

Hall Effect Current Sensors L32P***S05FS Series

Features:

- Open Loop type
- Printed circuit board mounting
- Unipolar power supply
- Industrial temperature range
- Sulfur-proof as standard
- 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

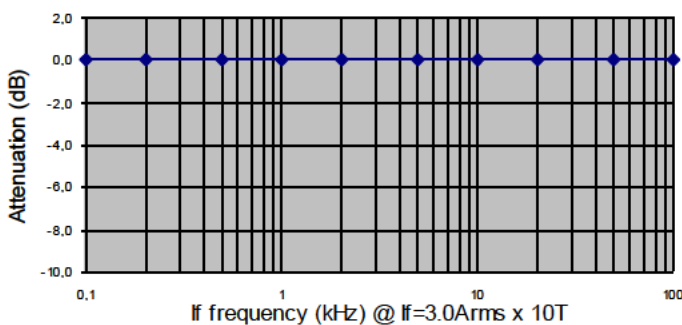
$T_A=25^{\circ}\text{C}$, $V_{CC}=+5\text{V}$, $R_L=10\text{k}\Omega$

| Parameters | Symbol | L32P050S05FS | L32P100S05FS | L32P150S05FS | L32P200S05FS | L32P300S05FS | L32P400S05FS |
|------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------|-------------------|-------------------------|-------------------------|
| Rated current | I_f | 50A | 100A | 150A | 200A | 300A | 400A |
| Maximum Current | I_{fmax} | $\pm 150\text{A}$ | $\pm 300\text{A}$ | $\pm 450\text{A}$ | $\pm 600\text{A}$ | $\geq \pm 600\text{AT}$ | $\geq \pm 600\text{AT}$ |
| Primary conductor | | Aperture | | | | | |
| 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 ² | 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} | $\leq \pm 1.0\text{mV}/^{\circ}\text{C} @ I_f = 0\text{A}$ | $\leq \pm 0.5\text{mV}/^{\circ}\text{C} @ I_f = 0\text{A}$ | $\leq \pm 0.3\text{mV}/^{\circ}\text{C} @ I_f = 0\text{A}$ | | | |
| Reference Temperature Characteristic | TCV_{REF} | $\leq \pm 0.012\% / ^{\circ}\text{C}$ | | | | | |
| Hysteresis error | V_{OH} | $\leq 7.5\text{mV} (0\text{A} \leftrightarrow I_f)$ | $\leq 5.0\text{mV} (0\text{A} \leftrightarrow I_f)$ | $\leq 2.5\text{mV} (0\text{A} \leftrightarrow I_f)$ | | | |
| Withstand Voltage | V_d | AC2500V for 1minute (sensing current 0.5mA), inside of aperture \leftrightarrow terminal | | | | | |
| Insulation Resistance | R_{IS} | $> 500\text{M}\Omega (500\text{V DC})$, inside of aperture \leftrightarrow terminal | | | | | |
| Frequency Bandwidth ³ | f | DC .. 50kHz | | | | | |
| Operating Temperature | T_A | $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ | | | | | |
| Storage Temperature | T_s | $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ | | | | | |

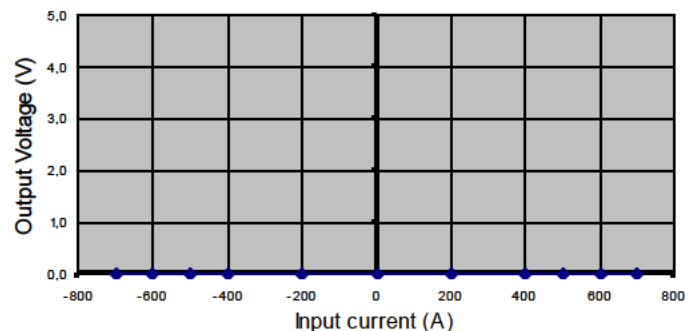
¹ Without offset — ² Time between 10% input current full scale and 90% of sensor output full scale — ³ Small signal only to avoid excessive heating of magnetic core

