

# Hall Effect Current Sensors L01Z\*\*\*S05 Series



## Features:

- Open Loop type
- Printed circuit board mounting
- Unipolar power supply
- Aperture for cable or bus bar
- Insulated plastic case according to UL94V0

## Advantage:

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

## Specifications

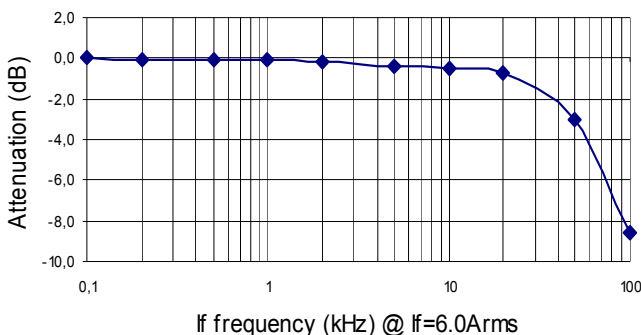
$T_A=25^{\circ}\text{C}$ ,  $V_{CC}=+5\text{V}$ ,  $R_L=10\text{k}\Omega$

Parameters	Symbol	L01Z050S05	L01Z100S05	L01Z150S05	L01Z200S05	L01Z300S05	L01Z400S05	L01Z500S05	L01Z600S05
Rated current	$I_f$	50AT	100AT	150AT	200AT	300AT	400AT	500AT	600AT
Maximum Current	$I_{fmax}$	$>I_f \times 1.25$							
Output Voltage	$V_{OUT}$	$V_{OE}+1.5V \pm 0.045V$	$V_{OE} + 1.5V \pm 0.035V$						
Offset Voltage <sup>1</sup>	$V_{OE}$	$V_{REF} \pm 0.035V$	$V_{REF} \pm 0.030V$						
Accuracy <sup>2</sup>	$X$	$\pm 1\% @ I_f$							
Output Linearity <sup>2</sup>	$\epsilon_L$	$\pm 1\% @ I_f$							
Power Supply	$V_{CC}$	$5V \pm 2\%$							
Current Consumption	$I_C$	$< 15\text{mA}$							
Response Time <sup>3</sup>	$t_r$	$< 5\mu\text{s} (@ di/dt = 50\text{A} / \mu\text{s})$							
Output Temperature Characteristic <sup>2</sup>	$TCV_{OUT}$	$< \pm 2\text{mV}/^{\circ}\text{C}$	$< \pm 1.5\text{mV}/^{\circ}\text{C}$						
Offset Temperature Characteristic	$TCV_{OE}$	$< \pm 2\text{mV}/^{\circ}\text{C}$	$< \pm 1.0\text{mV}/^{\circ}\text{C}$						
Hysteresis error	$V_{OH}$	$\leq 8\text{mV} (@ 0\text{A} \Leftrightarrow I_f)$			$\leq 4\text{mV} (@ 0\text{A} \Leftrightarrow I_f)$		$\leq 6\text{mV} (@ 0\text{A} \Leftrightarrow I_f)$		
Withstand Voltage	$V_d$	AC2500V 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							
Frequency Bandwidth <sup>4</sup>	$f$	DC .. 35kHz							
Operating Temperature	$T_A$	$-10^{\circ}\text{C} \sim +80^{\circ}\text{C}$							
Storage Temperature	$T_S$	$-15^{\circ}\text{C} \sim +85^{\circ}\text{C}$							

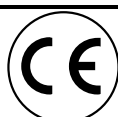
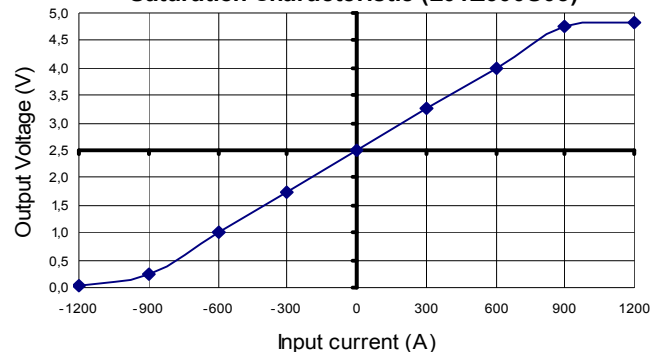
<sup>1</sup>  $V_{REF} = V_{CC} / 2$  (ratiometric) — <sup>2</sup> Without offset — <sup>3</sup> Time between 10% input current full scale and 90% of sensor output full scale — <sup>4</sup> Small signal only to avoid excessive heating of magnetic core

