

## 3 to 25 Amp Applications — Open Loop

- Compact PCB Mount Design
- Dual Integrated Primary
- Withstanding Voltage of 2000 Vrms
- 3A - 25A with a Bipolar  $\pm 15\text{VDC}$  Supply Voltage
- Low Cost



Specifications Measured at 25°C, RL-10KΩ Vcc=±15V

| Specification                             | L07P003D15                                                      | L07P005D15 | L07P010D15 | L07P015D15 | L07P020D15 | L07P025D15 |
|-------------------------------------------|-----------------------------------------------------------------|------------|------------|------------|------------|------------|
| Nominal Primary DC Current (If)           | ±3A                                                             | ±5A        | ±10A       | ±15A       | ±20A       | ±25A       |
| Maximum Current If(max)                   | ±9A                                                             | ±15A       | ±30A       | ±45A       | ±60A       | ±75A       |
| Output Voltage @ If                       | V <sub>OUT</sub> +4V±0.05V, -4V±0.150V (at If)                  |            |            |            |            |            |
| Offset Voltage                            | V <sub>OE</sub> 0± 0.50V                                        |            |            |            |            |            |
| Accuracy @ If <sup>1</sup>                | X ± 1% of If                                                    |            |            |            |            |            |
| Output Linearity <sup>1</sup> (O..If Max) | E <sub>L</sub> ≤ ± 1% (at 0A ~ If)                              |            |            |            |            |            |
| Power Supply                              | V <sub>CC</sub> ± 15V ±5%                                       |            |            |            |            |            |
| Response Time                             | T <sub>r</sub> ≤ 10μsec (di/dt = 10A / 5μsec)                   |            |            |            |            |            |
| Current Consumption                       | I <sub>c</sub> ≤ 30mA                                           |            |            |            |            |            |
| Output Temperature Characteristic         | TCE <sub>G</sub> <± 0.1% / °C                                   |            |            |            |            |            |
| Offset Temperature Characteristic         | V <sub>OT</sub> ≤ ± 2mV / °C TYP                                |            |            |            |            |            |
| Hysteresis Allowance @ If=0               | V <sub>OH</sub> ≤ 30mV (0A = If)                                |            |            |            |            |            |
| Withstand Voltage (50/60Hz)               | V <sub>d</sub> 2,000VACrms for 1 minute (Sensing Current 0.5mA) |            |            |            |            |            |
| Insulation Resistance @ 500VDC            | R <sub>IS</sub> ≥ 500MW                                         |            |            |            |            |            |
| Operating Temperature                     | T <sub>A</sub> -10 ~ +80°C                                      |            |            |            |            |            |
| Storage Temperature                       | T <sub>S</sub> -20 ~ +85°C                                      |            |            |            |            |            |

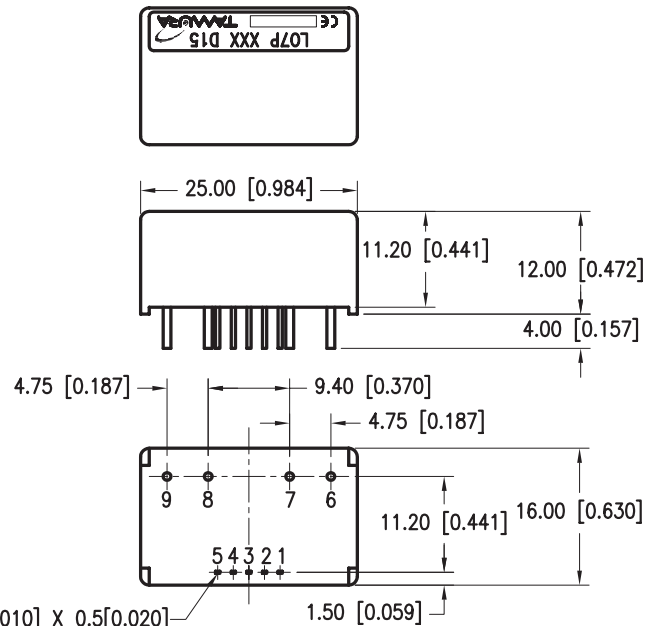
1. Without offset

### Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| CALL    | CALL           |

| TERMINAL | FUNCTION |
|----------|----------|
| 1        | +15V     |
| 2        | -15V     |
| 3        | OUT1     |
| 4        | OUT2     |
| 5        | GND      |
| 6        | +IN1     |
| 7        | -IN1     |
| 8        | +IN2     |
| 9        | -IN2     |

| CURRENT   | ∅ PIN        |
|-----------|--------------|
| 3A        | ∅ 0.6[0.024] |
| 5A        | ∅ 0.8[0.031] |
| 10A ~ 15A | ∅ 1.4[0.055] |
| 20A ~ 25A | ∅ 1.6[0.063] |



Unless otherwise specified, tolerances shall be ±0.5mm.

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## 5 to 40 Amp Applications — Open Loop

- Compact PCB Mount Design
- Dual Integrated Primary
- Withstanding Voltage of 2000 Vrms
- 5A - 40A Unipolar +5VDC Supply Voltage
- Low Cost



