TV1020 Series AC Voltage Converter

LI195V1/2016

1. Features:

① This product has an elegant outline and can be directly soldered onto a PCB.
② It has a precision resistor built-in for easy and direct measurement.
③ It is completely sealed for strong mechanical and environmental endurance, strong dielectric strength, and safe and reliable performance

2. Ambient Conditions:

① Ambient temperature: -55℃～+85℃;
② Relative humidity: ≤90% at 40℃;
③ Atmospheric pressure: 860～1060mbar(about 650～800mmHg).

3. Operating Frequency Range: 20Hz~1kHz

4. Insulation Thermal Class: Class B (130℃)

5. Safety Features:

① Dielectric resistance：>1000MΩ in normal condition;
② Insulation withstand voltages: 6KV 50Hz/1min in line-frequency;
③ Fire retardancy: In conformity with UL94-V0.

6. Outline Drawing, Installation Dimension and Function of Pins

(Table below):(tolerance±0.5mm)

Function of pins:

Pin No.	1-2	3-4
Function	Input	Output

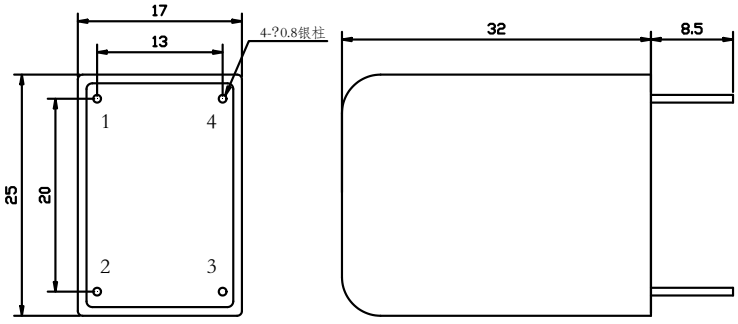


Figure 1

7. Performance Parameters:

Model	Rated Input Voltage	Rated Output Voltage	Non-linearity	Phase Shift	Withstand Voltage(kV)
TV1020-01	220Vrms	3.53Vrms	≤1%	≤60'	≥2
TV1020-02	380Vrms	3.53Vrms	≤1%	≤60'	≥2

Note: Customized products are available if the specifications listed above are not met.

TV1322 Series Voltage Output Type Voltage Converter

LI080V3 /2016

1. Features:

① This product has an elegant outline and can be directly soldered onto a PCB.

② Reliable insulation between primary winding and secondary winding, winding and shielding;

③ The primary side does not have a series resistance input, and the secondary side directly outputs voltage;

④ Fully enclosed, good mechanical and environmental resistance, strong voltage isolation capability, safe and reliable.

2. Ambient Conditions:

① Ambient temperature: -55℃～+85℃;

② Relative humidity: ≤90% at 40℃;

③ Atmospheric pressure: 860～1060mbar(about 650～800mmHg).

3. Operating Frequency Range: 20Hz~1kHz

4. Insulation Thermal Class: Class B (130℃)

5. Safety Features:

① Dielectric resistance：>1000MΩ in normal condition;

② Insulation withstand voltages: 3KV 50Hz/1min in line-frequency;

③ Fire retardancy: In conformity with UL94-V0.

