

# DATA SHEET

## Hall Effect Current Sensor



**PN: CHB\_LSP3S1**

**IPN=05~25A**

### 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
- 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=+3.3VDC,RL=2KΩ,CL=10000pF)**

Parmeter \ Ref	CHB05LSP3S1	CHB10LSP3S1	CH20LSP3S1	CHB25LSP3S1
Rated input Ipn(A)	05	10	20	25
Measuring range Ip(A)	0~±05	0~±10	0~±20	0~±25
Turns ratio Np/NS (T)	1:800	1:800	1:800	1:1000
Inside resistance RM(Ω)	200±0.1%	100±0.1%	50±0.1%	25±0.1%
Output voltage Vo(V)	1.650±1.250*(IP/IPN)			
Output voltage Vo(V)	@IP=0,T=25°C		1.650	
Supply voltage VC(V)	+3.3 ±5%			
Accuracy XG(%)	@IPN,T=25°C		< ±0.7	
Offset voltage VOE(mV)	@IP=0,T=25°C		< ±20	
Temperature variation of VOE VOT(mV/°C)	@IP=0,-40 ~ +85°C		< ±0.5	
Linearity error er(%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
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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):

	<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>D8.5 \pm 0.15\text{mm}</math>            Fixed pin: <math>0.8 * 0.9 \pm 0.15\text{mm}</math>;            Secondary pin: 3pin <math>0.25 * 0.5</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.**