

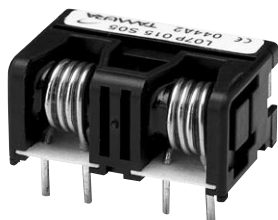
## Hall Effect Current Sensors L07P\*\*\*S05 Series

### Features:

- Open Loop type
- Dual integrated primary
- Unipolar power supply
- Printed circuit board mounting
- Insulated plastic case according to UL94V0
- UL Recognition

### 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



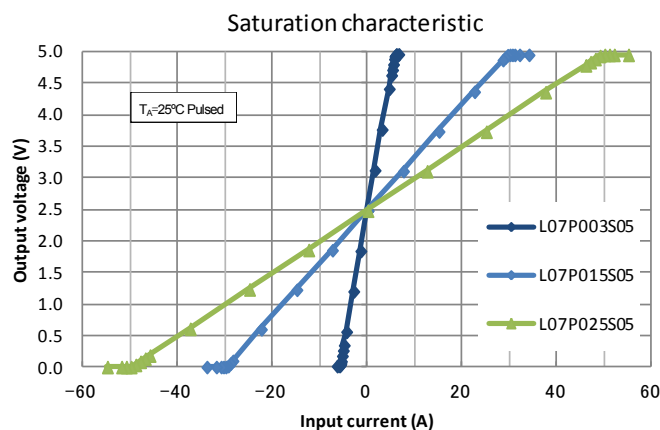
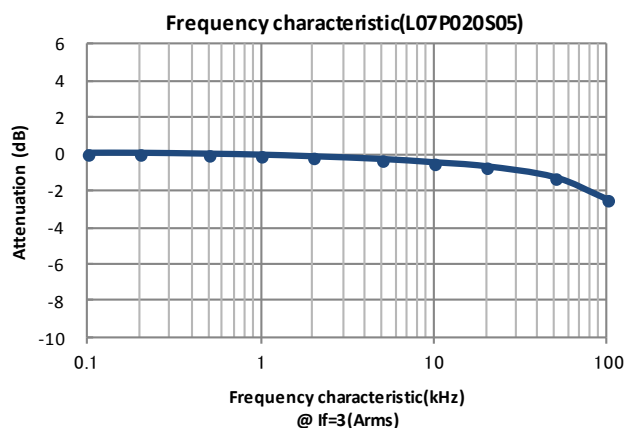
## Specifications

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

| Parameters                                 | Symbol       | L07P003S05                                                                       | L07P005S05 | L07P010S05 | L07P015S05 | L07P020S05 | L07P025S05 | L07P030S05 |
|--------------------------------------------|--------------|----------------------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Primary nominal current                    | $I_f$        | 3A                                                                               | 5A         | 10A        | 15A        | 20A        | 25A        | 30A        |
| Saturation current                         | $I_{fmax}$   | $\geq \pm I_f \times 1.5$                                                        |            |            |            |            |            |            |
| Rated output voltage                       | $V_o$        | $V_{of} + 1.250\text{V} \pm 0.040\text{V}$ (at $I_f$ )                           |            |            |            |            |            |            |
| Offset Voltage <sup>1</sup>                | $V_{of}$     | $V_{ref} \pm 0.040\text{V}$ (at $I_f = 0\text{A}$ )                              |            |            |            |            |            |            |
| Output Linearity <sup>2</sup> (0A~ $I_f$ ) | $\epsilon_L$ | $\leq \pm 1\%$ (at $I_f$ )                                                       |            |            |            |            |            |            |
| Power supply voltage                       | $V_{CC}$     | $+5\text{V} \pm 5\%$                                                             |            |            |            |            |            |            |
| Consumption Current                        | $I_c$        | $\leq \pm 30\text{mA}$                                                           |            |            |            |            |            |            |
| Response Time <sup>3</sup>                 | $t_r$        | $\leq 5\mu\text{s}$ (at $di/dt = I_f / \mu\text{s}$ )                            |            |            |            |            |            |            |
| Thermal drift of gain <sup>4</sup>         | $TcVo$       | $\leq \pm 2.0\text{mV} / ^{\circ}\text{C}$                                       |            |            |            |            |            |            |
| Thermal drift of offset                    | $TcVof$      | $\leq \pm 2\text{mV} / ^{\circ}\text{C}$                                         |            |            |            |            |            |            |
| Hysteresis error                           | $V_{OH}$     | $\leq 15\text{mV}$ (at $I_f = 0\text{A} \rightarrow I_f \rightarrow 0\text{A}$ ) |            |            |            |            |            |            |
| Insulation voltage                         | $V_d$        | AC2000V for 1minute (sensing current 0.5mA), primary $\leftrightarrow$ secondary |            |            |            |            |            |            |
| Insulation Resistance                      | $R_{IS}$     | $\geq 500\text{M}\Omega$ (at DC500V), primary $\leftrightarrow$ secondary        |            |            |            |            |            |            |
| Ambient operation temperature              | $T_A$        | $-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$                                   |            |            |            |            |            |            |
| Ambient storage temperature                | $T_S$        | $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$                                   |            |            |            |            |            |            |