Electrical Performances

Frequency Characteristic data not yet available

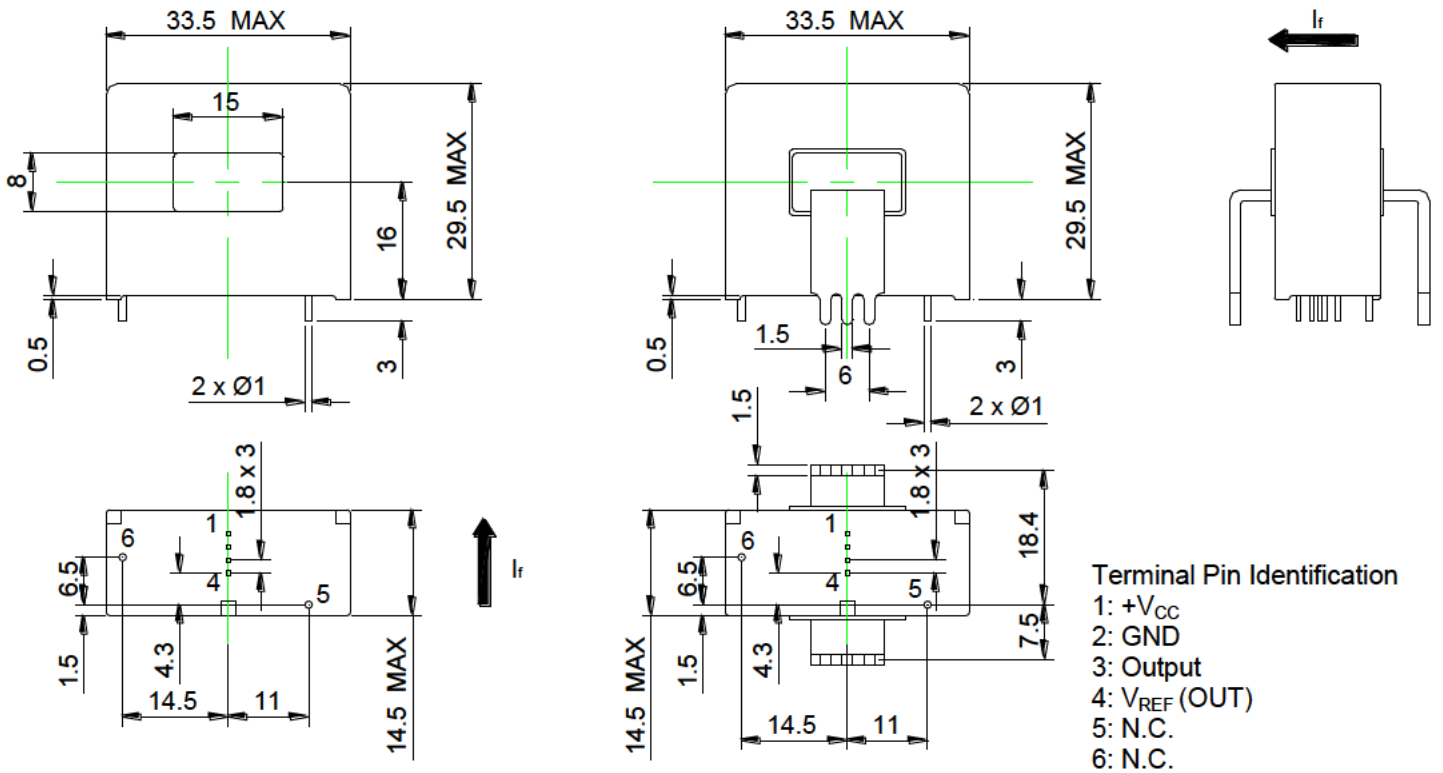


Saturation Characteristic data not yet available

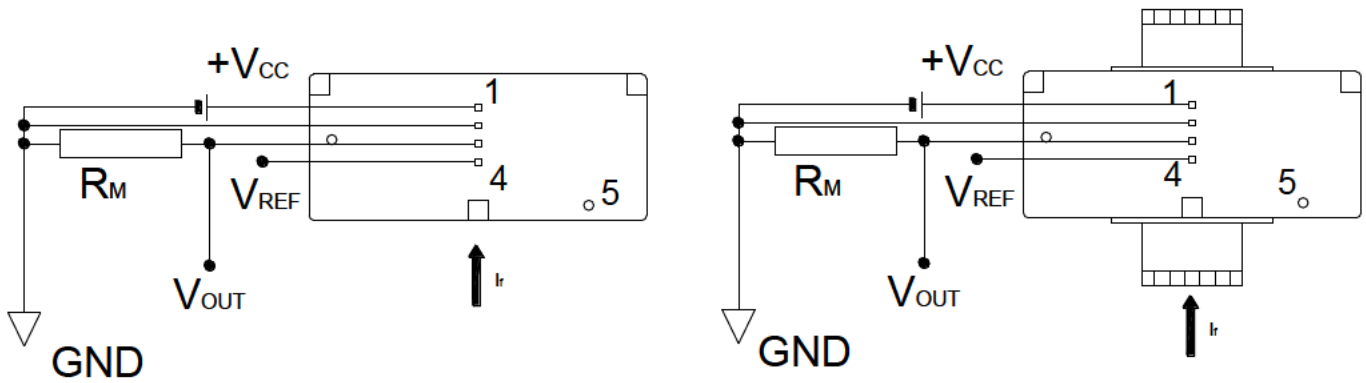


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Mechanical dimensions in mm



Electrical connection diagram



Package & Weight Information

| Weight | Pcs/box | Pcs/carton | Pcs/pallet |
|--------|---------|------------|------------|
| | | | |

