

DATA SHEET

Hall Effect Current Sensor



PN: CHK-ES5S2LS2

IPN=15-100A

Feature

- Open- loop current transducer using the hall effect
- For the electronic measurement of currents: DC, AC,pulsed,..., with galvanic separation between primary circuit and secondary circuit
- Supply voltage: DC +5.0V

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time, no insertion losses
- High immunity to external interference

Applications

- Photovoltaic (PV) current applications
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Inverter applications



RoHS



Electrical data: ($T_a=25\pm 5^\circ\text{C}$, $V_c=+5.0\text{VDC}$, $R_L=2\text{k}\Omega$)

Parameter Ref	CHK15 ES5S2LS2	CHK20 ES5S2LS2	CHK25 ES5S2LS2	CHK50 ES5S2LS2	CHK100 ES5S2LS2
Rated input $I_{pn}(A)$	15	20	25	50	100
Measuring range $I_p(A)$	$0 \sim \pm 15$	$0 \sim \pm 20$	$0 \sim \pm 25$	$0 \sim \pm 50$	$0 \sim \pm 100$
Overload Current $I_{pm}(A)$	300				
Output voltage $V_o(V)$	$V_c/2 \pm 2.000 * (I_p/I_{pn})$				
Output voltage $V_o(V)$	@ $I_p=0, T=25^\circ\text{C}$		$V_c/2$		
Supply voltage $V_c(V)$	$+5.0 \pm 5\%$				
Accuracy $X_G(\%)$	@ $I_{pn}, T=25^\circ\text{C}$		$< \pm 1.0$		
Offset voltage $V_{OE}(mV)$	@ $I_p=0, T=25^\circ\text{C}$		$< \pm 10$		
Temperature variation of V_{OE} $V_{OT}(mV/^\circ\text{C})$	@ $I_p=0, -40 \sim +85^\circ\text{C}$		$< \pm 0.1$		
Temperature variation of V_o $V_{OS}(\%)$	@ $I_p=I_{pn}, -40 \sim +85^\circ\text{C}$		$< \pm 1.0$		
Linearity error $\epsilon_r(\%FS)$	< 0.5				

Di/dt accurately followed (A/μs)		> 50
Response time t_{ra} (μs)	@90% of I _{pn}	<100
Power consumption I _c (mA)		10
Bandwidth Bw(KHZ)	@-3dB, I _{pn}	DC-3.0
Insulation voltage V _d (KV)	@50/60Hz, 1min,AC	4.0
Insulation Resistance R _{is} (MΩ)	@500VDC	>1000

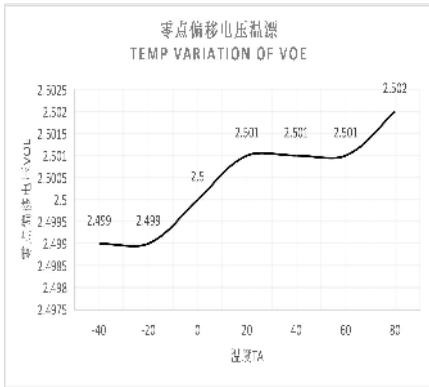
General data:

Parameter	Value
Operating temperature TA(°C)	-40 ~ +85
Storage temperature TS(°C)	-55~ +125
Mass M(g)	12
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

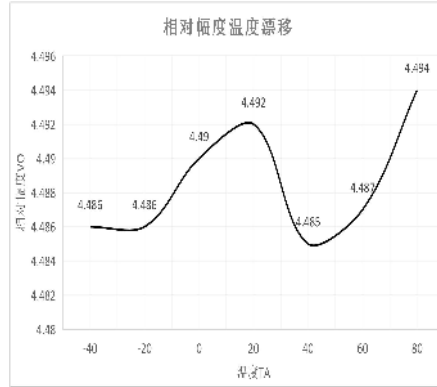
Dimensions(mm):

	<p style="text-align: center;">Connection</p> <p style="text-align: center;">General tolerance</p> <p>General tolerance: <math>\pm 0.2\text{mm}</math> Primary through-hole: $D 8.2 \pm 0.15\text{mm}$ Secondary pin: 4pin 0.65×0.65</p>
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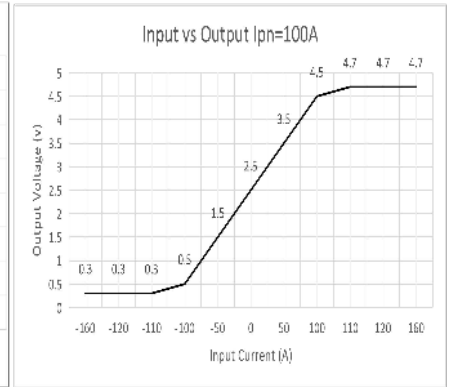
Reference Data:



零偏电压温度 Variation



Temp Variation of V_0



Input vs Output

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.