

# Hall Effect Current Sensors S22P Series



## Features:

- Closed Loop type
- Voltage output
- Unipolar power supply
- Configurable integrated primary
- Printed circuit board mounting
- UL recognised - plastic case material UL94V0

## 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

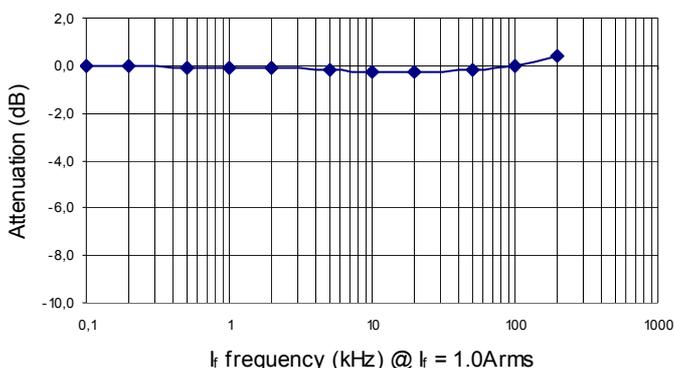
$T_A=25^{\circ}\text{C}$ ,  $V_{CC}=+5\text{V}$ ,  $R_L=10\text{k}\Omega$

Parameters	Symbol	S22P006S05	S22P015S05	S22P025S05
Rated Current	$I_f$	6A	15A	25A
Saturation Current	$I_{fmax}$	$\pm 18\text{A}$	$\pm 45\text{A}$	$\pm 75\text{A}$
Output Voltage	$V_{OUT}$	$V_{OE} \pm 0.625\text{V} @ I_f$		
Offset Voltage @ $I_f=0$	$V_{OE}$	$2.5\text{V} \pm 50\text{mV}$	$2.5\text{V} \pm 20\text{mV}$	$2.5\text{V} \pm 15\text{mV}$
Output Voltage Accuracy	$X$	$0.625\text{V} \pm 10\text{mV} @ I_f$		
Output Linearity	$\epsilon_L$	$\pm 0.2\% @ I_f$		
Supply Voltage	$V_{CC}$	$+5\text{V} \pm 5\%$		
Consumption Current	$I_{CC}$	Typ. $12.5\text{mA} @ I_f=0$		
Response Time <sup>1</sup>	$t_r$	$\leq 1.0\mu\text{s} @ di/dt = I_f / \mu\text{s}$		
Output Temperature Characteristic	$TCV_{OUT}$	$< \pm 0.05\text{mV}/^{\circ}\text{C}$		
Offset Temperature Characteristic	$TCV_{OE}$	$-10^{\circ}\text{C} \sim 25^{\circ}\text{C} : \pm 1.6\text{mV}/^{\circ}\text{C}$ $25^{\circ}\text{C} \sim 85^{\circ}\text{C} : \pm 0.8\text{mV}/^{\circ}\text{C}$	$-10^{\circ}\text{C} \sim 25^{\circ}\text{C} : \pm 0.6\text{mV}/^{\circ}\text{C}$ $25^{\circ}\text{C} \sim 85^{\circ}\text{C} : \pm 0.3\text{mV}/^{\circ}\text{C}$	$-10^{\circ}\text{C} \sim 25^{\circ}\text{C} : \pm 0.4\text{mV}/^{\circ}\text{C}$ $25^{\circ}\text{C} \sim 85^{\circ}\text{C} : \pm 0.2\text{mV}/^{\circ}\text{C}$
Hysteresis allowance	$V_{OH}$	$\leq 0.5\text{mV} (0\text{A} \leftrightarrow I_f)$		
Insulation Withstanding	$V_d$	AC 3kV for 1minute (Sensing current 0.5mA) Primary $\leftrightarrow$ Secondary		
Insulation Resistance	$R_{IS}$	$> 500\text{M}\Omega (@ \text{DC}500\text{V})$ Primary $\leftrightarrow$ Secondary		
Frequency Bandwidth	$f$	DC ... 200 kHz		
Operating Temperature	$T_A$	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$		
Storage Temperature	$T_s$	$-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$		

