Hall Effect Current Sensors S22P***S05M2 Series

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

Specifications

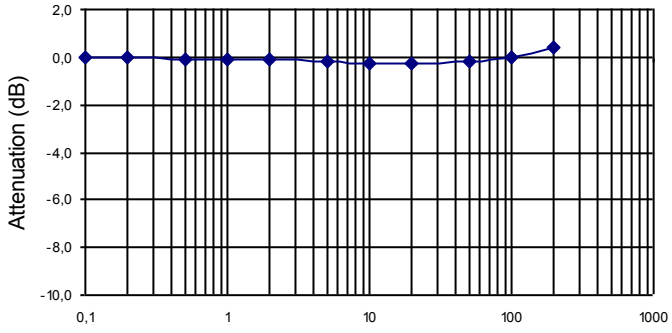
T_A=25ºC, V_{CC}=+5V, R_L=10kΩ

Parameters	Symbol	S22P006S05M2	S22P015S05M2	S22P025S05M2
Rated Current	I_f	6A	15A	25A
Saturation Current	I_{fmax}	±18A	±45A	±75A
Output Voltage	V_{OUT}	V_{OE} ±0.625V @ I_f		
Offset Voltage @ I_f=0	V_{OE}	2.5V±50mV	2.5V±20mV	2.5V±15mV
Output Voltage Accuracy	X	0.625V±10mV @ I_f		
Output Linearity	ε_L	±0.2% @ I_f		
Supply Voltage	V_{CC}	+5V±5%		
Current Consumption	I_{CC}	Typ. 12.5mA (If=0)+37.5mA(If=max)		
Response Time[1]	t_r	≤ 1.0µs @ di/dt = I_f / µs		
Output Temperature Characteristic	TCV_{OUT}	< ±0.05mV/ºC		
Offset Temperature Characteristic	TCV_{OE}	-10ºC~25ºC : ±1.6mV/ºC 25ºC~85ºC : ±0.8mV/ºC	-10ºC~25ºC : ±0.6mV/ºC 25ºC~85ºC : ±0.3mV/ºC	-10ºC~25ºC : ±0.4mV/ºC 25ºC~85ºC : ±0.2mV/ºC
Hysteresis allowance	V_{OH}	≤0.5mV (0A ⇔ I_f)		
Insulation Withstanding	V_d	AC 3kV for 1minute (Sensing current 0.5mA) Primary ⇔ Secondary		
Insulation Resistance	R_{IS}	> 500MΩ (@ DC500V) Primary ⇔ Secondary		
Frequency Bandwidth	f	DC … 200 kHz		
Operating Temperature	T_A	-10ºC~+85ºC		
Storage Temperature	T_S	-25ºC~+85ºC		

[1] Time between 10% input current full scale and 90% of sensor output full scale

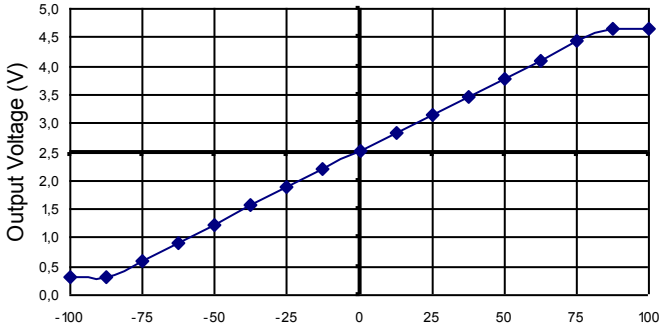
Electrical Performances

Frequency Characteristic



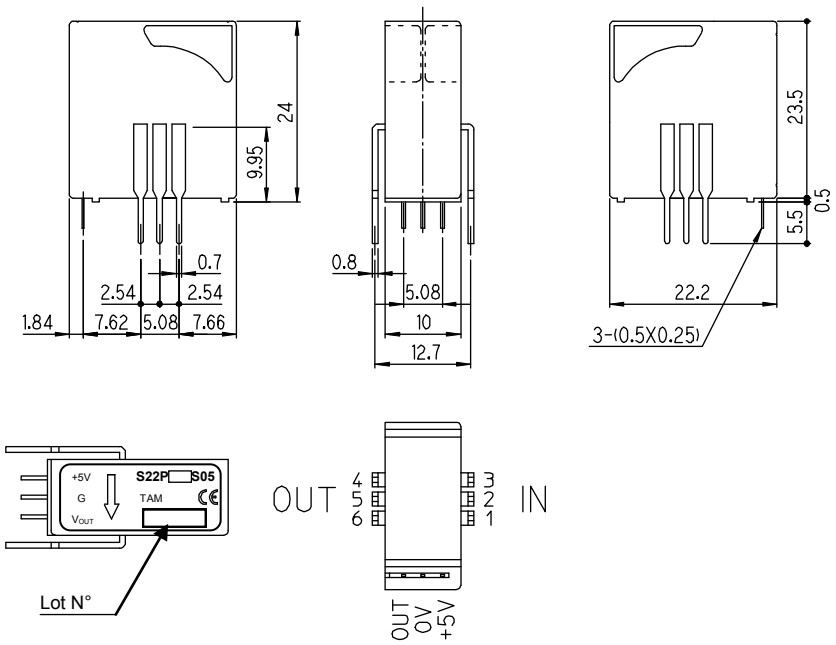
I_F frequency (kHz) @ I_F = 1.0Arms

Saturation Characteristic

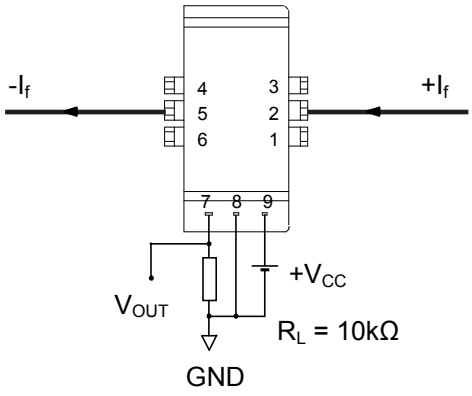


Input current (A)

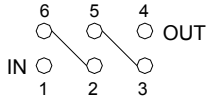
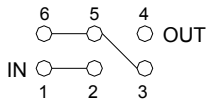
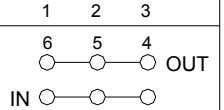
Mechanical dimensions in mm



Electrical connection diagram



Connection diagram

$+I_f$ / 3	
$+I_f$ / 2	
$+I_f$	

Package & Weight Information

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