



# DATA SHEET

## Hall Effect Current Sensor

**PN: CHB\_ES3S6**

**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 +3.3V
- PCB mounting installation

### Advantages

- Excellent 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



**Electrical data: (Ta=25°C, Vc=+3.3VDC,RL=2KΩ,CL=10000pF)**

Ref Parmeter	CHB10ES3S6	CHB25ES3S6	CH50ES3S6	CHB75ES3S6
Rated input Ipn(A)	10	25	50	75
Measuring range Ip(A)	0~±20	0~±50	0~±100	0~±150
Turns ratio Np/NS (T)	1:800	1:2000	1:2000	1:2000
Inside resistance RM(Ω)	50±0.1%	50±0.1%	25±0.1%	16.5±0.1%
Output voltage Vo(V)	1.650±0.625*(IP/IPN)			
Output voltage Vo(V)	@IP=0,T=25°C		1.650	
Reference voltage VR(V)	@Internal reference,reout		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	



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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):

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

## 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.**



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