



DATA SHEET

Hall Effect Current Sensor

PN: PTCHK-HC5F5S2L

IPN=200-900A

Feature

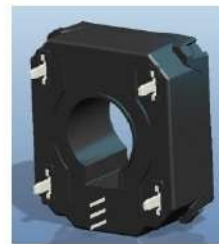
- Open- loop
- Capable measurement of currents: DC, AC, pulse with galvanic isolation between primary circuit and secondary circuit.
- Internal circuit adopts ASIC packaging technology products
- Supply voltage: DC +5.0V

Advantages

- Good accuracy for high and low current range
- Good linearity
- Low thermal offset drift
- Low thermal sensitivity drift

Applications

- EV and utility vehicle
- Battery pack monitoring
- Hybrid Vehicles
- Uninterruptible Power Supplies (UPS)
- Inverter applications



RoHS

Electrical data: (Ta=25°C, Vc=+5.0VDC,RL=10KΩ)

Parameter Ref	PTCHK200 HC5F5S2L	PTCHK300 HC5F5S2L	PTCHK500 HC5F5S2L	PTCHK600 HC5F5S2L	PTCHK700 HC5F5S2L	PTCHK800 HC5F5S2L	PTCHK900 HC5F5S2L
Rated input I _{pn} (A)	200	300	500	600	700	800	900
Measuring range I _p (A)	0 ~ ±225	0 ~ ±330	0 ~ ±550	0 ~ ±660	0 ~ ±770	0 ~ ±880	0 ~ ±990
Sensitivity S(mV/A)	10	6.67	4	3.33	2.86	2.5	2.22
Output voltage V _o (V)	V _c /2 ± I _p *S						
Output voltage V _o (V)	@I _p =0,T=25°C,+5V						
Supply voltage V _c (V)	+5.0 ±5%						
Current consumption I _c (mA)	<20						
Offset voltage V _{oE} (mV)	@I _p =0,T=25°C						
Hysteresis offset voltage V _{oH} (mV)	@I _p =0,after 1*IPN						
Temperature variation of VOE V _{oT} (mV/°C)	@I _p =0,-40 ~ +85° C						



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Sensitive error XG(%)	@T=25° C	±0.5
	@-40° C<T<125° C	< ±1.5
Linearity error εr(%FS)		< ±0.5
Load resistance RL(KΩ)		> 10
Capacitive loading CL(nF)		1~10
Output clamping voltage min VSZ(V)	@VC=5.0V	0.24~0.26
Output clamping voltage max VSZ(V)	@VC=5.0V	4.74~4.76
Output internal resistance Rout(Ω)		1~10
Bandwidth BW(KHZ)	@-3DB	30
Response time Tra(μs)	@90% of IPN ,	< 7.0

Absolute maximum ratings:

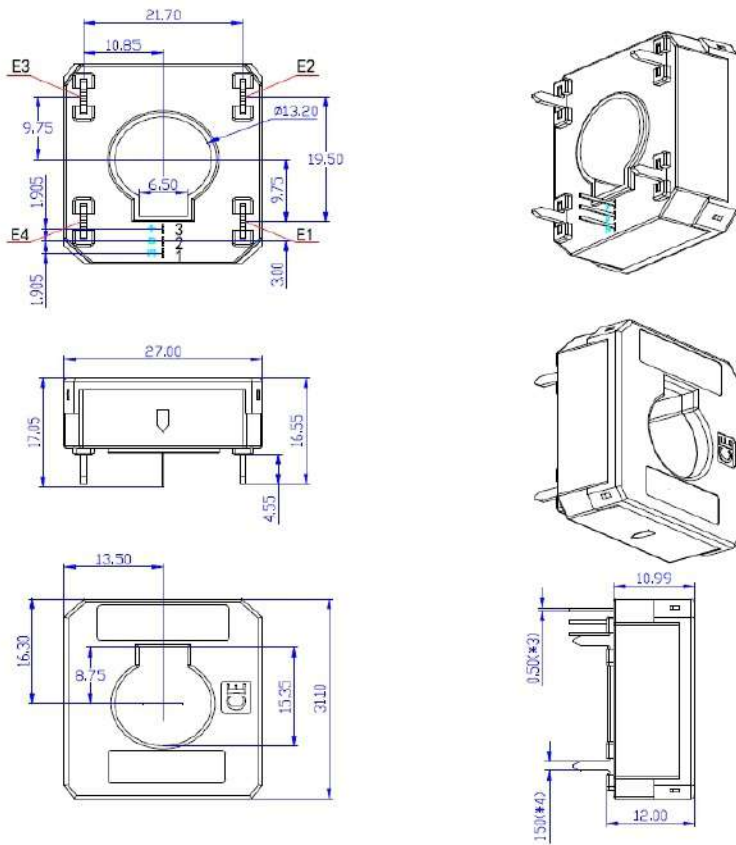
Parameter	Value	Conditions
Supply voltage VC(V)	<6.0	
	6.0	@1min, T=25° C
	-0.1	@1min, T=25° C

General data:

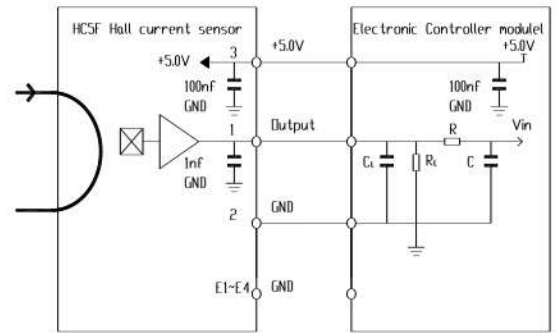
Parameter	Value
Operating temperature TA(°C)	-40 ~ +125
Storage temperature TS(°C)	-55~ +125
Mass M(g)	30
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000



Dimensions(mm):



Connection



Bill of Materials

Plastic case :PBT GF30

Magnetic core: Iron silicon alloy

Electrical terminal:Brass tin plated

Secondary pin(1,2,3): 0.5*0.25

Fixed pin(E1~E4): Copper alloy base tin plated
0.8*1.5±0.05mm

General tolerance

General tolerance:< ±0.5mm

At least 1 of these 4 pins must be connected the ground

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 if fully filled with.
- The primary conductor should be <100°C.

WARNING : Incorrect wiring may cause damage to the sensor.

