

Hall Effect Current Sensors L12P***D15 Series



Features:

- Open Loop type
- Printed circuit board mounting
- Bipolar power supply
- Extended measurement range
- Insulated plastic case according to UL94V0

Advantages:

- Excellent accuracy
- Very good linearity
- Low temperature drift
- No insertion loss
- High Immunity To External Interference
- Current overload capability

Specifications

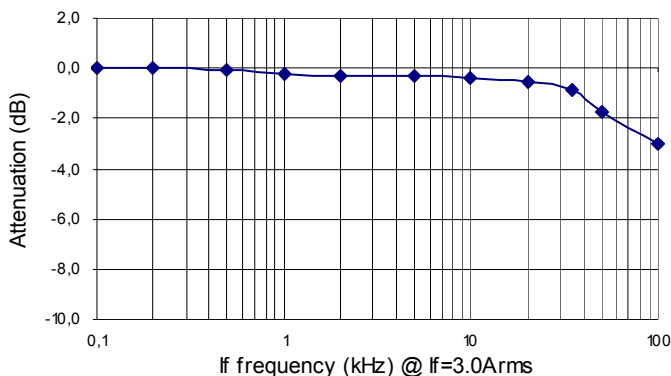
$T_A=25^{\circ}\text{C}$ $V_{CC}=\pm 15\text{V}$, $R_s=10\text{k}\Omega$

Parameters	Symbol	L12P025D15
Nominal Primary DC current	I_f	$\pm 25\text{A}$
Maximum Current	I_{fmax}	$\pm 75\text{A}$
Output Voltage	V_{OUT}	$4\text{V} \pm 0.040\text{V} @ \pm I_f$
Offset Voltage ¹	V_{OE}	$0\text{V} \pm 0.040\text{V} @ I_f = 0\text{A}$
Accuracy ²	X	$\pm 1\%$ of I_f
Output Linearity ²	ϵ_L	$\leq \pm 1\%$ ($0\text{A} \leftrightarrow I_f$)
Power Supply ³	V_{CC}	$\pm 12\text{V} \sim \pm 15\text{V} \pm 5\%$
Current Consumption	I_C	$\pm 11\text{mA}$ typ. ($\pm 15\text{mA}$ max.)
Response Time	t_r	$< 3\mu\text{s} @ di/dt = I_f / \mu\text{s}$
Output Temperature Characteristic ²	TCV_{OUT}	$\leq \pm 0.1\%$ / $^{\circ}\text{C} @ \pm I_f$
Offset Temperature Characteristic	TCV_{OE}	$\leq \pm 3.0\text{mV} / ^{\circ}\text{C}$
Hysteresis error	V_{OH}	$\leq 25\text{mV}$
Withstand Voltage	V_d	AC 2500V for 1minute (sensing current 0.5mA), primary conductor \leftrightarrow terminal
Insulation Resistance	R_{IS}	$> 500\text{M}\Omega$ (500V DC), primary conductor \leftrightarrow terminal
Frequency Bandwidth ⁴	f	DC .. 35kHz (-1dB); DC .. 50kHz (-3dB)
Operating Temperature	T_A	$-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$
Storage Temperature	T_s	$-25^{\circ}\text{C} \sim +85^{\circ}\text{C}$

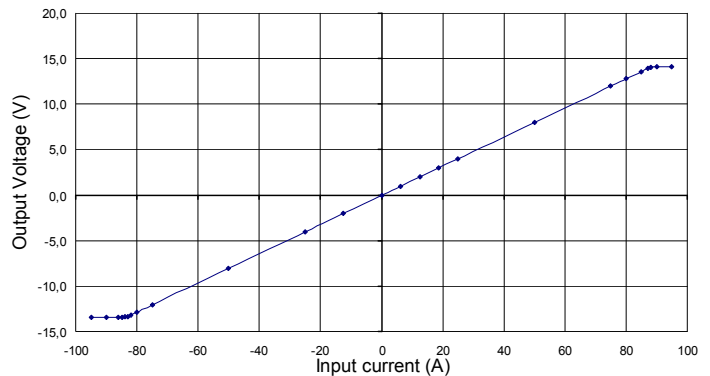
¹ Excluding hysteresis error — ² Without offset — ³ Rated current is restricted by V_{CC} — ⁴ Small signal only to avoid excessive heating of magnetic core

Electrical Performance

Frequency Characteristic

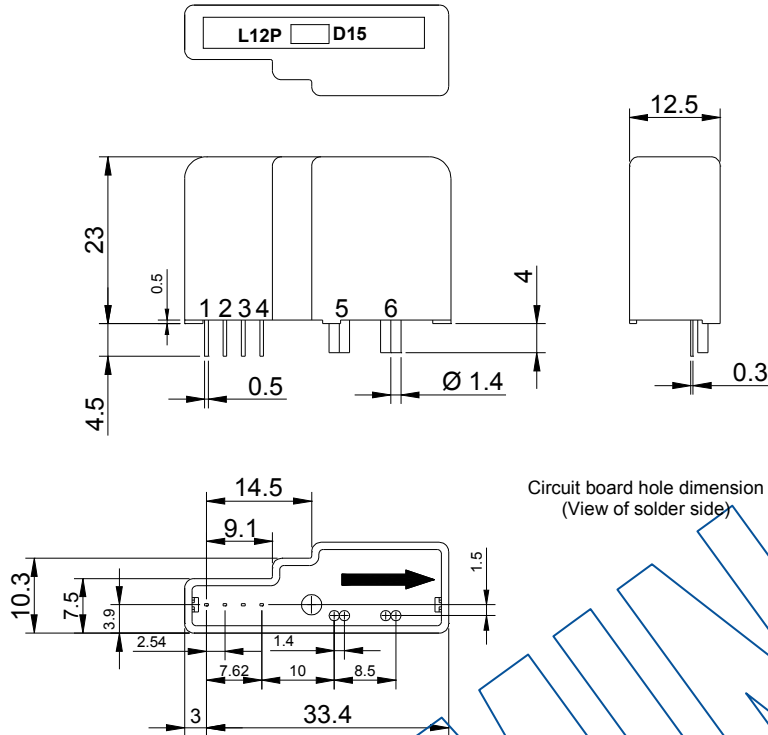


Saturation Characteristic

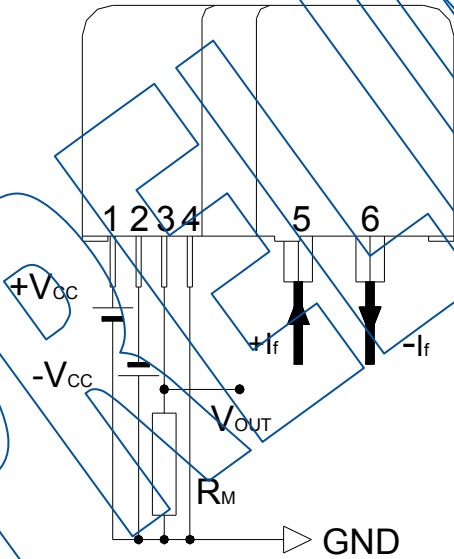


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Mechanical dimensions in mm



Electrical connection diagram



Terminal number:

1. $+V_{CC}$
2. $-V_{CC}$
3. OUT
4. GND
5. $+I_f$
6. $-I_f$

Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
20g	50	500	9000