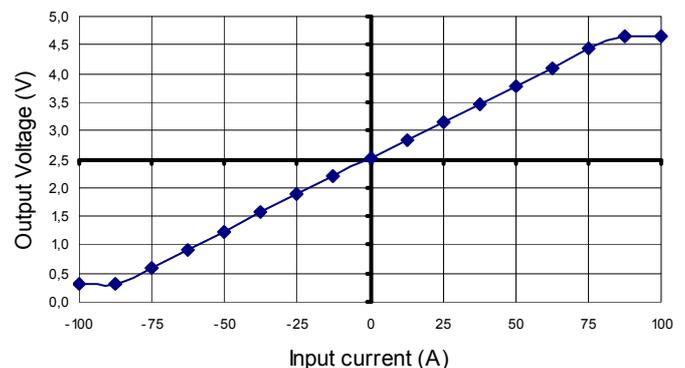
<sup>1</sup> Time between 10% input current full scale and 90% of sensor output full scale

## Electrical Performances

Frequency Characteristic



Saturation Characteristic

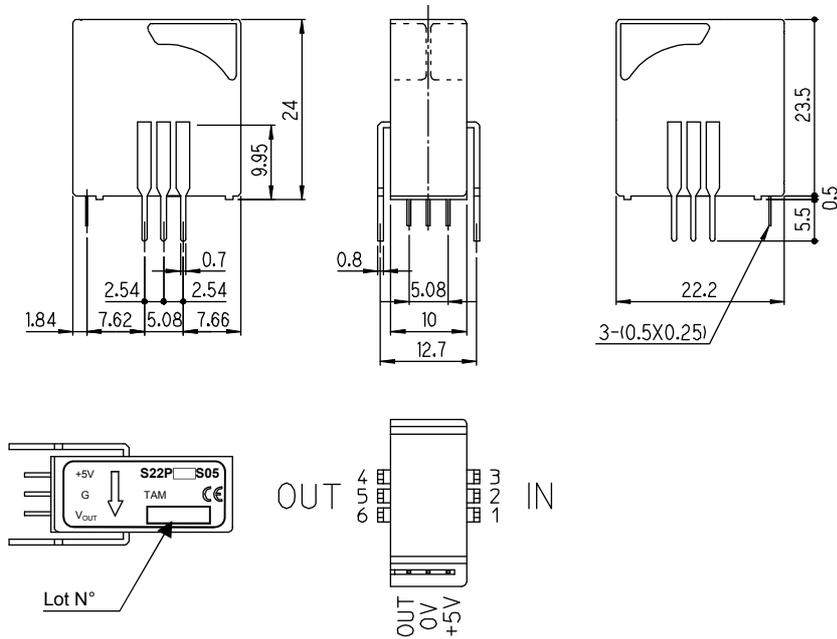


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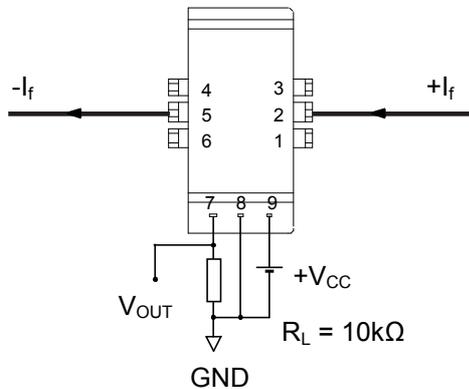


Tamura reserve the right to modify its products in order to improve them without prior notice

## Mechanical dimensions in mm



## Electrical connection diagram



Connection diagram

<b>+I<sub>f</sub> / 3</b>	
<b>+I<sub>f</sub> / 2</b>	
<b>+I<sub>f</sub></b>	

## Package & Weight Information

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