



DATA SHEET

Hall Effect Current Sensor

PN: CHB_AP3S1

IPN=50/100A

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 +3.3V
- PCB mounting installation

Advantages

- High accuracy
- Easy installation
- Low temperature drift
- Optimized response time, no insertion losses
- Low power consumption
- High immunity to external interference
- Very good linearity
- Can be customized

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=+3.3VDC,RL=2KΩ,CL=10000pF)

Parameter	Ref	CHB50AP3S1	CHB100AP3S1
Rated input Ipn(A)		50	100
Measuring range Ip(A)		0~±50	0~±100
Turns ratio Np/NS (T)		2000	2000
Inside resistance RM(Ω)		12.5±0.1%	6.25±0.1%
Output voltage Vo(V)		1.650±1.250*(IP/IPN)	
Output voltage Vo(V)	@IP=0,T=25°C	1.6500	
Supply voltage VC(V)		+3.3 ±5%	
Accuracy XG(%)	@IPN,T=25°C	< ±0.5	
Offset voltage VOE(mV)	@IP=0,T=25°C	< ±15	
Temperature variation of VOE VOT(mV/°C)	@IP=0,-40 ~ +85°C	< ±0.01	
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	



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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)	21
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

Dimensions(mm):

	<p style="text-align: center;">Connection</p>
	<p style="text-align: center;">General tolerance</p> <p>General tolerance: <math>\pm 0.2\text{mm}</math> Primary through-hole : $10.5 * 16.2 \pm 0.15\text{mm}$ Secondary pin: 3pin $0.6 * 0.65$</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 <math>< 100^{\circ}\text{C}</math>.

WARNING : Incorrect wiring may cause damage to the sensor.