## Electrical Performances

Frequency Characteristic (L01Z100S05)

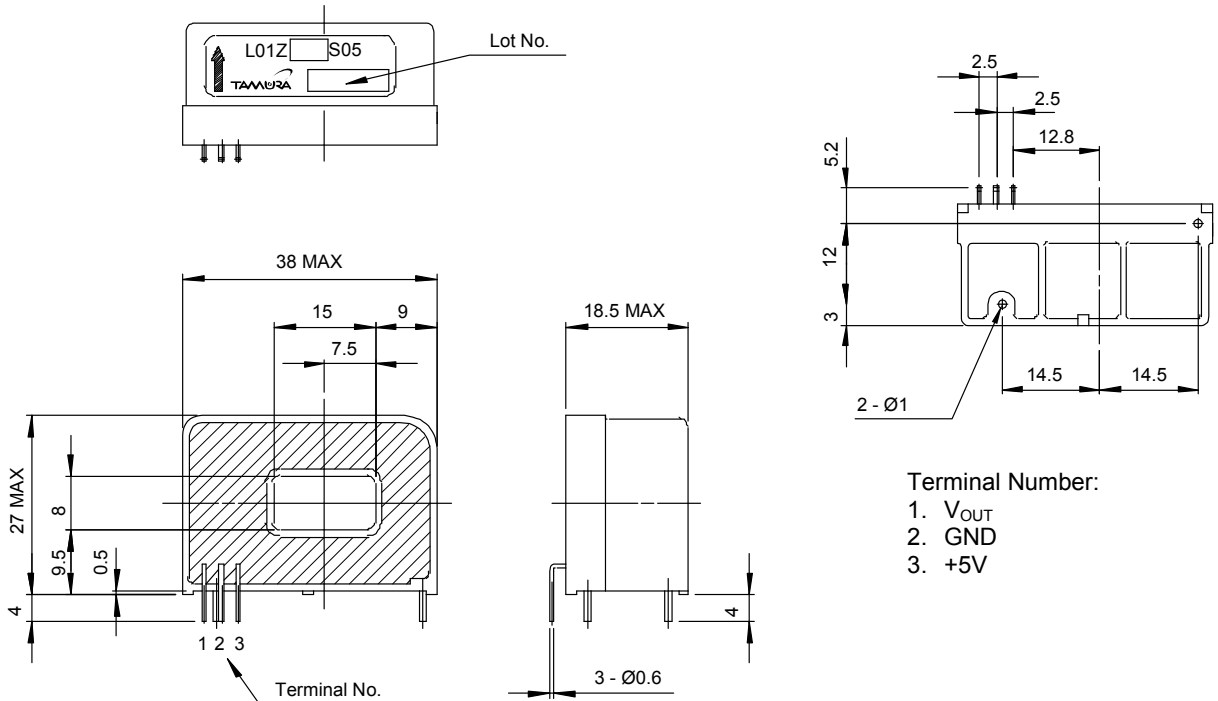


Saturation Characteristic (L01Z600S05)

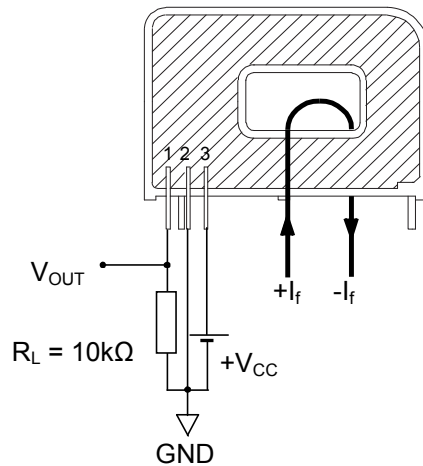


# Hall Effect Current Sensors L01Z\*\*\*S05 Series

## Mechanical dimensions in mm



## Electrical connection diagram



## Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
45g	50	200	9600