

# 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.

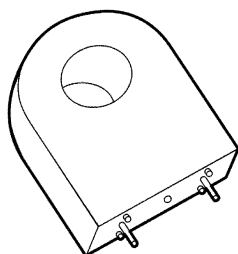


Figure A

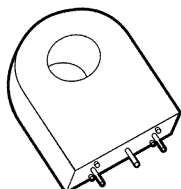


Figure B

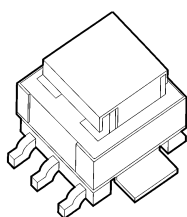
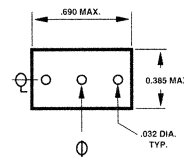
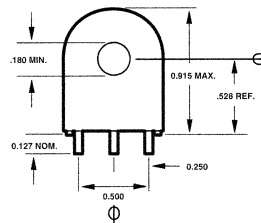
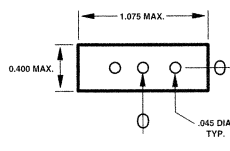
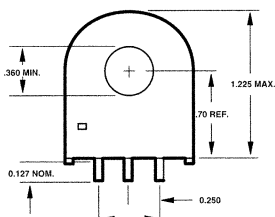
Section/ Figure	Type No.	ET VpSEC REF 20 kHz	Turns Count	Min. Ind. mH	DCR Max. Ohms	Pri. Amps
A	CST206-1A	2000	100	14.0	.580	110.0 RMS
B	CST206-1T	2000	100 CT	14.0	.580	110.0 RMS
A	CST206-2A	4000	200	56.0	3.500	80.0 RMS
B	CST206-2T	4000	200 CT	56.0	3.500	80.0 RMS
A	CST206-3A	6000	300	130.0	12.400	70.0 RMS
B	CST206-3T	6000	300 CT	130.0	12.400	70.0 RMS
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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

1. Derate ET product by 32% for 50 kHz, 52% for 100 Hz and 50% for unidirectional operation.
2. Rated primary current renders approximately 40°C temperature rise.

3. CST206 models have maximum recommended terminating resistance of 1 ohm per turn.
4. Primary is inserted through hole in casing.
5. 3 pin or center tapped (CT) models are designed with a T suffix.



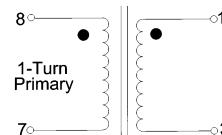
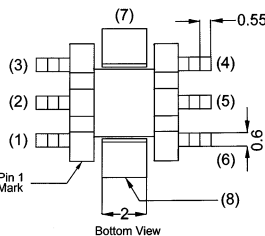
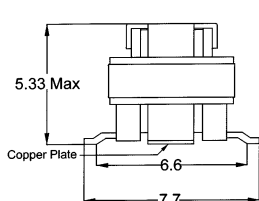
### :: CSE5 Description

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

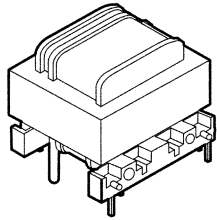
#### Technical Notes {mm}



# Current Sense Transformers

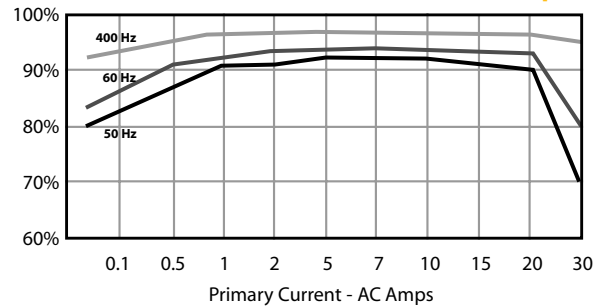
Class B  
UL File: E205349 

## Low Frequency

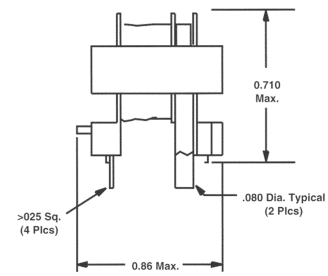


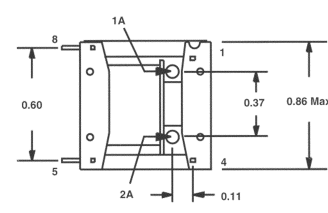
**:: CSE187L Description**  
Designed to monitor current in low frequency applications. This Triad part may be used to monitor current from .1 to 30 amperes at frequencies from 50 Hz to 400 Hz.

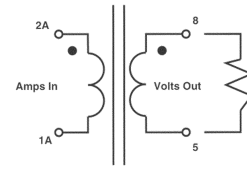
**CSE187L Performance Graph**

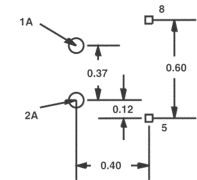


**:: Outline Dimensions**



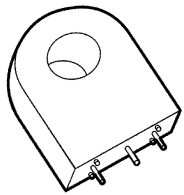






**Technical Notes**

- Turns ratio: Primary to sense 1:500
- Suggested burden resistor: 60 ohms.
- Typical output: 110 mV/Amp.
- Primary DCR: 250  $\mu$ Ohms 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  $\pm$  1mm
- Pin diameter: 0.8  $\pm$  0.1mm
- Pin 3 normally for mechanical support only