Specifications Measured at 25°C, RL=10KΩ Vcc=+5V

| Specification                            | L07P005S05       | L07P007S05                                       | L07P010S05 | L07P015S05 | L07P020S05 | L07P025S05 | L07P030S05 | L07P040S05 |
|------------------------------------------|------------------|--------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Nominal Primary DC Current (If)          | +5A              | +7A                                              | +10A       | +15A       | +20A       | +25A       | +30A       | +40V       |
| Maximum Current                          | If(max) ±6.25A   | ±9.375A                                          | ±12.5A     | ±18.75A    | ±25A       | ±31.25A    | ±37.5A     | ±50A       |
| Output Voltage @ If                      | V <sub>OUT</sub> | 2.5V ±1.5V                                       |            |            |            |            |            |            |
| Offset Voltage                           | V <sub>OE</sub>  | V <sub>OUT</sub> ± 45mV                          |            |            |            |            |            |            |
| Accuracy @ If <sup>1</sup>               | X                | ± 1%                                             |            |            |            |            |            |            |
| Output Linearity <sup>1</sup> (O.If Max) | E <sub>L</sub>   | ≤ ± 1% (at 0A ~ If)                              |            |            |            |            |            |            |
| Power Supply                             | V <sub>CC</sub>  | + 15V ±5%                                        |            |            |            |            |            |            |
| Response Time                            | T <sub>r</sub>   | ≤ 5μsec (di/dt = 10A / 5μsec)                    |            |            |            |            |            |            |
| Current Consumption                      | I <sub>c</sub>   | ≤ 30mA                                           |            |            |            |            |            |            |
| Output Temperature Characteristic        | TCE <sub>G</sub> | < ± 2mV / °C                                     |            |            |            |            |            |            |
| Offset Temperature Characteristic        | V <sub>OT</sub>  | ≤ ± 2mV / °C MAX                                 |            |            |            |            |            |            |
| Hysteresis Allowance @ If=0              | V <sub>OH</sub>  | ≤ 15mV (0A = If)                                 |            |            |            |            |            |            |
| Withstand Voltage (50/60Hz)              | V <sub>d</sub>   | 2,000VACrms for 1 minute (Sensing Current 0.5mA) |            |            |            |            |            |            |
| Insulation Resistance @ 500VDC           | R <sub>IS</sub>  | ≥ 500MΩ                                          |            |            |            |            |            |            |
| Operating Temperature                    | T <sub>A</sub>   | -25 ~ +80°C                                      |            |            |            |            |            |            |
| Storage Temperature                      | T <sub>S</sub>   | -25 ~ +85°C                                      |            |            |            |            |            |            |

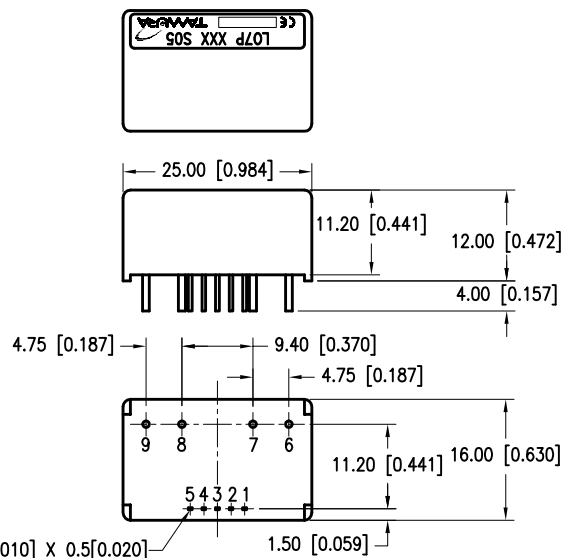
1. Without offset

### Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| CALL    | CALL           |

| TERMINAL | FUNCTION |
|----------|----------|
| 1        | +5V      |
| 2        | NC       |
| 3        | OUT1     |
| 4        | OUT2     |
| 5        | GND      |
| 6        | +IN1     |
| 7        | -IN1     |
| 8        | +IN2     |
| 9        | -IN2     |

| CURRENT   | Ø PIN        |
|-----------|--------------|
| 5A ~ 10A  | Ø 0.6[0.024] |
| 15A ~ 20A | Ø 0.9[0.035] |
| 25A ~ 40A | Ø 1.2[0.047] |



Unless otherwise specified, tolerances shall be ±0.5mm.

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## 3 to 30 Amp Applications — Open Loop

- Compact PCB Mount Design
- Integrated Primary
- Withstanding Voltage of 3000 Vrms
- 3A - 30A with a Bipolar  $\pm 15$ VDC Supply Voltage
- Low Cost

Specifications Measured at 25°C, RL-10K $\Omega$  Vcc= $\pm 15$ V

| Specification                                      | L18P003D15                                               | L18P005D15 | L18P010D15 | L18P015D15 | L18P020D15 | L18P025D15 | L18P030D15 |
|----------------------------------------------------|----------------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Nominal Primary DC Current (If)                    | $\pm 3$ A                                                | $\pm 5$ A  | $\pm 10$ A | $\pm 15$ A | $\pm 20$ A | $\pm 25$ A | $\pm 30$ A |
| Maximum Current If(max)                            | $\pm 9$ A                                                | $\pm 15$ A | $\pm 30$ A | $\pm 45$ A | $\pm 60$ A | $\pm 60$ A | $\pm 90$ A |
| Output Voltage @ If                                | V <sub>OUT</sub> $\pm 4V \pm 0.04V$ (at If)              |            |            |            |            |            |            |
| Offset Voltage V <sub>OE</sub>                     | 0 $\pm 0.040V$                                           |            |            |            |            |            |            |
| Accuracy @ If <sup>1</sup>                         | X $\pm 1\%$ of If                                        |            |            |            |            |            |            |
| Output Linearity <sup>1</sup> (O..If Max)          | E <sub>L</sub> $\leq \pm 1\%$ MAX                        |            |            |            |            |            |            |
| Power Supply V <sub>cc</sub>                       | $\pm 15V \pm 5\%$                                        |            |            |            |            |            |            |
| Response Time T <sub>r</sub>                       | $\leq 5\mu\text{sec}$ (di/dt = 10A / 5 $\mu\text{sec}$ ) |            |            |            |            |            |            |
| Current Consumption I <sub>c</sub>                 | $\leq 15\text{mA}$                                       |            |            |            |            |            |            |
| Output Temperature Characteristic TCE <sub>G</sub> | $< \pm 0.1\%$ / °C MAX                                   |            |            |            |            |            |            |
| Offset Temperature Characteristic V <sub>OT</sub>  | $\leq \pm 1.5\text{mV}$ / °C TYP                         |            |            |            |            |            |            |
| Hysteresis Allowance @ If=0 V <sub>OH</sub>        | $\leq 25\text{mV}$ (0A = If)                             |            |            |            |            |            |            |
| Withstand Voltage (50/60Hz) V <sub>d</sub>         | 3,000VACrms for 1 minute (Sensing Current 0.5mA)         |            |            |            |            |            |            |
| Insulation Resistance @ 500VDC R <sub>IS</sub>     | $\geq 500\text{M}\Omega$                                 |            |            |            |            |            |            |
| Operating Temperature T <sub>A</sub>               | -10 ~ +80°C                                              |            |            |            |            |            |            |
| Storage Temperature T <sub>S</sub>                 | -20 ~ +85°C                                              |            |            |            |            |            |            |

