

DATA SHEET

Hall Effect Current Sensor



PN: CHB_DS5S2

IPN=15~30A

Feature

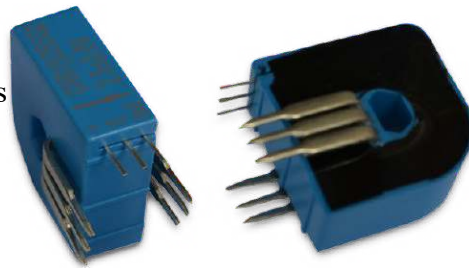
- Closed- loop (compensated) current transducer
- Capable measurement of currents: DC, AC,pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC +5.0V
- PCB mounting installation

Advantages

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

Applications

- Photovoltaic (PV) current applications
- 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	CHB15DS5S2	CHB20DS5S2	CH25DS5S2	CHB30DS5S2
Rated input Ipn(A)		15	20	25	30
Measuring range Ip(A)		0~±15	0~±20	0~±25	0~±30
Turns ratio Np/NS (T)		1:750	1:500	1:625	1:1500
Inside resistance RM(Ω)		100±0.1%	50±0.1%	50±0.1%	100±0.1%
Output voltage Vo(V)		2.500±2.0*(IP/IPN)			
Output voltage Vo(V)	@IP=0,T=25°C	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	4.0			

General data:

Parameter	Value
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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: $\pm 0.2\text{mm}$
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: 3pin 0.25×0.5 ;

Primary turns NP(T)	Rated input INP INP(A)				Rated output Voltage(V) VO(V)	Connection of primary pin
	± 15.0	± 20.0	± 25.0	± 30.0		
1	± 15.0	± 20.0	± 25.0	± 30.0	2.500 \pm 2.000	
2	± 7.5	± 10.0	± 12.5	± 15.0	2.500 \pm 2.000	
3	± 5.0	± 6.0	± 8.3	± 10.0	2.500 \pm 2.000	

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.