

# Hall Effect Current Sensors S22P\*\*\*S05M2 Series



**Specifications** 

#### Features:

- · Closed Loop type
- Voltage output
- Unipolar power supply
- Configurable integrated primary
- · Printed circuit board mounting
- UL recognised plastic case material UL94V0
- Improved dv/dt Immunity

#### **Advantages:**

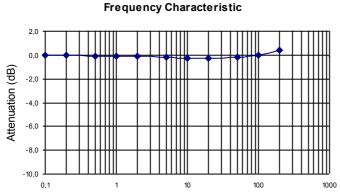
- · Excellent accuracy and linearity
- Low temperature drift
- Wide frequency bandwidth
- No insertion loss
- High Immunity to external interferences
- · Optimised response time
- Current overload capability

 $T_A$ =25°C,  $V_{CC}$ =+5V,  $R_L$ =10k $\Omega$ 

Parameters	Symbol	S22P006S05M2	S22P015S05M2	S22P025S05M2
Rated Current	I <sub>f</sub>	6A	15A	25A
Saturation Current	I <sub>fmax</sub>	±18A	±45A	±75A
Output Voltage	V <sub>OUT</sub>	V <sub>OE</sub> ±0.625V @ I <sub>f</sub>		
Offset Voltage @ I <sub>f</sub> =0	V <sub>OE</sub>	2.5V±50mV	2.5V±20mV	2.5V±15mV
Output Voltage Accuracy	х	0.625V±10mV @ I <sub>f</sub>		
Output Linearity	ε <sub>L</sub>	±0.2% @ I <sub>f</sub>		
Supply Voltage	V <sub>cc</sub>	+5V±5%		
Current Consumption	Icc	Typ. 12.5mA (If=0)+37.5mA(If=max)		
Response Time <sup>1</sup>	t <sub>r</sub>	≤ 1.0µs @ di/dt = I <sub>f</sub> / µs		
Output Temperature Characteristic	TCV <sub>OUT</sub>	< ±0.05mV/°C		
Offset Temperature Characteristic	TCV <sub>OE</sub>	-10°C~25°C : ±1.6mV/°C 25°C~85°C : ±0.8mV/°C	-10°C~25°C : ±0.6mV/°C 25°C~85°C : ±0.3mV/°C	-10°C~25°C : ±0.4mV/°C 25°C~85°C : ±0.2mV/°C
Hysteresis allowance	V <sub>OH</sub>	≤0.5mV (0A ⇔ <b>I</b> <sub>f</sub> )		
Insulation Withstanding	V <sub>d</sub>	AC 3kV for 1minute (Sensing current 0.5mA) Primary ⇔ Secondary		
Insulation Resistance	R <sub>IS</sub>	> 500MΩ (@ DC500V) Primary ⇔ Secondary		
Frequency Bandwidth	f	DC 200 kHz		
Operating Temperature	TA	-10°C~+85°C		
Storage Temperature	Ts	-25°C~+85°C		

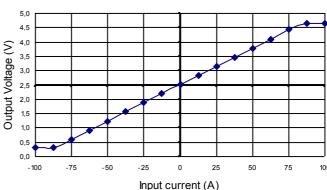
<sup>&</sup>lt;sup>1</sup> Time between 10% input current full scale and 90% of sensor output full scale

#### **Electrical Performances**



If frequency (kHz) @ If = 1.0Arms

### **Saturation Characteristic**







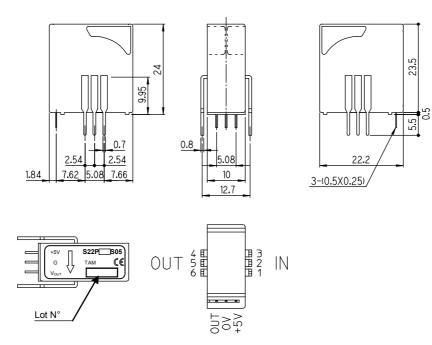




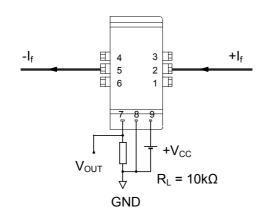


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### **Mechanical dimensions in mm**



# **Electrical connection diagram**



#### Connection diagram

+I <sub>f</sub> / 3	6 5 4 0 0 OUT
	IN O O O 1 2 3
	6 5 4 O—O OUT
+I <sub>f</sub> / 2	IN O O O 1 2 3
_	6 5 4 O—O—O OUT
+I <sub>f</sub>	IN 🔾 — 🔾 — 🔾 1 2 3

# Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
8g	100	400	9600









# **Mouser Electronics**

**Authorized Distributor** 

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# Tamura:

S22P025S05M2 S22P015S05M2