Saturation Characteristic

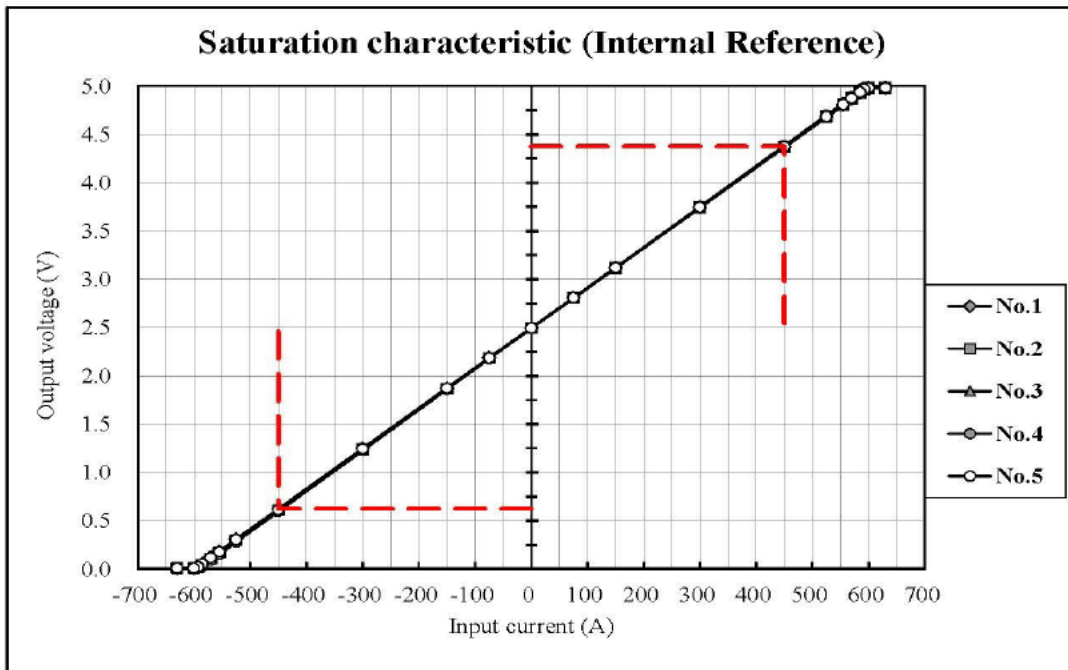
L32P150S05FS

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Saturation characteristic

at $V_{cc}=+5V$, $R_L=10k\Omega$, $T_a=+25^\circ C$

| Input current (A) | Output voltage (V) | | | | | Theoretical value (V) |
|-------------------|--------------------|-------|-------|-------|-------|-----------------------|
| | No.1 | No.2 | No.3 | No.4 | No.5 | |
| 630.0 | 4.981 | 4.980 | 4.981 | 4.982 | 4.982 | 5.000 |
| 600.0 | 4.981 | 4.980 | 4.981 | 4.981 | 4.981 | 4.995 |
| 592.5 | 4.961 | 4.971 | 4.959 | 4.980 | 4.966 | 4.964 |
| 585.0 | 4.930 | 4.940 | 4.928 | 4.949 | 4.935 | 4.933 |
| 570.0 | 4.868 | 4.877 | 4.866 | 4.887 | 4.872 | 4.870 |
| 555.0 | 4.806 | 4.815 | 4.804 | 4.824 | 4.810 | 4.808 |
| 525.0 | 4.682 | 4.690 | 4.679 | 4.698 | 4.685 | 4.683 |
| 450.0 | 4.370 | 4.376 | 4.367 | 4.383 | 4.373 | 4.370 |
| 300.0 | 3.745 | 3.748 | 3.742 | 3.752 | 3.747 | 3.745 |
| 150.0 | 3.120 | 3.119 | 3.116 | 3.121 | 3.121 | 3.120 |
