

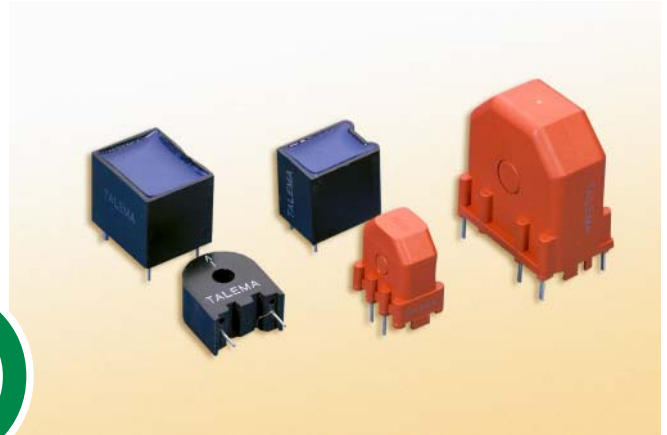


AS Series • Current Sense Inductors & Transformers

AS Series Current Sensors are designed as a low cost method of controlling, monitoring or measuring AC currents. The sensors serve as feedback elements between the output and pulse control circuitry providing accurate regulation of switch mode power supplies.

Features

- Fully encapsulated for optimal PC board mounting
- Frequency range from 20kHz to 200kHz
- Primary current rating to 30 Amps
- Primary to secondary isolated to 2500 VAC
- Meets VDE norms
- Optimum performance over designated current and frequency range
- Competitive pricing due to high volume production
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified facility
- Fully RoHS compliant



Applications

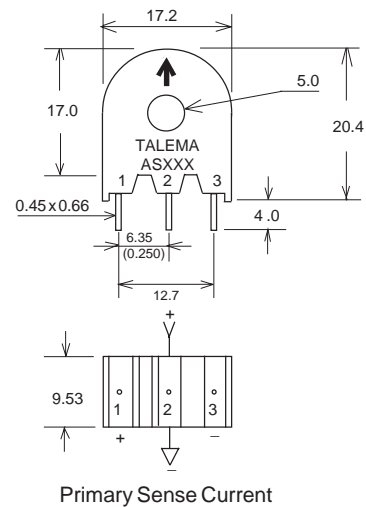
- Isolated current feed-back signal in Switch Mode Power Supplies • Motor current load/overload • Lighting • Switch Controls Ultra-sound current • High resolution sonar current • Isolated bi-directional current sensor with full wave bridge rectifier

Electrical Specifications at 25°C

| Part Number | Prim./Sec. Ratio | L _{sec} ⁽¹⁾ (mH Min) | DCR _{sec} (Ohms Max.) | Sec. Term. ⁽²⁾ Resistance (Ohms Nom.) | I _{sec} ⁽³⁾ Max. | Volt μS ⁽⁴⁾ Max. | Schematic |
|-------------|------------------|--|--------------------------------|--|--------------------------------------|-----------------------------|-----------|
| AS-100 | 1:50 | 6 | 0.6 | 50 | 300mA | 175 | |
| AS-101 | 1:100 | 25 | 1.1 | 100 | 150mA | 350 | |
| AS-102 | 1:200 | 100 | 4.5 | 200 | 75mA | 700 | |
| AS-103 | 1:300 | 250 | 10.0 | 300 | 50mA | 900 | |
| AS-104 | 1:500 | 700 | 25.0 | 500 | 30mA | 1500 | |
| AS-105 | 1:750 | 1682 | 43.0 | 750 | 40mA | 3750 | |
| AS-110 | 1:50CT | 6 | 0.3 / 0.3 | 25 + 25 | 300mA | 175 | |
| AS-111 | 1:100CT | 25 | 0.55 / 0.55 | 50 + 50 | 150mA | 350 | |
| AS-112 | 1:200CT | 100 | 2.25 / 2.25 | 100 + 100 | 75mA | 700 | |
| AS-113 | 1:300CT | 250 | 5.0 / 5.0 | 150 + 150 | 50mA | 900 | |
| AS-114 | 1:500CT | 700 | 12.5 / 12.5 | 250 + 250 | 30mA | 1500 | |
| AS-115 | 1:750CT | 1682 | 21.5 / 21.5 | 375 + 375 | 40mA | 3750 | |

Notes:

- 1) L_{sec}: Secondary inductance tested at 10kHz and 10mV for 1:50 through 1:500 Prim./Sec. ratios and 1kHz/10mV for Prim./Sec. ratio of 1:750
- 2) This nominal termination resistance value will yield approximately 1.0V of output for each amp of current in a single turn sense line. The output Voltage/Ampere of these devices can be increased or decreased linearly over a restricted temperature range by adjusting the terminating resistance.
- 3) For Prim./Sec. Ratios of 1:50 through 1:500, the I_{sec} value corresponds to a maximum primary current of 15 Amp-turns rms while the I_{sec} value for the ratio of 1:750 corresponds to a max. primary current of 30 Amp-turns rms.
- 4) $V_{\mu S} = R_t \times I_s \times \frac{1}{2F}$
 R_t (Ohms): Recommended Terminating Resistance
 I_s (A): Secondary Current
 F (Hz): Frequency
- 5) Operating Temperature Range: -40°C to +120°C
- 6) Pin 2 is on Center-Tapped (CT) versions only