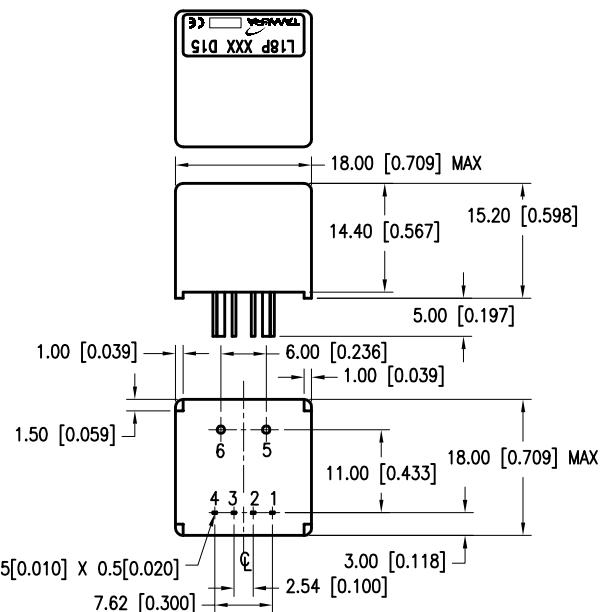
<sup>1</sup> Without offset

## Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| CALL    | CALL           |

| TERMINAL | FUNCTION         |
|----------|------------------|
| 1        | -V <sub>CC</sub> |
| 2        | GND              |
| 3        | +V <sub>CC</sub> |
| 4        | OUTPUT           |
| 5        | +IN              |
| 6        | -IN              |

| CURRENT   | Ø PIN        |
|-----------|--------------|
| 3A ~ 5A   | Ø 0.6[0.024] |
| 10A ~ 15A | Ø 0.9[0.035] |
| 20A ~ 30A | Ø 1.2[0.047] |



4 RECTANGULAR PINS 0.25[0.010] X 0.5[0.020] X 0.5[0.020] X 0.5[0.020] X 0.5[0.020] X 0.5[0.020] X 0.5[0.020] X 0.5[0.020]

Unless otherwise specified, tolerances shall be  $\pm 0.5\text{mm}$ .

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# Hall Effect Current Sensors

## 40 to 60 Amp Applications — Open Loop

- Compact PCB Mount Design
- Dual Integrated Primary
- Withstanding Voltage of 3000 Vrms
- 40A - 60A Bipolar  $\pm 15\text{VDC}$  Supply Voltage
- Durable Busbar Construction



Specifications Measured at 25°C, RL-10KΩ Vcc=±15V

| Specification                             | L18P040D15       | L18P050D15                                      | L18P060D15 |
|-------------------------------------------|------------------|-------------------------------------------------|------------|
| Nominal Primary DC Current (If)           | +40A             | +50A                                            | +60A       |
| Maximum Current If(max)                   | ±120A            | ±150A                                           | ±180A      |
| Output Voltage @ If                       | V <sub>OUT</sub> | ±4.0V ±0.050V                                   |            |
| Offset Voltage                            | V <sub>OE</sub>  | 0± 0.040V                                       |            |
| Accuracy @ If <sup>1</sup>                | X                | ± 1%                                            |            |
| Output Linearity <sup>1</sup> (O..If Max) | E <sub>L</sub>   | ≤ 1% MAX                                        |            |
| Power Supply                              | V <sub>CC</sub>  | ± 15V ±5%                                       |            |
| Response Time                             | T <sub>r</sub>   | ≤ 5μsec                                         |            |
| Current Consumption                       | I <sub>c</sub>   | ≤ 15mA                                          |            |
| Output Temperature Characteristic         | TCE <sub>G</sub> | < ± 0.1% / °C MAX                               |            |
| Offset Temperature Characteristic         | V <sub>OT</sub>  | ≤ ± 1.5mV / °C MAX                              |            |
| Hysteresis Allowance @ If=0               | V <sub>OH</sub>  | ≤ 40mV (0A = If)                                |            |
| Withstand Voltage (50/60Hz)               | V <sub>d</sub>   | 3000VACrms for 1 minute (Sensing Current 0.5mA) |            |
| Insulation Resistance @ 500VDC            | R <sub>IS</sub>  | ≥ 500MΩ                                         |            |
| Operating Temperature                     | T <sub>A</sub>   | -10 ~ +80°C                                     |            |
| Storage Temperature                       | T <sub>S</sub>   | -20 ~ +85°C                                     |            |

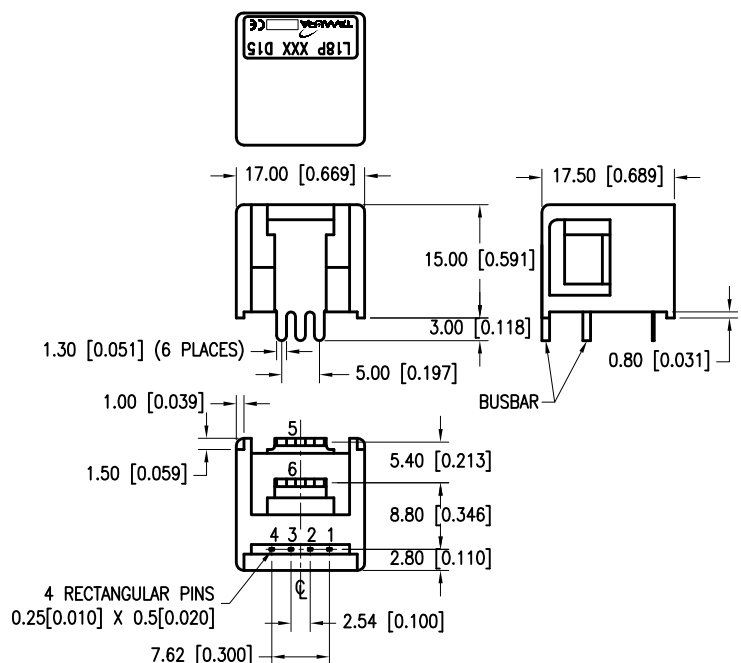
1. Without offset

### Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| CALL    | CALL           |