| 75.0 | 2.808 | 2.806 | 2.804 | 2.806 | 2.808 | 2.808 |
| 0.0 | 2.497 | 2.493 | 2.493 | 2.491 | 2.496 | 2.495 |
| -75.0 | 2.187 | 2.182 | 2.184 | 2.179 | 2.186 | 2.183 |
| -150.0 | 1.874 | 1.867 | 1.870 | 1.863 | 1.872 | 1.870 |
| -300.0 | 1.248 | 1.238 | 1.244 | 1.230 | 1.244 | 1.245 |
| -450.0 | 0.622 | 0.609 | 0.617 | 0.597 | 0.616 | 0.620 |
| -525.0 | 0.310 | 0.295 | 0.304 | 0.281 | 0.303 | 0.308 |
| -555.0 | 0.185 | 0.169 | 0.179 | 0.155 | 0.178 | 0.183 |
| -570.0 | 0.122 | 0.106 | 0.117 | 0.092 | 0.115 | 0.120 |
| -585.0 | 0.060 | 0.044 | 0.055 | 0.029 | 0.052 | 0.058 |
| -592.5 | 0.029 | 0.013 | 0.024 | 0.008 | 0.021 | 0.026 |
| -600.0 | 0.008 | 0.008 | 0.008 | 0.008 | 0.008 | 0.000 |
| -630.0 | 0.007 | 0.008 | 0.008 | 0.008 | 0.008 | 0.000 |



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Frequency Characteristics

L32P150S05FS

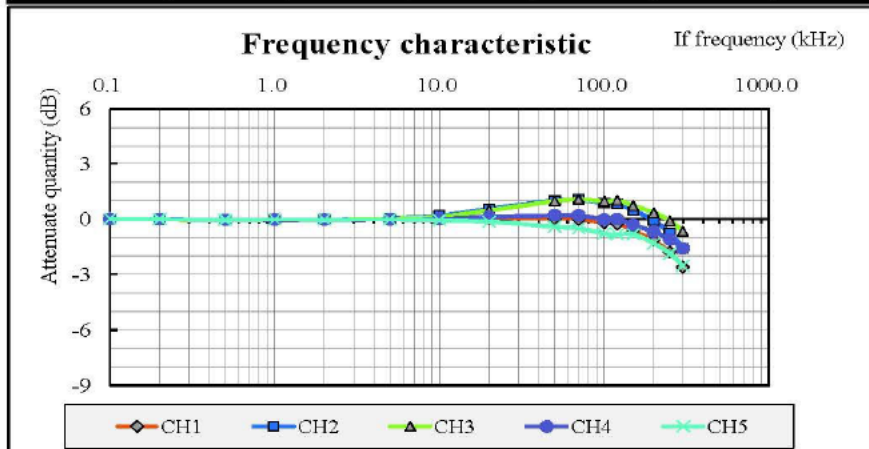
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Frequency characteristic (Reference)

