



DATA SHEET

Hall Effect Current Sensor

PN: PTCHK-HAHE5S2L

I_{PN}=50-1500A

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: (T_a=25°C, V_c=+5.0VDC, R_L=10KΩ)

Parameter	PTCHK50 HAHE5S2L	PTCHK100 HAHE5S2L	PTCHK200 HAHE5S2L	PTCHK500 HAHE5S2L	PTCHK600 HAHE5S2L	PTCHK800 HAHE5S2L	PTCHK1000 HAHE5S2L	PTCHK1200 HAHE5S2L	PTCHK1500 HAHE5S2L
Rated input I _{pn} (A)	±50	±100	±200	±500	±600	±800	±1000	±1200	±1500
Measuring range I _p (A)	0 ~ ±56	0 ~ ±112	0 ~ ±225	0 ~ ±563	0 ~ ±675	0 ~ ±900	0 ~ ±1000	0 ~ ±1200	0 ~ ±1500
Sensitivity S(mV/A)	40	20	10	5	3.33	2.5	2	1.67	1.33
Output voltage V _o (V)	$V_c/5 * (2.500 \pm 2.000 * I_p / I_{PN})$								
Output voltage V _o (V)	@I _p =0, T=25°C, +5V				$V_c/2$				
Supply voltage V _c (V)	+5.0 ±5%								
Current consumption I _c (mA)	<15								
Offset voltage V _{OE} (mV)	@I _p =0, T=25°C				< ±5.0				
Hysteresis offset	@I _p =0, after 1*I _{PN}				< ±5.0				



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voltage $V_{OH}(mV)$		
Temperature variation of V_{OE} $V_{OT}(mV/^{\circ}C)$	@ $I_P=0, -40 \sim +85^{\circ} C$	$< \pm 0.05$
sensitive error $XG(\%)$	@ $T=25^{\circ} C$	± 0.5
	@ $-40^{\circ} C < T < 125^{\circ} C$	$< \pm 1.5$
Linearity error $er(\%FS)$		$< \pm 0.5$
Load resistance $R_L(K\Omega)$		> 10
Capacitive loading $C_L(nF)$		1~10
Output clamping voltage min $VSZ(V)$	@ $V_C=5.0V$	0.24~0.26
Output clamping voltage max $VSZ(V)$	@ $V_C=5.0V$	4.74~4.76
Output internal resistance $R_{out}(\Omega)$		1~10
Bandwidth $BW(KHZ)$	@-3DB	50
Response time $T_{ra}(\mu s)$	@90% of I_{PN} ,	< 7.0

Absolute maximum ratings:

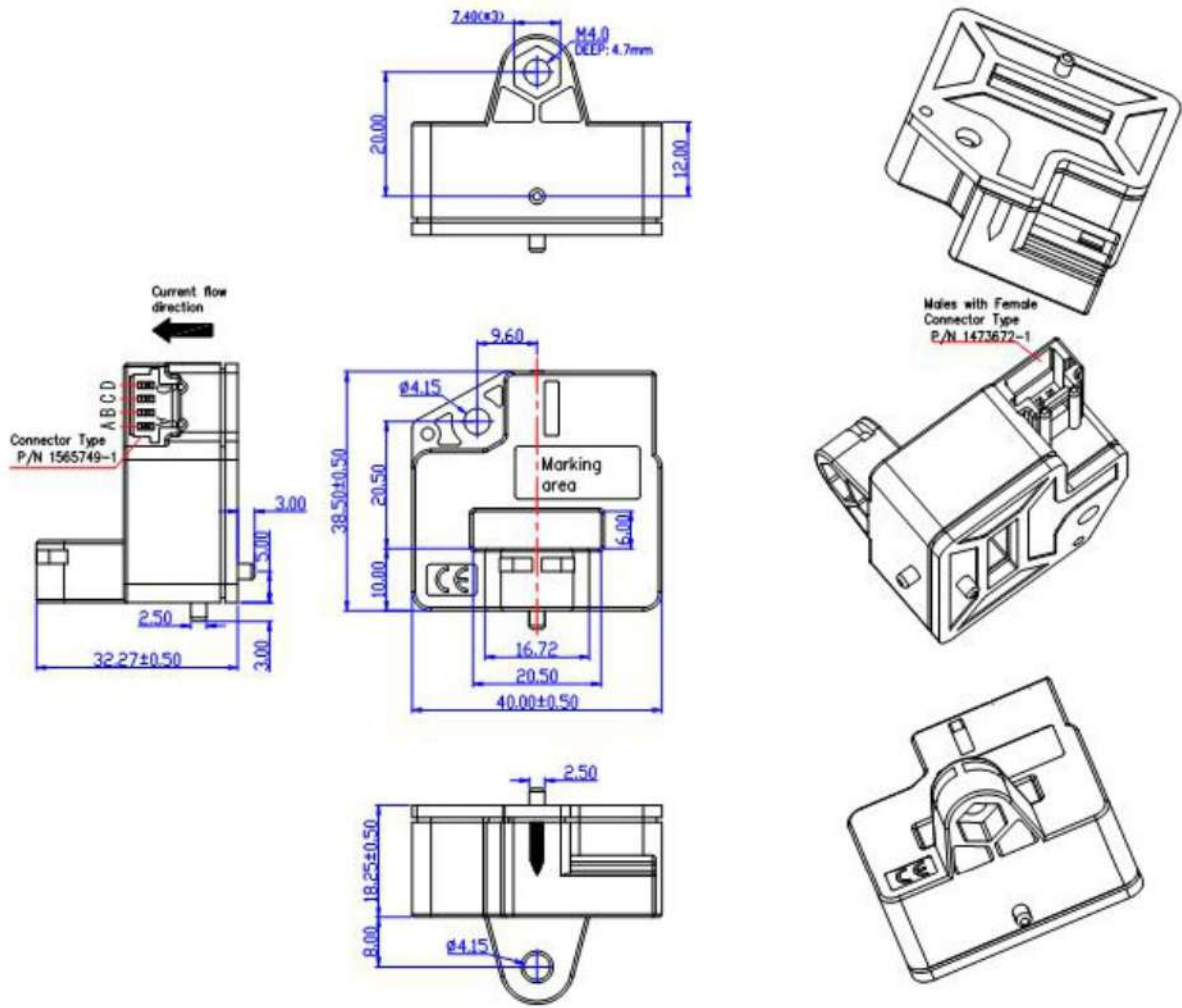
Parameter	Value	Conditions
Supply voltage $V_C(V)$	< 6.0	
	6.0	@ I_{min} , $T=25^{\circ} C$
	-0.1	@ I_{min} , $T=25^{\circ} C$

General data:

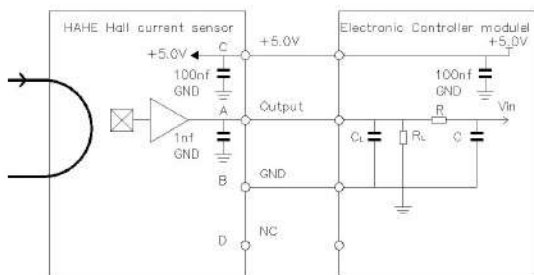
Parameter	Value
Operating temperature $T_A(^{\circ}C)$	-40 ~ +125
Storage temperature $T_S(^{\circ}C)$	-55 ~ +125
Mass $M(g)$	65
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000



Dimensions(mm):



Connection



Bill of Materials

- Plastic case :PBT GF30
- Magnetic core: Iron silicon alloy
- Electrical terminal:Brass tin plated
- Connector type: TYCO 1473672-1

General tolerance

- General tolerance:< ±0.5mm
- Primary through-hole: 20.5*6.0±0.5

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°C.

WARNING : Incorrect wiring may cause damage to the sensor.