| TERMINAL | FUNCTION         |
|----------|------------------|
| 1        | -V <sub>CC</sub> |
| 2        | GND              |
| 3        | +V <sub>CC</sub> |
| 4        | OUTPUT           |
| 5        | +IN              |
| 6        | -IN              |

| CURRENT   | Ø PIN                         |
|-----------|-------------------------------|
| 40A ~ 60A | BUSBAR<br>1.0[0.04]X6.3[2.48] |



Unless otherwise specified, tolerances shall be ±0.5mm.

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# Hall Effect Current Sensors

## 50 to 200 Amp Applications — Open Loop



- Compact PCB Mount Design
- Voltage Output type
- CE EN50178 (pending)

Specifications Measured at 25°C, RL=10KΩ, V<sub>CC</sub>=±15V

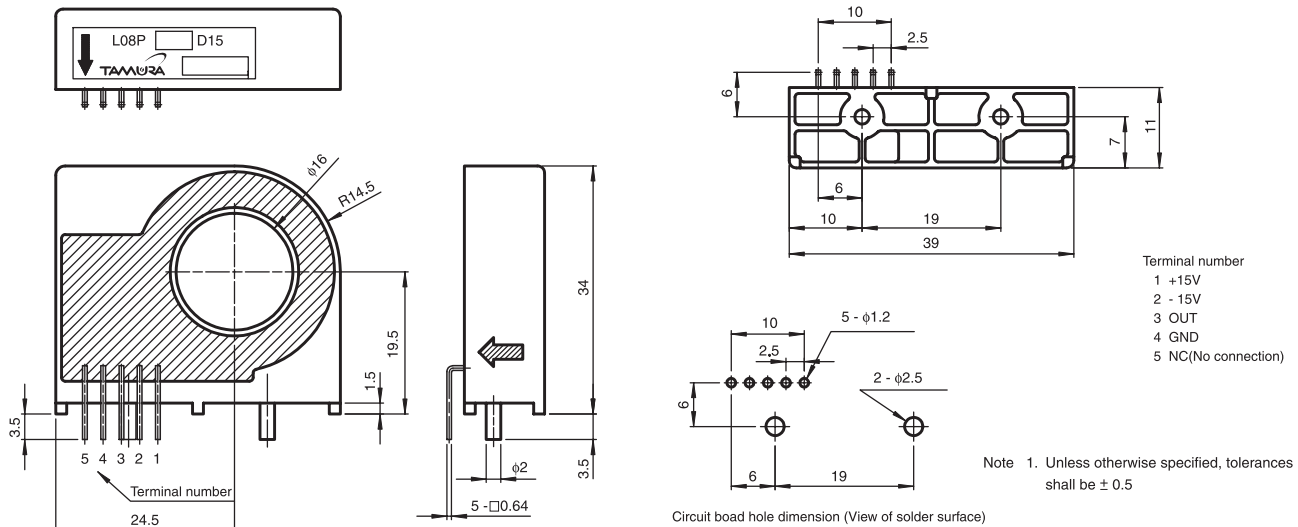
| Specification                                         |                     | L08P050D15                                       | L08P100D15   | L08P150D15 | L08P200D15 |
|-------------------------------------------------------|---------------------|--------------------------------------------------|--------------|------------|------------|
| Nominal Primary DC Current                            | (I <sub>f</sub> )   | 50AT                                             | 100AT        | 150AT      | 200AT      |
| Maximum Current                                       | I <sub>f(max)</sub> | ±150AT                                           | ±300AT       | ±350AT     | ±350AT     |
| Output Voltage @ I <sub>f</sub>                       | V <sub>OUT</sub>    | 4V                                               |              |            |            |
| Offset Voltage                                        | V <sub>OE</sub>     | <±40mV                                           |              |            |            |
| Accuracy @ I <sub>f</sub> <sup>2</sup>                | X                   | ±1% of I <sub>f</sub>                            |              |            |            |
| Output Linearity <sup>2</sup> (0..I <sub>f</sub> MAX) | E <sub>L</sub>      | ≤±1% of I <sub>f</sub>                           |              |            |            |
| Power Supply                                          | V <sub>CC</sub>     | ±15V±5%                                          |              |            |            |
| Response Time                                         | t <sub>r</sub>      | <10μ Sec                                         |              |            |            |
| Current Consumption                                   | I <sub>c</sub>      | 12mA typ                                         |              |            |            |
| Output Temperature Characteristic                     | TCE <sub>B</sub>    | <±0.1% / °C                                      | <±0.05% / °C |            |            |
| Offset Temperature Characteristic                     | V <sub>OT</sub>     | <±2mV / °C                                       | <±1mV / °C   |            |            |
| Hysteresis Allowance @ I <sub>f</sub> =0              | V <sub>OH</sub>     | < ±30mV                                          | <± 20mV      |            |            |
| Withstand Voltage (50/60Hz)                           | V <sub>d</sub>      | 2,500VACrms for 1 minute (Sensing Current 0.5mA) |              |            |            |
| Insulation Resistance @ 500VDC                        | R <sub>IS</sub>     | ≥500MΩ                                           |              |            |            |
| Operating Bandwidth (-3dB)                            | f                   | DC - 50kHz                                       |              |            |            |
| Operating Temperature                                 | T <sub>A</sub>      | -10 - +80°C                                      |              |            |            |
| Storage Temperature                                   | T <sub>s</sub>      | -20 - +85°C                                      |              |            |            |

<sup>1</sup> Small signal only; derating needed to avoid excessive core heating at high frequency

