

Current Sense Transformers

High Frequency

:: CST206/306 Description

Designed for switching power supply applications, Triad current sense transformers are used to detect the current passing through a conductor.

These transformers are very reliable and operate effectively over the frequency range of 20 kHz-200 kHz. They are constructed of UL rated 130°C materials. Both models are available with a center tap option.

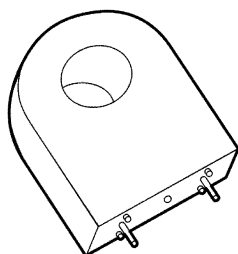


Figure A

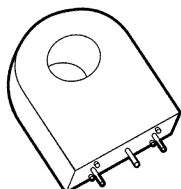


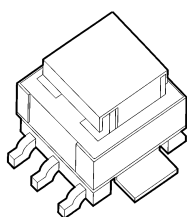
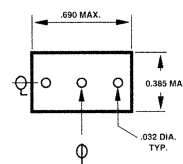
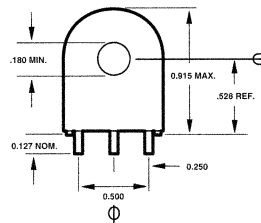
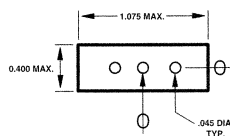
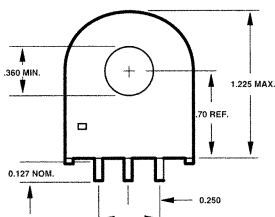
Figure B

| Section/ Figure | Type No. | ET VpSEC REF 20 kHz | Turns Count | Min. Ind. mH | DCR Max. Ohms | Pri. Amps |
|--------------------|-------------|------------------------|----------------|-----------------|---------------|-----------|
| A | CST206-1A | 2000 | 100 | 14.0 | .580 | 110.0 RMS |
| B | CST206-1T | 2000 | 100 CT | 14.0 | .580 | 110.0 RMS |
| A | CST206-2A | 4000 | 200 | 56.0 | 3.500 | 80.0 RMS |
| B | CST206-2T | 4000 | 200 CT | 56.0 | 3.500 | 80.0 RMS |
| A | CST206-3A | 6000 | 300 | 130.0 | 12.400 | 70.0 RMS |
| B | CST206-3T | 6000 | 300 CT | 130.0 | 12.400 | 70.0 RMS |
| <hr/> | | | | | | |
| B | CST306-1A | 500 | 50 | 3.5 | .340 | 35.0 RMS |
| A | CST306-1T | 500 | 50 CT | 3.5 | .580 | 35.0 RMS |
| B | CST306-2A | 1000 | 100 | 14.0 | 1.550 | 25.0 RMS |
| A | CST306-2T | 1000 | 100 CT | 14.0 | 1.550 | 25.0 RMS |
| B | CST306-3A | 2000 | 200 | 55.0 | 3.750 | 25.0 RMS |
| A | CST306-3T | 2000 | 200 CT | 55.0 | 3.750 | 25.0 RMS |

:: Outline Dimensions

Technical Notes

- Derate ET product by 32% for 50 kHz, 52% for 100 Hz and 50% for unidirectional operation.
- Rated primary current renders approximately 40°C temperature rise.
- CST206 models have maximum recommended terminating resistance of 1 ohm per turn.
- Primary is inserted through hole in casing.
- 3 pin or center tapped (CT) models are designed with a T suffix.



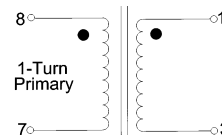
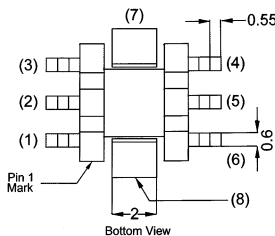
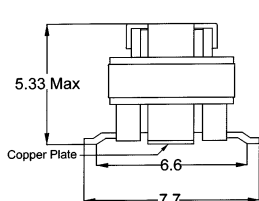
:: CSE5 Description

Designed to monitor current at 250 kHz and above. These transformers have a primary current rating of 10 Amps.

| Part No. | Turns N1:N2 @ 10kHz | Secondary Inductance µH Min. | Secondary DCR mΩ Max |
|-------------|---------------------------|------------------------------------|----------------------------|
| CSE5-100201 | 1:20 | 80 | 550 |
| CSE5-100301 | 1:30 | 180 | 870 |
| CSE5-100401 | 1:40 | 320 | 1140 |
| CSE5-100501 | 1:50 | 500 | 1500 |
| CSE5-100601 | 1:60 | 720 | 1750 |
| CSE5-100701 | 1:70 | 980 | 4750 |
| CSE5-101001 | 1:100 | 2000 | 5500 |
| CSE5-101251 | 1:125 | 3000 | 8500 |

