



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

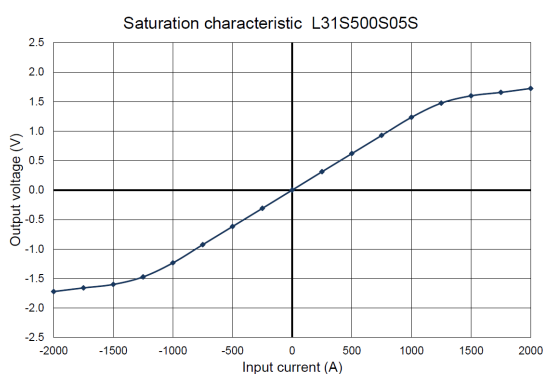
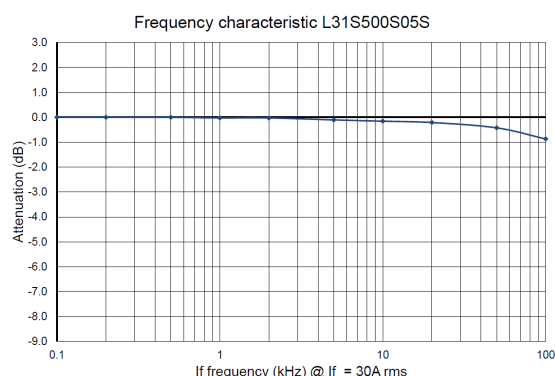
Specifications

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

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 ¹	ϵ_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 ¹	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}	$> 500\text{M}\Omega$ (500V DC), inside of aperture \leftrightarrow terminal						
Operating Temperature	T_A	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$						
Storage Temperature	T_S	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$						

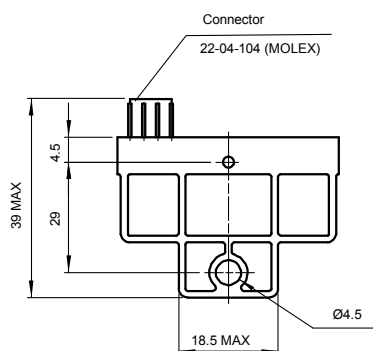
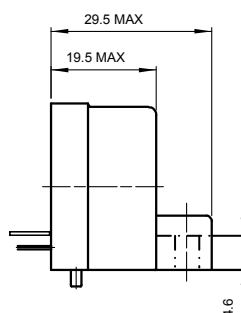
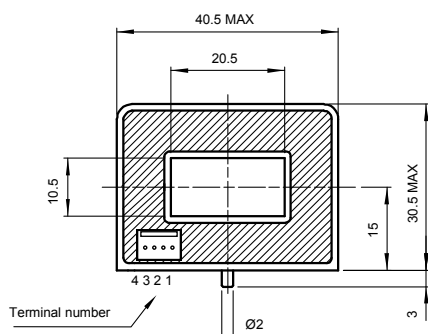
¹ Without offset — ² Small signal only to avoid excessive heating of magnetic core

Electrical Performances



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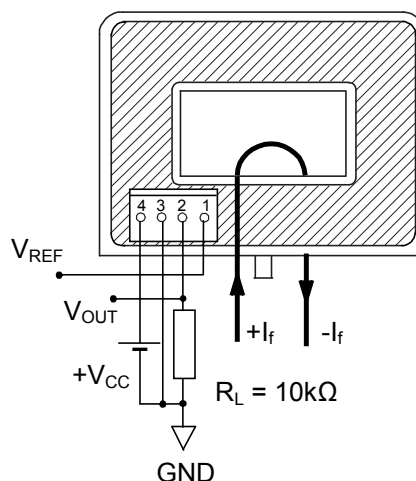
Mechanical dimensions in mm



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