<sup>2</sup> Without offset

### Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| 50      | 25             |



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# Hall Effect Current Sensors

## 50 to 600 Amp Applications — Open Loop

- Compact PCB Mount Design
- Voltage Output type
- Very High Linearity
- 15V Supply Voltage
- CE EN50178 (pending)



Specifications Measured at 25°C, RL=10KΩ, Vcc=±15V

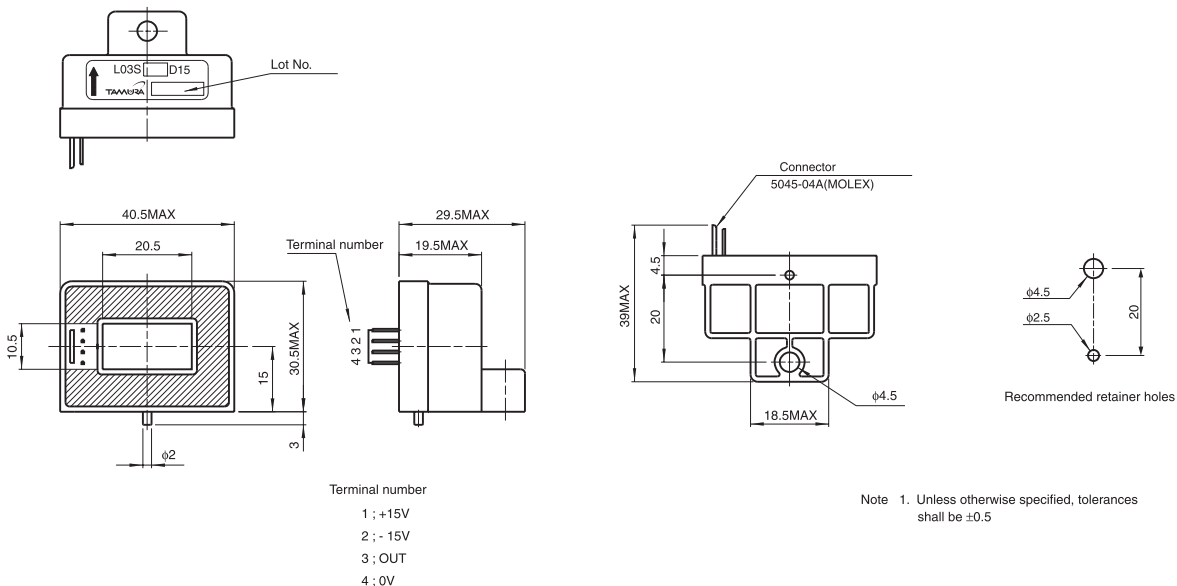
| Specification                                      | L03S050D15                                       | L03S100D15 | L03S200D15 | L03S300D15 | L03S400D15 | L03S500D15 | L03S600D15 |
|----------------------------------------------------|--------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Nominal Primary DC Current (If)                    | 50AT                                             | 100AT      | 200AT      | 300AT      | 400AT      | 500AT      | 600AT      |
| Maximum Current If(max)                            | ±150AT                                           | ±300AT     | ±600AT     | ±700AT     | ±700AT     | ±700AT     | ±700AT     |
| Output Voltage @ If                                | V <sub>OUT</sub> 4V                              |            |            |            |            |            |            |
| Offset Voltage V <sub>OE</sub>                     | <± 40mV                                          |            |            | <±30mV     |            |            |            |
| Accuracy @ If <sup>2</sup>                         | X                                                |            |            | ±1% of If  |            |            |            |
| Output Linearity <sup>2</sup> (0..If MAX)          | E <sub>L</sub>                                   |            |            | ±1% of If  |            |            |            |
| Power Supply V <sub>CC</sub>                       | ±15V±5%                                          |            |            |            |            |            |            |
| Response Time t <sub>r</sub>                       | ≤5μ Sec                                          |            |            |            |            |            |            |
| Current Consumption I <sub>c</sub>                 | 12mA typ                                         |            |            |            |            |            |            |
| Output Temperature Characteristic TCE <sub>G</sub> | <±0.1% / °C                                      |            |            |            |            |            |            |
| Offset Temperature Characteristic V <sub>OT</sub>  | <±2mV / °C                                       |            |            | <±1mV / °C |            |            |            |
| Hysteresis Allowance @ If=0 V <sub>OH</sub>        | ±30mV                                            |            |            | ±20mV      |            | ±10mV      |            |
| Withstand Voltage (50/60Hz) V <sub>d</sub>         | 2,500VACrms for 1 minute (sensing current 0.5mA) |            |            |            |            |            |            |
| Insulation Resistance @ 500VDC R <sub>IS</sub>     | ≥500MΩ                                           |            |            |            |            |            |            |
| Operating Bandwidth <sup>1</sup> (-3dB) f          | DC - 50kHz                                       |            |            |            |            |            |            |
| Operating Temperature T <sub>A</sub>               | -10 - +80°C                                      |            |            |            |            |            |            |
| Storage Temperature T <sub>S</sub>                 | -15 - +90°C                                      |            |            |            |            |            |            |

<sup>1</sup> Small signal only; derating needed to avoid excessive core heating at high frequency

<sup>2</sup> Without offset

### Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| 20      | 50             |



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# Hall Effect Current Sensors

## 50 to 600 Amp Applications — Open Loop



- Compact PCB Mount Design
- Voltage Output type
- Very High Linearity
- 5V Supply Voltage
- CE EN50178 (pending)

