

分流器电流检测模块-HSM Series

Shunt sensor module--- HSM Series



业展电子
YEZHAN ELECTRONICS

特征 Features

过电流能力强

Excellent current ability

内置NTC温度传感器,
温度信号实时输出,
可用于温度监控或温漂补偿

Built in NTC temperature sensor,
real-time output of temperature signal,
which can be used for temperature monitoring
or temperature drift compensation

低寄生感值 < 3nH

Low inductance < 3nH

低热电动势 1 μ V/°C

Low thermal EMF 1 μ V/°C

使用温度 -40~125°C

Operating Temperature -40~125°C

检测精度 $\pm 0.2\%$

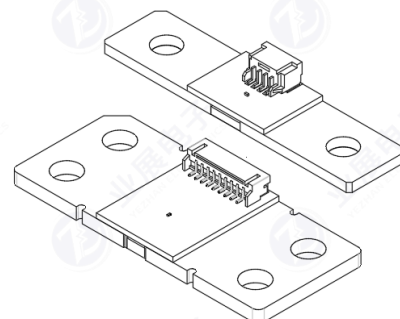
Detection Accuracy $\pm 0.2\%$

符合RoHS、REACH要求

RoHS、REACH Compliant

AEC-Q200测试合格

AEC-Q200 Qualified



应用范围 Applications

电流采样

Current sensing

储能电池系统

Energy storage battery system

用于动力电池中BMS的电流传感器 Current sensor for BMS in power battery

订购信息 Ordering Information

Example:

HSM

类型
Type

HSM

- 1000

电流
Current

Unit: A

- 8436

尺寸
Size

8436:
84*36mm
8420:
84*20mm

- 0001

内部代码
Internal code

0001

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标准电气规范 Standard Electrical Specifications

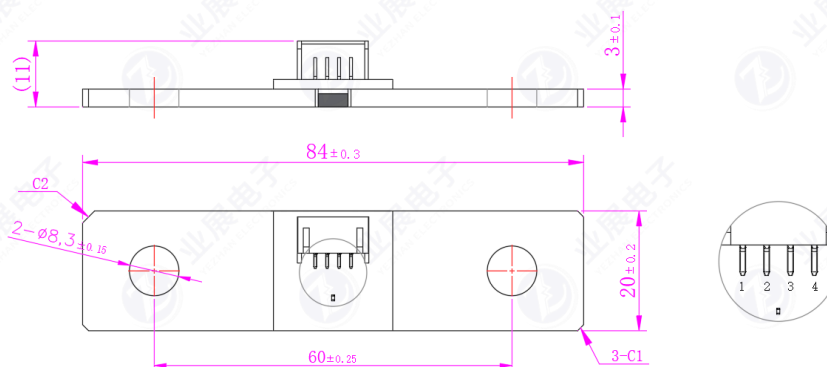
规格 Type	额定电流 Current (A)	NTC	连接器 Connector	最大电流 Peak Current (A)
HSM-350	350	10kΩ	4pin	860A@30s 1000A@10s
HSM-500	500		4pin	860A@30s 1200A@10s
HSM-800	800		7pin	1200A@30s 1700A@10s
HSM-1000	1000		9pin	1400A@30s 2000A@10s

* 可按要求定制或增加电容 Customizable.

分流器Shunt					
规格 Type	尺寸 Size	阻值 Resistance Value (μΩ)	阻值容差 Resistance Tolerance	工作温度 Operating Temperature	温度系数 TCR (20~120℃) (ppm/℃)
HSM-350	8420	100	±5%	-65℃ ~+170℃	±100
HSM-500	8420	50			±125
HSM-800	8436	25			±125
HSM-1000	8436	25			±200
NTC					
零功率电阻	Zero Power Resistance		10KΩ @25℃		
R25公差	Tolerance of R25		±1%		
温度系数B值	B Value (25/50℃)		3380K		
工作温度	Operating Temperature		-40℃ ~ +150℃		

产品尺寸Products Dimension

HSM-350
HSM-500



连接器接口定义 Connector interface definition			
部件 Component	厂家 Manufacturer	零件号 Part No.	针脚定义 Pin definition
连接器 Connector	MOLEX	502352-0400	1: TEMP_P
			2: SHUNT1_P
			3: SHUNT1_N
			4: TEMP_N
线端连接器 Connector mates part	MOLEX	560123-0400, 505151-0401	