6. Model Naming Rules:

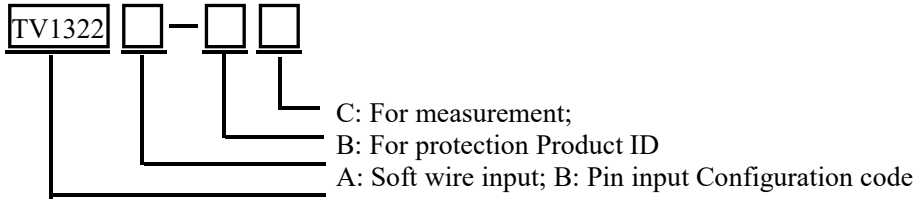


Figure 1

7. Outline Drawing, Installation Dimension: (tolerance±0.5mm)

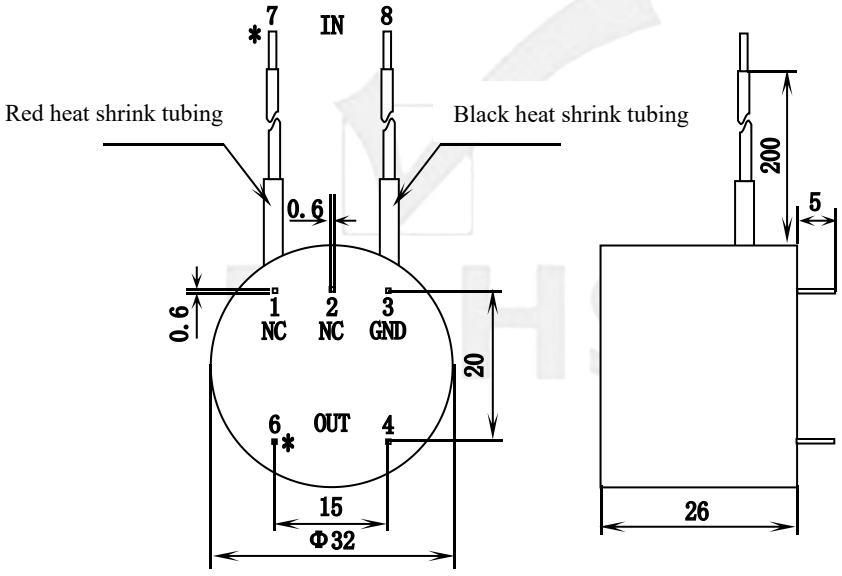


Figure2：TV1322A

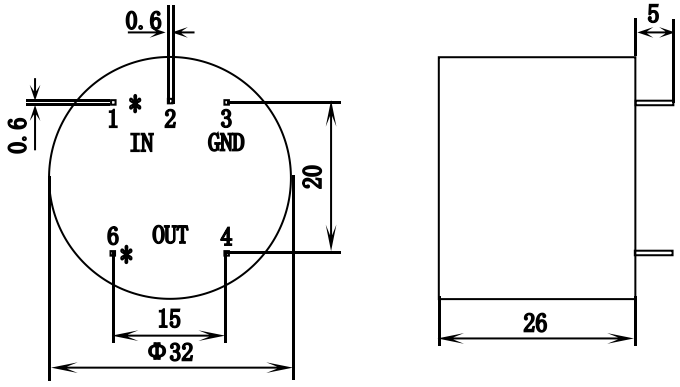


Figure 3：TV1322B

8. Technical Parameters:

Model	Rated Input Voltage	Input Voltage	Rated Output Voltage	Non-linearity	Phase Shift
TV1322A-1C	150V	180V	0.5V	≤0.5%	≤15'
TV1322A-2C	100V	120V	2V	≤0.5%	≤15'
TV1322B-1C	100V	120V	3.53V	≤0.5%	≤15'
TV1322B-2C	150V	180V	2V	≤0.5%	≤15'

Note: Customized products are available if the specification listed above are not met.

TV1425 Voltage Output Type Voltage Converter

LI080V3/2016

1. Features:

① The printed circuit board is directly welded and installed , and the appearance is beautiful;
② Reliable insulation between primary winding and secondary winding, winding and shielding;
③ The primary side does not have a series resistance input, and the secondary side directly outputs voltage;
④Fully enclosed, good mechanical and environmental resistance, strong voltage isolation capability, safe and reliable.

2. Ambient Conditions：

① Ambient temperature: -55℃～+85℃;
② Relative humidity: ≤90% at 40℃;
③ Atmospheric pressure: 860～1060mbar(about 650～800mmHg).

3. Operating Frequency Range: 20Hz~20kHz

4. Insulation Thermal Class: Class B (130℃)

5. Safety Features:

① Dielectric resistance: >1000MΩ in normal condition;
② Insulation withstand voltages: 3000V 50Hz/1min;
③ Fire retardancy: In conformity with UL94-V0.

