

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

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)

Parameter	Ref	CHB10ES3S6	CHB25ES3S6	CH50ES3S6	CHB75ES3S6
Rated input I _{pn} (A)		10	25	50	75
Measuring range I _p (A)		0~±20	0~±50	0~±100	0~±150
Turns ratio N _p /N _S (T)		1:800	1:2000	1:2000	1:2000
Inside resistance R _M (Ω)		50±0.1%	50±0.1%	25±0.1%	16.5±0.1%
Output voltage V _o (V)		1.650±0.625*(I _P /I _{PN})			
Output voltage V _o (V)		@I _P =0,T=25°C		1.650	
Reference voltage V _R (V)		@Internal reference, reout		1.650	
Supply voltage V _C (V)		+3.3 ±5%			
Accuracy X _G (%)		@I _{PN} ,T=25°C		< ±0.7	
Offset voltage V _{OE} (mV)		@I _P =0,T=25°C		< ±20	
Temperature variation of V _{OE} V _{OT} (mV/°C)		@I _P =0,-40 ~ +85°C		< ±0.5	
Linearity error ε _r (%FS)		< 0.1			
Di/dt accurately followed (A/μs)		> 50			
Response time τ _{ra} (μs)		@90% of I _{PN}		< 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: <math>\pm 0.2\text{mm}</math> Primary through-hole: $D8.2 \pm 0.15\text{mm}$; Secondary pin: 4pin 0.65×0.65;</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 $<100^\circ\text{C}$.

WARNING : Incorrect wiring may cause damage to the sensor.