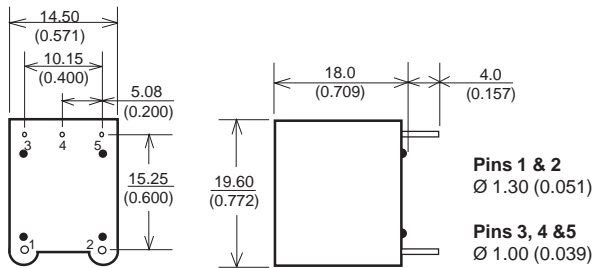
Primary Sense Current

AS Series • Current -Sense Inductors & Transformers

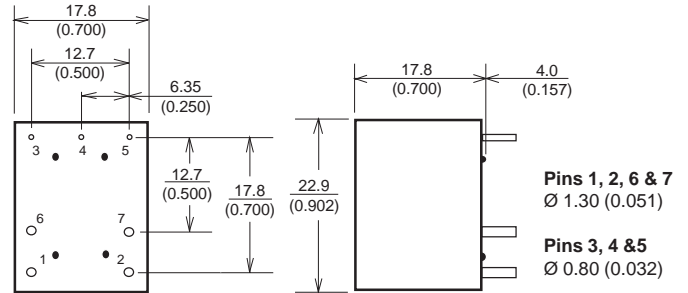
Electrical Specifications at 25°C

| Part Number | | Prim./Sec. Ratio | L _{sec} ⁽¹⁾ (mHMin.) | DCR _{sec} (Ohms Max.) | Sec. Term. ⁽²⁾ Resistance (Ohms Nom.) | I _{sec} ⁽³⁾ Max. | Volt μ S ⁽⁴⁾ Max. | Schematic |
|-------------|--------|------------------|---|-----------------------------------|--|---|-------------------------------------|-----------|
| Type 1 | Type 2 | | | | | | | |
| AS-200 | AS-300 | 1:50 | 5 | 0.65 | 50 | 300mA | 175 | |
| AS-201 | AS-301 | 1:100 | 20 | 1.30 | 100 | 150mA | 350 | |
| AS-202 | AS-302 | 1:200 | 80 | 4.50 | 200 | 75mA | 700 | |
| AS-210 | AS-310 | 1:50CT | 5 | 0.65 | 25 + 25 | 300mA | 175 | |
| AS-211 | AS-311 | 1:100CT | 20 | 1.30 | 50 + 50 | 150mA | 350 | |
| AS-212 | AS-312 | 1:200CT | 80 | 4.50 | 100 + 100 | 75mA | 700 | |
| | AS-320 | 1:50 | 5 | 0.65 | 50 | 300mA | 175 | |
| | AS-321 | 1:100 | 20 | 1.30 | 100 | 150mA | 350 | |
| | AS-322 | 1:200 | 80 | 4.50 | 200 | 75mA | 700 | |
| | AS-330 | 1:50CT | 5 | 0.65 | 25 + 25 | 300mA | 175 | |
| | AS-331 | 1:100CT | 20 | 1.30 | 50 + 50 | 150mA | 350 | |
| | AS-332 | 1:200CT | 80 | 4.50 | 100 + 100 | 75mA | 700 | |

Type 1



Type 2



Features

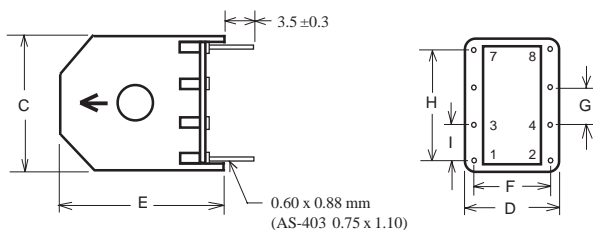
- Meets requirements of IEC 950 and VDE norms
UL94, VO recognized materials
- Operating frequency range from 20kHz to 200kHz

- Operating Temperature Range: -40°C to +120°C
- Primary to secondary isolated to 4000 VAC
- Primary current rating to 80 Amps

Electrical Specifications at 25°C

| Part Number | Pri./Sec. Ratio | I _p Amps | Volt μ S (Max.) | Application | Schematic | Case Type | Dimensions | | | | | | | |
|-------------|-----------------|------------------------|------------------------|-------------|-----------|-----------|------------|------|------|------|------|------|-----|------|
| | | | | | | | C | D | E | F | G | H | I | Hole |
| AS-400 | 1:100 | 1 | 350 | Switching | | A | 17.8 | 12.8 | 20.0 | 10.0 | 5.0 | 15.0 | 5.0 | -- |
| AS-401 | 1:100 | 2 | 550 | Switching | | A | 23.0 | 15.5 | 25.0 | 12.5 | 10.0 | 20.0 | 5.0 | -- |
| AS-402 | 1:100 | 5 | 1500 | Switching | | B | 32.5 | 18.0 | 35.5 | 15.0 | 12.5 | -- | -- | -- |
| AS-403 | 1:100 | 10 | 1500 | Switching | | A | 32.0 | 20.5 | 35.0 | 17.5 | 12.5 | 27.5 | 7.5 | -- |
| AS-404 | 1:100 | 50 | 1500 | Switching | | B | 32.5 | 18.0 | 35.5 | 15.0 | 12.5 | -- | -- | Ø 8 |
| AS-405 | 1:500 | 50 | 2700 | Switching | | A | 23.0 | 15.5 | 25.0 | 12.5 | 10.0 | 20.0 | 5.0 | Ø 5 |
| AS-406 | 1:500 | 65 | 4200 | Switching | | A | 27.0 | 18.0 | 30.0 | 15.0 | 12.5 | 22.5 | 5.0 | Ø 5 |
| AS-407 | 1:500 | 80 | 7500 | Switching | | B | 32.5 | 18.0 | 35.5 | 15.0 | 12.5 | -- | -- | Ø 8 |

Type A



Type B