Specifications Measured at 25°C, RL=10KΩ, Vcc=+ 5V; Vref =  $\frac{V_{CC}}{2}$

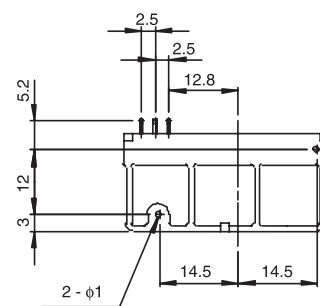
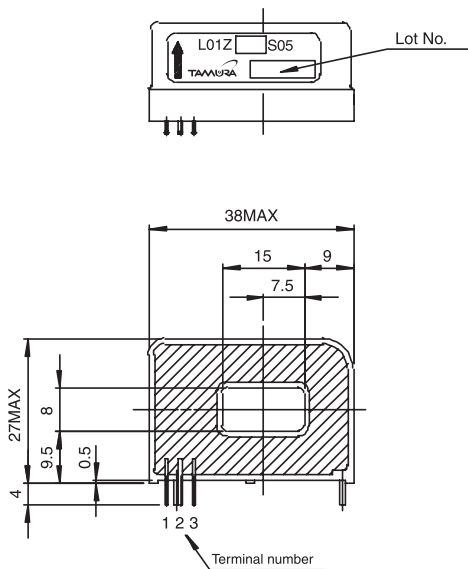
| Specification                                      | L01Z050S05     | L01Z100S05 | L01Z150S05 | L01Z200S05                                       | L01Z300S05  | L01Z400S05 | L01Z500S05 | L01Z600S05 |
|----------------------------------------------------|----------------|------------|------------|--------------------------------------------------|-------------|------------|------------|------------|
| Nominal Primary DC Current (If)                    | 50AT           | 100AT      | 150AT      | 200AT                                            | 300AT       | 400AT      | 500AT      | 600AT      |
| Maximum Current If(max)                            | ±62.5AT        | ±125AT     | ±187.5AT   | ±250AT                                           | ±375AT      | ±500AT     | ±625AT     | ±750AT     |
| Output Voltage @ If                                | Vref±1.5V      |            |            |                                                  | Vref±1.5V   |            |            |            |
| Offset Voltage V <sub>OE</sub>                     | 2.5V±0.035V    |            |            |                                                  | 2.5V±0.030V |            |            |            |
| Accuracy @ If <sup>2</sup>                         | X              | <±1% of If |            |                                                  | <±1% of If  |            |            |            |
| Output Linearity <sup>2</sup> (0..If MAX)          | E <sub>L</sub> |            |            | ±1% of If                                        |             |            |            |            |
| Power Supply Vcc                                   |                |            |            | 5V ±2.0%                                         |             |            |            |            |
| Response Time t <sub>r</sub>                       |                |            |            | <5μs                                             |             |            |            |            |
| Current Consumption I <sub>c</sub>                 |                |            |            | <15mA                                            |             |            |            |            |
| Output Temperature Characteristic TCE <sub>g</sub> | <±2mV / °C     |            |            | <±1.5mV / °C                                     |             |            |            |            |
| Offset Temperature Characteristic V <sub>OT</sub>  | <±2mV / °C     |            |            | <±1mV / °C                                       |             |            |            |            |
| Hysteresis Allowance @ If=0 V <sub>OH</sub>        |                | ±8mV       |            | ±4mV                                             |             |            | ±6mV       |            |
| Withstand Voltage (50/60Hz) V <sub>d</sub>         |                |            |            | 2,500VACrms for 1 minute (sensing current 0.5mA) |             |            |            |            |
| Insulation Resistance @ 500VDC R <sub>IS</sub>     |                |            |            | ≥500MΩ                                           |             |            |            |            |
| Operating Bandwidth <sup>1</sup> (-3dB) f          |                |            |            | DC - 50kHz                                       |             |            |            |            |
| Operating Temperature T <sub>A</sub>               |                |            |            | -10 - +80°C                                      |             |            |            |            |
| Storage Temperature T <sub>S</sub>                 |                |            |            | -15 - +85°C                                      |             |            |            |            |

<sup>1</sup> Small signal only; derating needed to avoid excessive core heating at high frequency

<sup>2</sup> Without offset

### Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| 50      | 45             |



Terminal number  
1 OUT  
2 OV  
3 5V

Note 1. Unless otherwise specified, tolerances shall be ± 0.5

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# Hall Effect Current Sensors

## 100 to 300 Amp Applications — Closed Loop

- PCB Mount Design
- Current Output type
- Very High Linearity
- $\pm 15V$  Supply Voltage
- CE EN50178 (pending)



Specifications Measured at 25°C, RL=10K $\Omega$ , VCC= $\pm 15V$

| Specification                         |                               | S21Z100D15                                                | S21Z150D15 | S21Z200D15 | S21Z300D15 |
|---------------------------------------|-------------------------------|-----------------------------------------------------------|------------|------------|------------|
| Nominal Primary DC Current            | (If)                          | 100A                                                      | 150A       | 200A       | 300A       |
| Maximum Current                       | If(max)                       | 150A                                                      | 225A       | 300A       | 450A       |
| Output Current @ If                   | I <sub>OUT</sub>              | 50mA                                                      | 75mA       | 100mA      | 150mA      |
| Conversion Ratio                      | K <sub>n</sub>                | 1:2000                                                    | 1:2000     | 1:2000     | 1:2000     |
| Accuracy                              | X                             | $\pm 1\%$ of If                                           |            |            |            |
| Offset Current (If=0) <sup>1</sup>    | I <sub>o</sub>                | $\pm 0.5mA$                                               |            |            |            |
| Output Linearity <sup>1</sup> (0..If) | E <sub>L</sub>                | $\pm 0.25\%$ of If                                        |            |            |            |
| Power Supply                          | V <sub>CC</sub>               | $\pm 15V \pm 5\%$ <sup>2</sup>                            |            |            |            |
| Response Time                         | t <sub>r</sub>                | $\leq 1\mu s$                                             |            |            |            |
| Current Consumption                   | I <sub>c</sub>                | $\pm 16mA$ <sup>3</sup>                                   |            |            |            |
| Output Temperature Characteristic     | TC <sub>I<sub>OUT</sub></sub> | $\pm 0.025\% / ^\circ C$ @ If=0 (Ta=-5 to +70°C)          |            |            |            |
| Offset Temperature Characteristic     | I <sub>OT</sub>               | $\pm 0.025mA / ^\circ C$ @ If=0 (Ta=-5 to +70°C)          |            |            |            |
| Hysteresis Allowance If=0 - Ifmax)    | I <sub>OH</sub>               | $\leq 0.3mA$                                              |            |            |            |
| Withstand Voltage (50/60Hz)           | V <sub>d</sub>                | 2,500VACrms for 1 minute (sensing current 0.5mA)          |            |            |            |
| Insulation Resistance @ 500VDC        | R <sub>IS</sub>               | 500M $\Omega$                                             |            |            |            |
| Frequency Bandwidth (-3dB)            | f                             | DC - 150kHz                                               |            |            |            |
| Operating Temperature                 | T <sub>A</sub>                | -10 - +70°C                                               |            |            |            |
| Storage Temperature                   | T <sub>S</sub>                | -20 - +85°C                                               |            |            |            |
| Secondary Coil Resistance             | R <sub>s</sub>                | TBD Ohms @ Ta = 70°C (Contact Tamura for additional info) |            |            |            |