at Detected current $I_f = 3.2 * 12A$, $V_{cc} = +5V$, $R_L = 10k\Omega$, $T_a = +25^\circ C$

| If frequency (kHz) | Output voltage - Offset voltage (mVrms) | | | | | Remarks |
|--------------------|-----------------------------------------|-----|-----|-----|-----|---------|
| | CH1 | CH2 | CH3 | CH4 | CH5 | |
| 0.1 | 165 | 165 | 168 | 166 | 166 | |
| 0.2 | 165 | 165 | 168 | 166 | 166 | |
| 0.5 | 164 | 164 | 167 | 165 | 165 | |
| 1.0 | 165 | 164 | 168 | 166 | 166 | |
| 2.0 | 165 | 164 | 168 | 166 | 165 | |
| 5.0 | 165 | 166 | 169 | 166 | 166 | |
| 10.0 | 165 | 168 | 171 | 166 | 165 | |
| 20.0 | 166 | 176 | 178 | 168 | 163 | |
| 50.0 | 165 | 185 | 188 | 170 | 158 | |
| 70.0 | 165 | 186 | 191 | 170 | 157 | |
| 100.0 | 161 | 182 | 188 | 166 | 152 | |
| 120.0 | 160 | 181 | 189 | 166 | 151 | |
| 150.0 | 154 | 174 | 183 | 160 | 151 | |
| 200.0 | 145 | 163 | 175 | 154 | 143 | |
| 250.0 | 134 | 151 | 166 | 147 | 134 | |
| 300.0 | 122 | 137 | 156 | 139 | 124 | |

| If frequency (kHz) | Output voltage attenuate quantity (dB) | | | | | Remarks |
|--------------------|----------------------------------------|--------|--------|--------|--------|---------|
| | CH1 | CH2 | CH3 | CH4 | CH5 | |
| 0.1 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 0.2 | -0.011 | -0.003 | -0.022 | -0.011 | -0.016 | |
| 0.5 | -0.054 | -0.054 | -0.054 | -0.058 | -0.052 | |
| 1.0 | -0.029 | -0.029 | -0.028 | -0.038 | -0.029 | |
| 2.0 | -0.034 | -0.033 | -0.031 | -0.044 | -0.039 | |
| 5.0 | -0.005 | 0.031 | 0.009 | -0.026 | -0.029 | |
| 10.0 | 0.003 | 0.170 | 0.111 | -0.008 | -0.071 | |
| 20.0 | 0.030 | 0.541 | 0.457 | 0.107 | -0.153 | |
| 50.0 | 0.002 | 0.995 | 0.960 | 0.189 | -0.422 | |
| 70.0 | -0.026 | 1.040 | 1.067 | 0.180 | -0.505 | |
| 100.0 | -0.229 | 0.853 | 0.954 | -0.037 | -0.793 | |
| 120.0 | -0.287 | 0.822 | 0.986 | -0.021 | -0.838 | |
| 150.0 | -0.621 | 0.456 | 0.702 | -0.340 | -0.833 | |
| 200.0 | -1.155 | -0.090 | 0.327 | -0.693 | -1.333 | |
| 250.0 | -1.805 | -0.768 | -0.111 | -1.106 | -1.876 | |
| 300.0 | -2.623 | -1.593 | -0.667 | -1.594 | -2.548 | |





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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