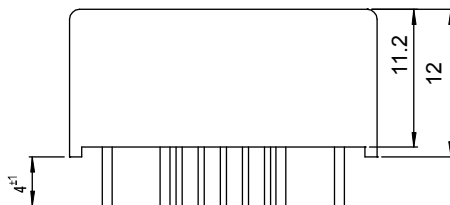
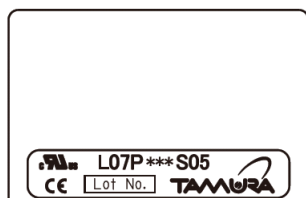
<sup>1</sup>  $V_{REF} = V_{CC} / 2$  (ratiometric). After removal of core hysteresis—<sup>2</sup> Without offset —<sup>3</sup> Time between 10% input current full scale and 90% of sensor output full scale. each channel's value, non-measured circuit is set to 0A. —<sup>4</sup> Without Thermal drift of offset

## Electrical Performances

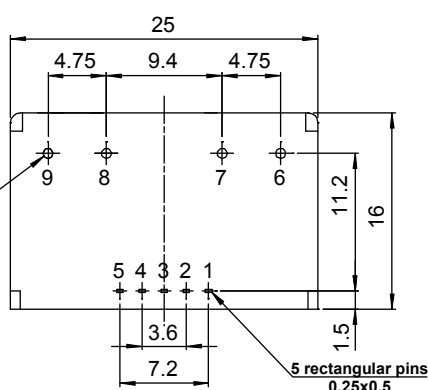


# Hall Effect Current Sensors L07P\*\*\*S05 Series

## Mechanical dimensions



| A      | φD   |
|--------|------|
| 3A     | φ0.6 |
| 5A     | φ0.8 |
| 10~15A | φ1.4 |
| 20~30A | φ1.6 |

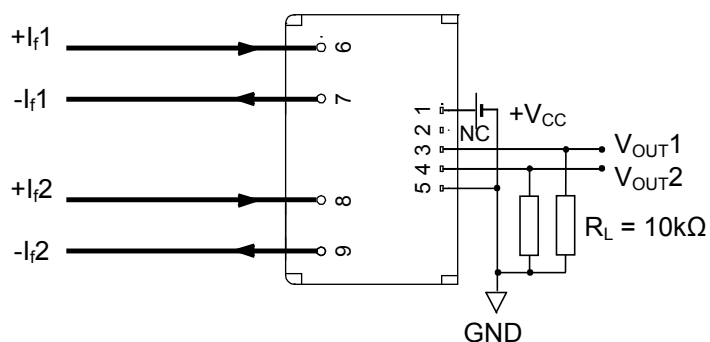


### NOTES

1. Unit is mm
2. Tolerance is 0.5mm

| Terminal | Function                   |
|----------|----------------------------|
| 1        | +V <sub>CC</sub> (+5V)     |
| 2        | NC                         |
| 3        | V <sub>OUT1</sub>          |
| 4        | V <sub>OUT2</sub>          |
| 5        | GND                        |
| 6        | Primary input current1 (+) |
| 7        | Primary input current1 (-) |
| 8        | Primary input current2 (+) |
| 9        | Primary input current2 (-) |

## Electrical connection diagram



## UL Standard

UL 508 , CSA C22.2 No.14  
(UL FILE No.E243511)

- For use in Pollution Degree 2 Environment.
- Maximum Surrounding air temperature rating, 80°C.

## Package & Weight Information

| Weight | Pcs/box | Pcs/carton | Pcs/pallet |
|--------|---------|------------|------------|
| 12g    | 100     | 400        | 9600       |