6. Model Naming Rules:

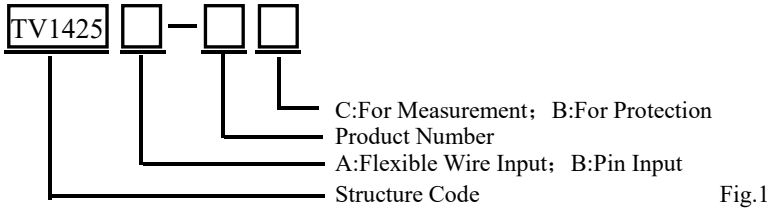
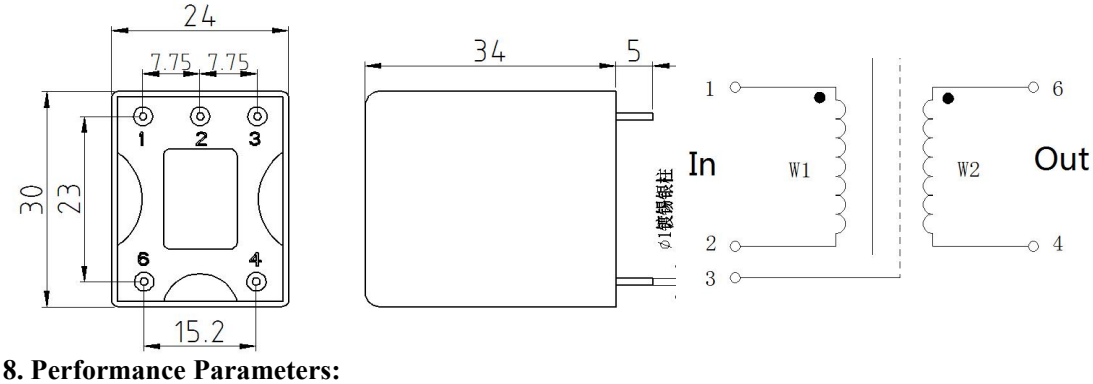


Fig.1

7. Outline Drawing, Installation Dimensions and Coil Diagram :(Figure 2) (tolerance ± 0.5 mm):



8. Performance Parameters:

Model	Rated Input Voltage	Input Voltage	Rated Output Voltage	Non-linearity	Phase Shift
TV1425B-1C	85V	120V	7.07V	≤0.5%	≤ 30 '
TV1425B-2C	150V	180V	7.07V	≤0.5%	≤ 30 '

Note: If the specifications in the table do not meet the user's requirements, customization is available based on the user's specifications.

TV2033 Series AC/DC Voltage Converter

(Electronic V/V Converter)

LI061V1/2008-EN

1. Features:

① This product has an elegant outline and can be directly soldered onto a PCB.
② It has a precision resistor built-in for easy and direct measurement.
③ It is completely sealed for strong mechanical and environmental endurance, strong dielectric strength, and safe and reliable performance

2. Ambient Conditions:

① Ambient temperature: -55℃～+85℃;
② Relative humidity: ≤90% at 40℃;
③ Atmospheric pressure: 860～1060mbar(about 650～800mmHg).

3. Operating Frequency Range: 20Hz~1kHz

4. Insulation Thermal Class: Class B (130℃)

5. Safety Features:

① Dielectric resistance：>1000MΩ in normal condition;
② Insulation withstand voltages: 6KV 50Hz/1min in line-frequency;
③ Fire retardancy: In conformity with UL94-V0.

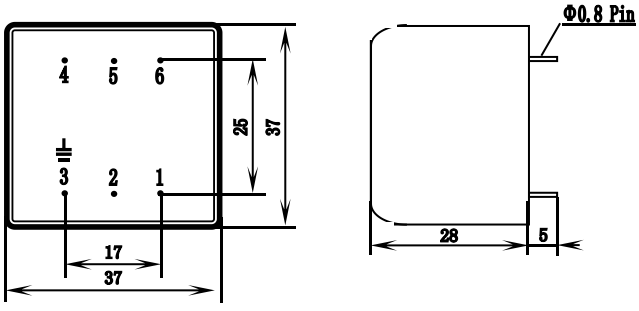
6. Outline Drawing, Installation Dimension and Function of Pins

(Table below):(tolerance±0.5mm)

Function of pins:

Pin No.	1-2	3	4-6
Function	Input	Ground	Output

Note: Direct current output: Pin 4 is anode.