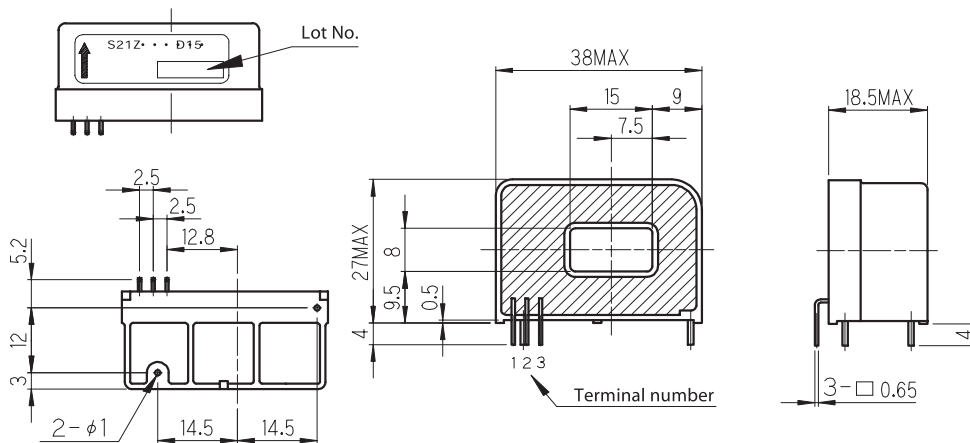
<sup>1</sup> Without Offset

<sup>2</sup> Ifmax is Restricted by V<sub>CC</sub>

<sup>3</sup> Output Current not included

### Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| 50      | 25             |



Note 1. Unless otherwise specified, tolerances shall be  $\pm 0.5$

Terminal number  
1. OUT  
2. -15V  
3. +15V

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# Hall Effect Current Sensors

## 50 to 300 Amp Applications — Closed Loop



- Panel Mount Design
- Current Output type
- Very High Linearity
- $\pm 12V$  or  $\pm 15V$  Supply Voltage
- CE EN50178 (pending)

Specifications Measured at 25°C,  $R_L \pm 15K\Omega$ ,  $V_{CC} = \pm 12V$

| Specification                          |              | S20S050A | S20S100A | S20S150A                                               | S20S200A | S20S300A |
|----------------------------------------|--------------|----------|----------|--------------------------------------------------------|----------|----------|
| Nominal Primary DC Current             | (If)         | 50A      | 100A     | 150A                                                   | 200A     | 300A     |
| Maximum Current                        | $I_{F(max)}$ | 75A      | 150A     | 225A                                                   | 300A     | 450A     |
| Output Current @ If                    | $I_{OUT}$    | 50mA     | 100mA    | 150mA                                                  | 100mA    | 150mA    |
| Conversion Ratio                       | $K_H$        | 1:1000   | 1:1000   | 1:1000                                                 | 1:2000   | 1:2000   |
| Offset Current (If=0)                  | $I_o$        |          |          | $\pm 0.5mA$                                            |          |          |
| Accuracy <sup>4</sup>                  | X            |          |          | $< \pm 1\%$ of If                                      |          |          |
| Output Linearity <sup>4</sup> (0..MAX) | $E_L$        |          |          | $\pm 0.25\%$                                           |          |          |
| Power Supply                           | $V_{CC}$     |          |          | $12V$ or $\pm 15V \pm 5\%$ <sup>2</sup>                |          |          |
| Response Time @ $di/dt=50A/\mu Sec$    | $t_r$        |          |          | $1\mu s$                                               |          |          |
| Current Consumption                    | $I_c$        |          |          | $\pm 16mA$ <sup>3</sup>                                |          |          |
| Output Temperature Characteristic      | $TCI_{OUT}$  |          |          | $\pm 0.02\% / ^\circ C$ @ If (Ta=-5 to +70°C)          |          |          |
| Offset Temperature Characteristic      | $I_{OT}$     |          |          | $\pm 0.025mA / ^\circ C$ @ If=0 (Ta=-5 to +70°C)       |          |          |
| Hysteresis Allowance                   | $I_{OH}$     |          |          | 0.5mA                                                  |          |          |
| Withstand Voltage (50/60Hz)            | $V_d$        |          |          | 2,500VACrms for 1 minute (sensing current 0.5mA)       |          |          |
| Insulation Resistance @ 500VDC         | $R_{IS}$     |          |          | 500M $\Omega$                                          |          |          |
| Frequency Bandwidth (-3dB)             | f            |          |          | DC - 150kHz                                            |          |          |
| Operating Temperature                  | $T_A$        |          |          | -10 - +70°C                                            |          |          |
| Storage Temperature                    | $T_S$        |          |          | -20 - +85°C                                            |          |          |
| Secondary Coil Resistance              | $R_S$        |          |          | <sup>1</sup> Ohms @ 70°C (Contact Tamura Tech Support) |          |          |