:: Outline Dimensions

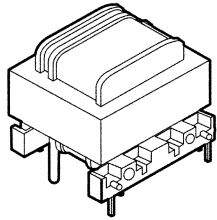
Technical Notes {mm}



Current Sense Transformers

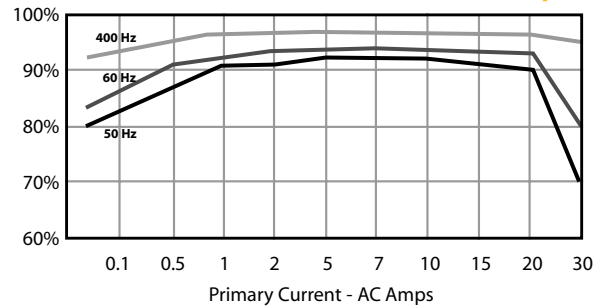
Class B
UL File: E205349 

Low Frequency

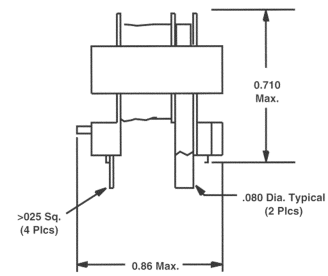


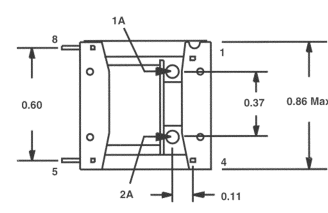
:: CSE187L Description
Designed to monitor current in low frequency applications. This Triad part may be used to monitor current from .1 to 30 amperes at frequencies from 50 Hz to 400 Hz.

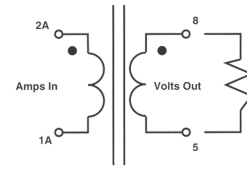
CSE187L Performance Graph



:: Outline Dimensions

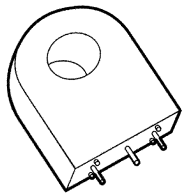






Technical Notes

- Turns ratio: Primary to sense 1:500
- Suggested burden resistor: 60 ohms.
- Typical output: 110 mV/Amp.
- Primary DCR: 250 μOhms maximum.
- Sense DCR: 21 ohms maximum.
- Constructed with UL recognized materials (Class B, 130°C).
- Hi-pot: 2,500 volts wdg-wdg.
- Potted version available with a dielectric strength of 4,000 volts wdg-wdg.



:: CST Series Description
Triad current sense transformers are used to detect the current passing through a conductor. These transformers are very reliable and operate effectively between 50-60 Hz. They are constructed of UL rated 130°C materials.

:: Specifications

| Part No. | Ip Amps | Turns Ratio | Terminating Resistor | | DCR (Ohms) Nominal | Volts/Amp @ rated Ip for various loads | | | | Net Weight (grams) REF | Case Dimensions – mm | | | | | |
|----------|---------|-------------|----------------------|--------|--------------------|----------------------------------------|--------|--------|--------|------------------------|----------------------|-------|-------|-------|-------|-------|
| | | | Ohms | Watt | | 100 | 500 | 2K | 5K | | A | B | C | D | E | F |
| CST-1005 | 5 | 1000:1 | 100 | 0.0025 | 40.00 | 0.0958 | 0.4490 | 1.3694 | 1.8402 | 20.0 | 23.50 | 24.80 | 12.00 | 15.00 | 7.50 | 8.50 |
| CST-1010 | 10 | 1000:1 | 100 | 0.0100 | 40.00 | 0.0969 | 0.4565 | 0.9686 | 1.1912 | 20.0 | 23.50 | 24.80 | 12.00 | 15.00 | 7.50 | 8.50 |
| CST-1015 | 15 | 1000:1 | 100 | 0.0230 | 40.00 | 0.0971 | 0.4429 | 0.7508 | 0.9439 | 20.0 | 23.50 | 24.80 | 12.00 | 15.00 | 7.50 | 8.50 |
| CST-1020 | 20 | 1000:1 | 100 | 0.0400 | 40.00 | 0.0977 | 0.3943 | 0.6174 | 0.7662 | 20.0 | 23.50 | 24.80 | 12.00 | 12.00 | 7.50 | 8.50 |
| CST-1025 | 25 | 1000:1 | 100 | 0.0630 | 46.00 | 0.0976 | 0.4364 | 0.7496 | 0.9664 | 30.0 | 30.20 | 30.20 | 14.30 | 20.32 | 10.16 | 11.40 |
| CST-1030 | 30 | 1000:1 | 100 | 0.0900 | 46.00 | 0.0977 | 0.4160 | 0.6710 | 0.8750 | 30.0 | 30.20 | 30.20 | 14.30 | 20.32 | 10.16 | 11.40 |

Ip: Primary Current

:: Outline Dimensions

Technical Notes

- Pin length: 5 ±1mm
- Pin diameter: 0.8 ±0.1mm
- Pin 3 normally for mechanical support only

