

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

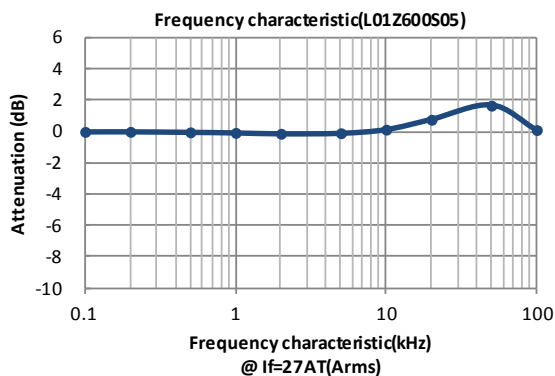
 $T_A=25^{\circ}\text{C}$, $V_{CC}=+5\text{V}$, $R_L=10\text{k}\Omega$

Parameters	Symbol	L01Z050S05	L01Z100S05	L01Z150S05	L01Z200S05	L01Z300S05	L01Z400S05	L01Z500S05	L01Z600S05
Primary nominal current	I_f	50AT	100AT	150AT	200AT	300AT	400AT	500AT	600AT
Saturation current	I_{fmax}	$\geq \pm I_f \times 1.25$							
Rated output voltage (at I_f)	V_o	$V_{of}+1.5\text{V}$ $\pm 0.045\text{V}$	$V_{of}+1.5\text{V} \pm 0.035\text{V}$						
Offset voltage ¹ (at $I_f=0\text{A}$)	V_{of}	V_{REF}^1 $\pm 0.035\text{V}$	$V_{REF}^1 \pm 0.030\text{V}$						
Saturation output voltage	$V_{o min/max}$	$V_{o min} \leq 0.5\text{V}$, $4.5\text{V} \leq V_{o max}$							
Output linearity ² (0A~ I_f)	ϵ_L	$\leq \pm 1\%$ (at I_f)							
Power supply voltage	V_{CC}	$5\text{V} \pm 2\%$							
Consumption current	I_{CC}	$\leq 15\text{mA}$							
Response time ³	t_r	$\leq 10\mu\text{s}$ (at $di/dt = 100\text{A} / \mu\text{s}$)							
Thermal drift of gain ⁴	$TcVo$	$\leq \pm 2\text{mV}/^{\circ}\text{C}$	$\leq \pm 1.5\text{mV}/^{\circ}\text{C}$						
Thermal drift of offset	$TcVof$	$\leq \pm 2\text{mV}/^{\circ}\text{C}$	$\leq \pm 1.0\text{mV}/^{\circ}\text{C}$						
Hysteresis error (at $I_f=0\text{A} \rightarrow I_f \rightarrow 0\text{A}$)	V_{OH}	$\leq 8\text{mV}$			$\leq 4\text{mV}$		$\leq 6\text{mV}$		
Insulation voltage	V_d	AC2500V for 1minute (sensing current 0.5mA), inside of through hole \leftrightarrow terminal							
Insulation resistance	R_{IS}	$\geq 500\text{M}\Omega$ (at DC500V), inside of through hole \leftrightarrow terminal							
Ambient operation temperature	T_A	$-10^{\circ}\text{C} \sim +80^{\circ}\text{C}$							
Ambient storage temperature	T_S	$-15^{\circ}\text{C} \sim +85^{\circ}\text{C}$							

¹ $V_{REF} = V_{CC} / 2$ (ratiometric). After removal of core hysteresis—² Without offset —³ Time between 90% input current full scale and 90% of sensor output full scale —

⁴ Without Thermal drift of offset

Electrical Performances



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Mechanical dimensions



Electrical connection diagram



Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
45g	50	200	4800