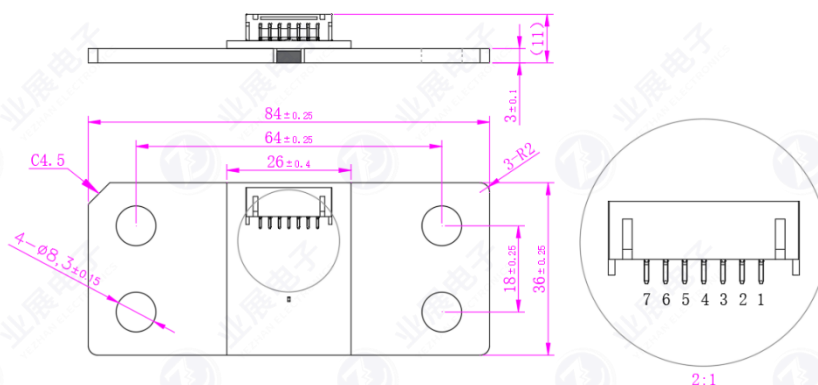
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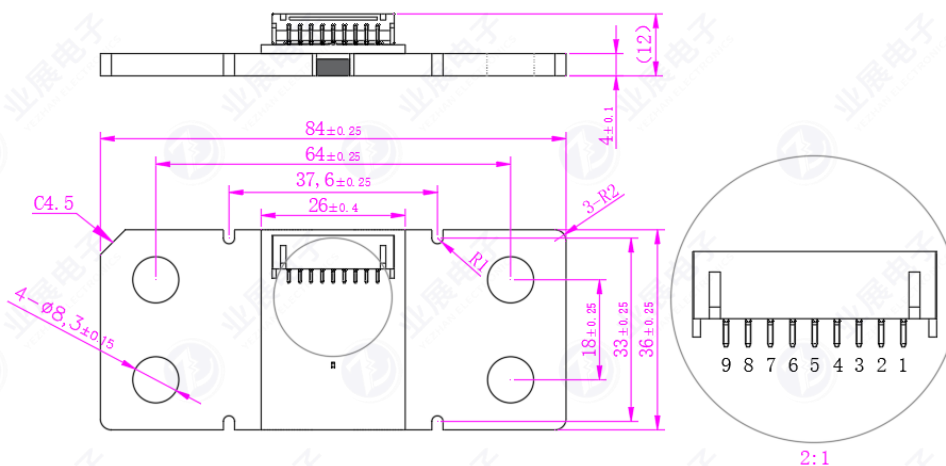
HSM-800



连接器接口定义 Connector interface definition

部件 Component	厂家 Manufacturer	零件号 Part No.	引脚定义 Pin definition
连接器 Connector	MOLEX	5023520700	1: TEMP_P
			2: SHUNT0_P
			3: SHUNT1_P
			4: SHUNT1_N
			5: SHUNT0_N
			6: TEMP_N
			7: SHUNT_GND
线端连接器 Connector mates part	MOLEX	5601230700	

HSM-1000



连接器接口定义 Connector interface definition

部件 Component	厂家 Manufacturer	零件号 Part No.	引脚定义 Pin definition
连接器 Connector	MOLEX	5023520900	1: SHUNT3_P
			2: SHUNT3_N
			3: SHUNT1_P
			4: SHUNT1_N
			5: SHUNT2_P
			6: SHUNT2_N
			7: SHUNT2_GND
			8: SHUNT2_TEMP_P
			9: SHUNT2_TEMP_N
线端连接器 Connector mates part	MOLEX	5601230900	

» 耐久性测试 Endurance Test

Items	Additional Requirements	Reference	Limits
Temperature Cycling	1000 Cycles (-40°C to +125°C)	JESD22 Method JA-104	±0.5%
High Temperature Exposure	1000hrs.@T=125°C.Unpowered.	MIL-STD-202 Method 108	±0.5%
Low Temperature Storage	250hrs.@T=-40°C.Unpowered.	MIL-STD-202 Method 108	±0.5%
Moisture Resistance	t=24 hours/cycle. Note: Steps 7a & 7b not required. Unpowered, 20 cycles.	MIL-STD-202 Method 106	±0.5%
Damp Heat Storage	1000hrs 85°C/85%RH, Unpowered.	MIL-STD-202 Method 103	±0.5%
Mechanical Shock	100g , 6ms , axes ±X 、 ±Y and ±Z, 3 Shocks per axis, total 18 times.	MIL-STD-202 Method 213	±0.5%
Vibration	(10 - 2000 Hz) ,5 g's for 20 min, 12 cycles each of 3 orientations.	MIL-STD-202 Method 204	±0.5%
Free Fall	3 axis, 2 falls per DUT by axis, 1m, concrete ground or steel plate	ISO 16750-3	±0.5%

» 包装 Packaging

托盘包装 Pallet packing.

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2023.06.19

受控文件

版本信息 Version History

版本 Version	日期 Date	修订描述 Description of amendment	拟定 Draft	审核 Checked
A1.0	30-May-2023	首版发行	邓小辉	胡紫阳

YZ-WP-EN-280