<sup>1</sup> TBD

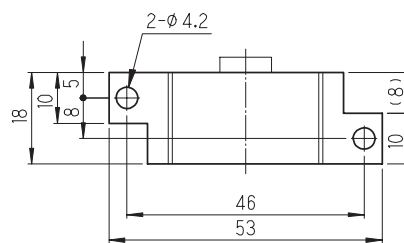
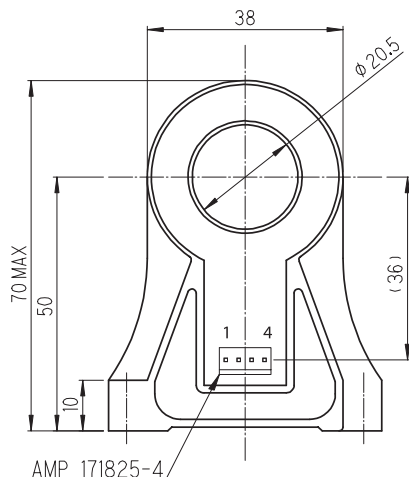
<sup>2</sup> Ifmax is Restricted by Vcc

<sup>3</sup> Output Current not included

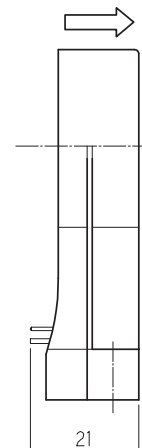
<sup>4</sup> Without offset

### Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| TBD     | 46             |



Note Unless otherwise specified, tolerances shall be  $\pm 0.5$



Terminal Pin  
1+15V  
2- 15V  
3.OUT  
4.NC

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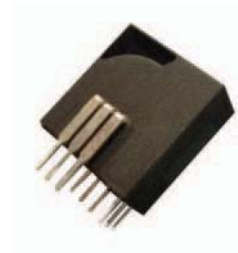
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# Hall Effect Current Sensors

## 6 to 25 Amp Applications — Closed Loop

- Multirange Current Sensor
- Voltage Output
- Compact PCB Mount
- Single Supply ( $\pm 5V$ )
- CE EN50178 (pending)



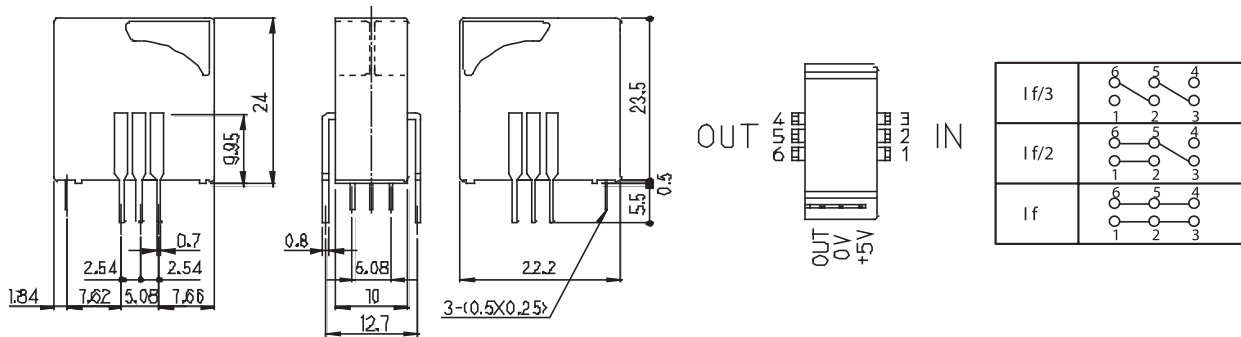
Specifications Measured at 25°C, RL=10K $\Omega$ , V<sub>CC</sub>=+5V

| Specification                                                                  | S22P006S05         | S22P015S05                                       | S22P025S05         |
|--------------------------------------------------------------------------------|--------------------|--------------------------------------------------|--------------------|
| Nominal Primary r.m.s. Current (I <sub>f</sub> )                               | $\pm 6A$           | $\pm 15A$                                        | $\pm 25A$          |
| Maximum Current I <sub>f(max)</sub>                                            | $\pm 18A$          | $\pm 45A$                                        | $\pm 75A$          |
| Offset Voltage (I <sub>f</sub> =0) V <sub>REF</sub>                            | 2.5V $\pm$ 30mV    | 2.5V $\pm$ 20mV                                  | 2.5V $\pm$ 15mV    |
| Output Voltage V <sub>OUT</sub>                                                |                    | VREF $\pm$ 0.625V                                |                    |
| Output Voltage Accuracy <sup>1</sup> @ I <sub>f</sub> X                        |                    | 0.625V $\pm$ 10mV                                |                    |
| Output Linearity (0 to I <sub>f</sub> ) E <sub>L</sub>                         |                    | $\pm 0.25\%$                                     |                    |
| Power Supply V <sub>CC</sub>                                                   |                    | $\pm 5V \pm 5\%$                                 |                    |
| Response Time t <sub>r</sub>                                                   |                    | 1 $\mu$ s                                        |                    |
| Current Consumption I <sub>C</sub>                                             |                    | 12.5mA Typ                                       |                    |
| Output Temperature Characteristic ICEG                                         |                    | $\pm 0.05mV/^\circ C$                            |                    |
| Offset Temperature Characteristic TC <sub>OUT</sub>                            | 1.25mV/ $^\circ C$ | 1.25mV/ $^\circ C$                               | 1.25mV/ $^\circ C$ |
| Hysteresis Allowance (I <sub>f</sub> =0 to I <sub>fmax</sub> ) V <sub>OH</sub> |                    | $\leq 0.25mV$                                    |                    |
| Withstand Voltage (50/60Hz) V <sub>d</sub>                                     |                    | 3,000VACrms for 1 minute (sensing current 0.5mA) |                    |
| Insulation Resistance @ 500VDC R <sub>IS</sub>                                 |                    | $\geq 500M\Omega$                                |                    |
| Operating Bandwidth (1dB) f                                                    |                    | DC - 200kHz                                      |                    |
| Operating Temperature T <sub>A</sub>                                           |                    | -10 - +85 $^\circ C$                             |                    |
| Storage Temperature T <sub>S</sub>                                             |                    | -25 - +100 $^\circ C$                            |                    |

<sup>1</sup> Without offset

### Package & Weight Information

| QTY/Box | Weight/each(g) |
|---------|----------------|
| 100     | 8              |



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