC		3.0	

## General data:

Parameter	Value
Operating temperature TA(°C)	-40 ~ +85
Storage temperature TS(°C)	-55 ~ +125
Mass M(g)	13
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

## Dimensions(mm):

	<p>Connection</p>
	<p>General tolerance</p> <p>General tolerance: &lt;math&gt;\pm 0.2\text{mm}&lt;/math&gt;            Primary through-hole: <math>D8.2 \pm 0.15\text{mm}</math>;            Secondary pin: 4pin <math>0.65 \times 0.65</math>;</p>

## 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  $< 100^\circ\text{C}$ .

**WARNING : Incorrect wiring may cause damage to the sensor.**