



# DATA SHEET

## Hall Effect Current Sensor

PN:CHK-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
- Hybird Vehicles
- Uninterruptible Power Supplies (UPS)
- Inverter applications



RoHS



### Electrical data: ( $T_a=25^{\circ}C$ , $V_c=+5.0VDC$ , $R_L=10K\Omega$ )

Parameter	CHK50HA HE5S2L	CHK100H AHE5S2L	CHK200H AHE5S2L	CHK500H AHE5S2L	CHK600H AHE5S2L	CHK800H AHE5S2L	CHK1000 HAHE5S2 L	CHK1200 HAHE5S2 L	CHK1500 HAHE5S2 L
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 $V_o(V)$	@ $I_p=0$ , $T=25^{\circ}C$ , +5V				$V_c/2$				
Supply voltage $V_c(V)$	+5.0 ±5%								
Current consumption $I_c(mA)$	<15								
Offset voltage $V_{OE}(mV)$	@ $I_p=0$ , $T=25^{\circ}C$				< ±5.0				
Hysteresis offset	@ $I_p=0$ , after $1 * I_{PN}$				< ±5.0				



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voltage $V_{OH}(mV)$		
Temperature variation of $V_{OE}$ $V_{OT}(mV/°C)$	@ $I_P=0, -40 \sim +85^\circ C$	$< \pm 0.05$
sensitive error $XG(\%)$	@ $T=25^\circ C$	$\pm 0.5$
	@ $-40^\circ C < T < 125^\circ C$	$< \pm 1.5$
Linearity error $\epsilon r(\%FS)$		$< \pm 0.5$
Load resistance $R_L(K\Omega)$		$> 10$
Capacitive loading $C_L(nF)$		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 $R_{out}(\Omega)$		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	@ $I_{min}$ , $T=25^\circ C$

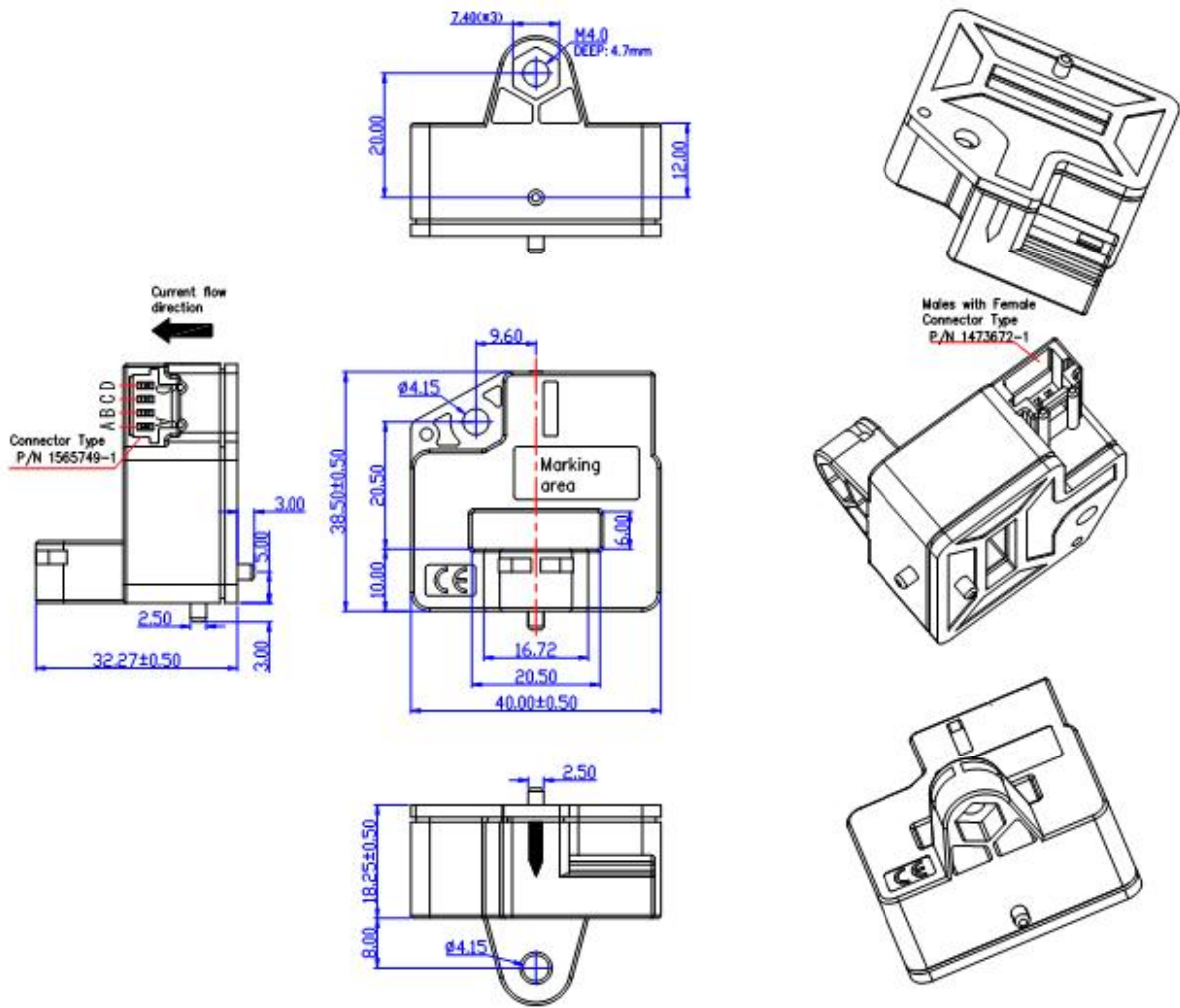
## General data:

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

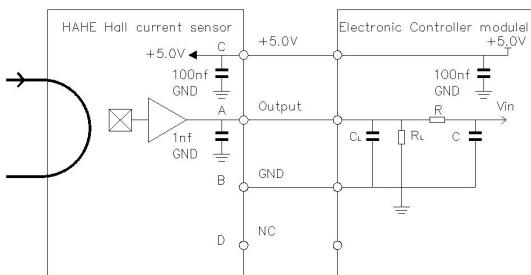


**Cheemi Technology Co., Ltd**  
 Tel: 025-85996365    E-mail: [info@cheemi-tech.com](mailto:info@cheemi-tech.com)    [www.cheemi-tech.com](http://www.cheemi-tech.com)  
 Add: N22, Xianlongwan, Xianyin South Road, Qixia District, Nanjing - China.

**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:<math>\pm 0.5\text{mm}</math>
- 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 <math>< 100^{\circ}\text{C}</math>.

**WARNING : Incorrect wiring may cause damage to the sensor.**