7. Technical Parameters:

Model	Rated Input Voltage	Rated Output Voltage	Non-Linearity	Phase Shift	Withstand Voltage
TV2033-01	380Vrms	5Vrms	≤1%	≤60’	≥2000V
TV2033-01D	380Vrms	5VDC	≤1%	≤60’	≥2000V
TV2033-02	220Vrms	5Vrms	≤1%	≤60’	≥2000V
TV2033-02D	220Vrms	5VDC	≤1%	≤60’	≥2000V
TV2033-03	100Vrms	5Vrms	≤1%	≤60’	≥2000V
TV2033-03D	100Vrms	5VDC	≤1%	≤60’	≥2000V

Note: Customized products are available if the specification listed above are not met.

TVS1908 Series
Miniature Active AC Voltage Converter
(Electronic V/V Converter)

LI033V1/2008-EN

1. Features:

① This is an electronic current-type voltage transformer with a built-in IC amplifier inside, providing high accuracy.

② It is fully encapsulated, has strong mechanical and environmental endurance, strong dielectric strength, and is safe and reliable.

③It is light in weight, small in size, capable of being directly soldered onto a PCB, and has an elegant outline.

2. Ambient Conditions:

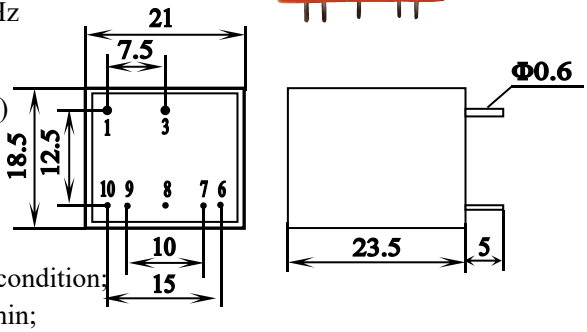
① Ambient temperature: -55℃～+85℃;

② Relative humidity: ≤90% at 40℃;

③ Atmospheric pressure: 860～1060mbar(about 650～800mmHg).

3. Operating Frequency Range:20Hz～10kHz

4. Insulation Thermal Class: Class B (130℃)



5. Safety Features:

① Dielectric resistance：>1000MΩ in normal condition;

② Insulation withstand voltages: 2KV 50Hz/1min;

③ Fire retardancy: In conformity with UL94-V0.

6. Outline Drawing, Installation Dimension (Upper right Fig.) and Function of Pins (Table below):

Pin No.	1-3	6	7	8	9	10
Function	input	＋B	adjusting	G	－B	output

7. Models and Technical parameters as in the following table:

Item \ Model	TVS1908-01	TVS1908-02	TVS1908-03
Rated Input Voltage	380Vrms	220Vrms	100Vrms
Rated Output Voltage	5Vrms	5Vrms	5Vrms
Non-Linearity	≤0.3%	≤0.3%	≤0.3%
Phase Shift	≤30’	≤30’	≤30’
Isolated Voltage	≥2000V	≥2000V	≥2000V
Working Power Supply	±15V～22V	±15V～22V	±15V～22V

8. Application Instructions:

① 1-3 input Pins must be connected in parallel with the loop of the measured current circuit. Pin 6 connected to +B. Pin 9 connected to –B, Pin 8 connected to ground, Pin10 is output terminal. Pin 7 is a terminal for adjusting.

② While input AC moving between 0～Rated Voltage, the output between Pin 10 and Pin 8 is 0~5V and linearly correspondent.

③ Phase shift can be compensated by connecting a capacitor between Pin 7 and Pin 10 and compensated to ≤15' when choosing a capacitor of 0.033μF

④ Output voltage can be changed by connecting a resistor between Pin 7 and Pin 10 and it will be as bellow if the resistor connected is R and input rated voltage:

$$\frac{5R}{1000+R}\left(\tilde{V}\right)$$

9. Attention

① Pin 8 must be connected to ground, otherwise the accuracy will be influenced.

② If you want to change the output AC signal to a DC signal, you can apply the method of absolute value rectifying. Otherwise, the linear correspondence will be damaged due to the tube voltage drop of the diode.

③ Increasing the working voltage between Pin 6 and Pin 9 can extend the scope of measuring. Contrariwise, it will reduce the scope.

④ If the output and input parameters are not suitable for you, we can customize it according to your request.