



# Hall Effect Current Sensors L31S\*\*\*S05S Series

## Features:

- Open Loop type
- Printed circuit board mounting
- Unipolar power supply
- Industrial temperature range
- Sulfur-proof as standard
- Mounting pins
- Insulated plastic case according to UL94V0

## Advantage:

- Excellent accuracy and linearity
- Wide nominal current range
- Low temperature drift
- Wide frequency bandwidth
- No insertion loss
- High Immunity To External Interference
- Optimised response time
- Current overload capability

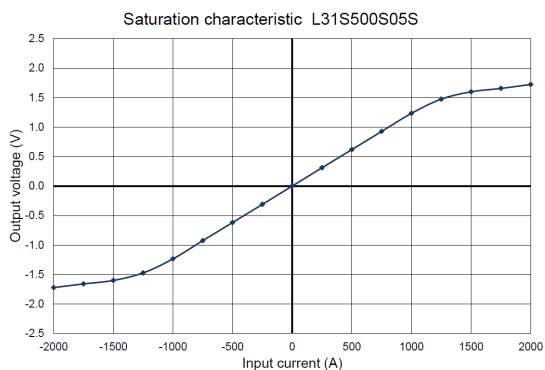
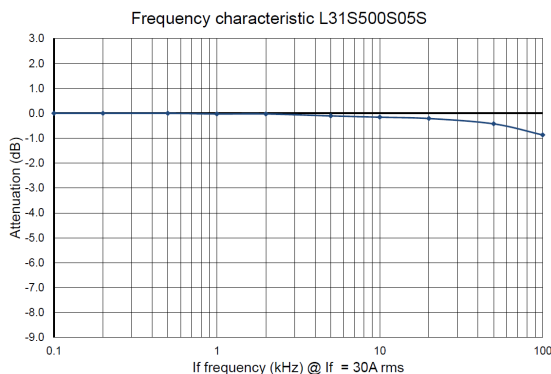
## Specifications

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

Parameters	Symbol	L31S050S05S	L31S100S05S	L31S200S05S	L31S300S05S	L31S400S05S	L31S500S05S	L31S600S05S
Rated current	$I_f$	50A	100A	200A	300A	400A	500A	600A
Maximum Current	$I_{fmax}$	$\pm 150\text{A}$	$\pm 300\text{A}$	$\pm 600\text{A}$	$\geq \pm 900\text{A}$	$\geq \pm 900\text{A}$	$\geq \pm 900\text{A}$	$\geq \pm 900\text{A}$
Output Voltage	$V_{OUT}$	$V_{REF} + 0.625\text{V} \pm 0.015\text{V} @ \pm I_f$						
Offset Voltage	$V_{OE}$	$V_{REF} \pm 0.025\text{V} @ I_f = 0\text{A}$						
Reference voltage	$V_{REF}$	$+2.5\text{V} \pm 0.020\text{V}$						
Output Linearity <sup>1</sup>	$\epsilon_L$	$\leq \pm 0.5\% @ 0\text{A}, 0.5 I_f, I_f$						
Power Supply	$V_{CC}$	$+ 5\text{V} \pm 5\%$						
Current Consumption	$I_C$	$\leq 15\text{mA}$						
Response Time	$t_r$	$\leq 5\mu\text{s} (@ di/dt = \text{F.S.} / \mu\text{s})$						
Output Temperature Characteristic <sup>1</sup>	$TCV_{OUT}$	$\leq \pm 1.5\text{mV}/^{\circ}\text{C}$						
Offset Temperature Characteristic	$TCV_{OE}$	$\leq \pm 0.3\text{mV}/^{\circ}\text{C} @ I_f = 0\text{A}$						
Reference Temperature Characteristic	$TCV_{REF}$	$\leq \pm 0.012\% / ^{\circ}\text{C}$						
Hysteresis error	$V_{OH}$	$\leq 2.5\text{mV} (0\text{A} \leftrightarrow I_f)$						
Withstand Voltage	$V_d$	AC3300V for 1minute (sensing current 0.5mA), inside of aperture $\leftrightarrow$ terminal						
Insulation Resistance	$R_{IS}$	$> 500\text{M}\Omega (500\text{V DC})$ , inside of aperture $\leftrightarrow$ terminal						
Operating Temperature	$T_A$	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$						
Storage Temperature	$T_S$	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$						

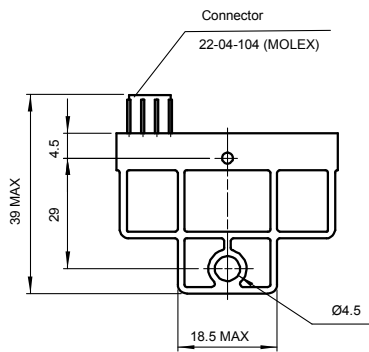
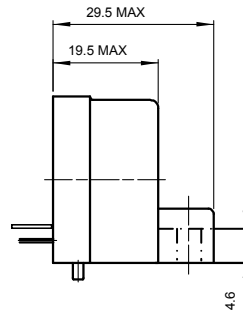
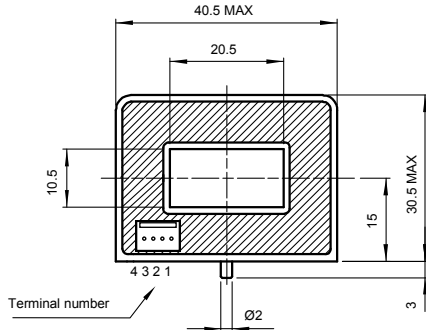
<sup>1</sup> Without offset — <sup>2</sup> Small signal only to avoid excessive heating of magnetic core

## Electrical Performances



# Hall Effect Current Sensors L31S\*\*\*S05S Series

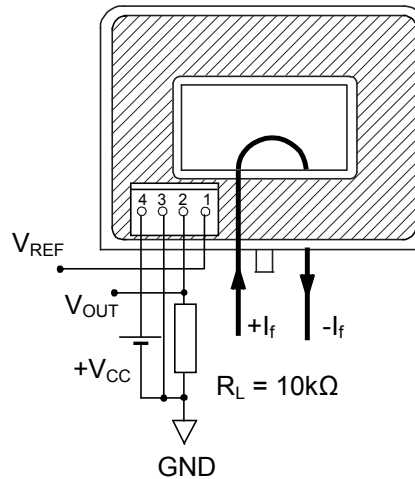
## Mechanical dimensions in mm



### Terminal Pin Identification

- 1:  $V_{REF}$  (OUT)
- 2: Output
- 3: GND
- 4:  $+V_{CC}$

## Electrical connection diagram



## Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
51g	20	200	3600