

# TV0815-1 Microminiature Precision AC Voltage Transformer

LI072V4/2016

## 1. Features:

- ① This component has a miniature size and high precision. It is capable of being directly soldered onto a PCB, is easy to use, and has an elegant outline.
- ② This component is fully encapsulated and has strong mechanical and environmental endurance, strong dielectric strength, and is safe and reliable.

## 2. Ambient Conditions:

- ① Ambient temperature:  $-55^{\circ}\text{C} \sim +85^{\circ}\text{C}$ ;
- ② Relative humidity:  $\leq 90\%$  at  $40^{\circ}\text{C}$ ;
- ③ Atmospheric pressure:  $860 \sim 1060\text{mbar}$  (about  $650 \sim 800\text{mmHg}$ ).

## 3. Operating Frequency Range: 20Hz~20kHz

## 4. Insulation Thermal Class: Class B ( $130^{\circ}\text{C}$ )

## 5. Safety Features:

- ① Dielectric resistance:  $>1000\text{M}\Omega$  in normal condition;
- ② Insulation withstand voltages:  $2\text{KV}$   $50\text{Hz}/1\text{min}$ ;
- ③ Fire retardancy: In conformity with  $\text{UL94-V0}$ .

## 6. Outline Drawing, Installation Dimension and Coil Diagram

(tolerance  $\pm 0.3\text{mm}$ ) (Figure 1) :

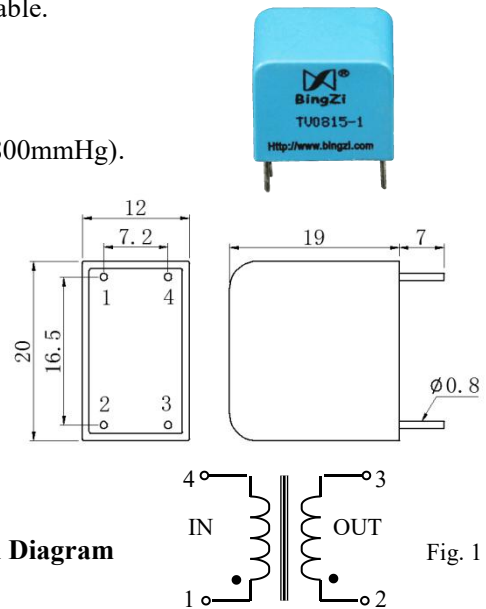


Fig. 1

## 7. Typical Application and Performance Parameters:

TV0815-1 is a current-mode voltage transformer, the typical application is shown in Figure 2 and Figure 3, and the performance parameters are shown in the table below.

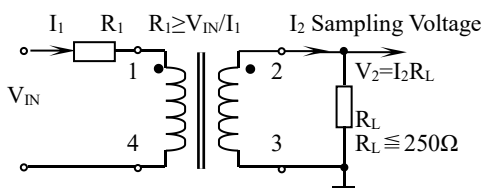


Figure 2

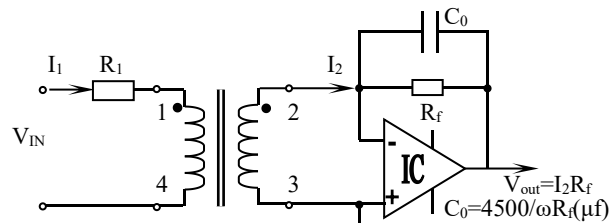


Figure 3

Usage	Model	Input Voltage	Output Voltage	Phase Shift	Non-linearity	Linear Range	Rated Current
Used as in Fig. 2	TV0815-1	$\leq 1000\text{Vac}$	$\leq 0.5\text{Vac}$	$\leq 30'$	$\leq 0.2\%$	1.5 times of the rated value	2mA/2mA
	TV0815-1M		$\leq 0.75\text{Vac}$	$\leq 40'$	$\leq 0.25\%$		
Used as in Fig. 3	TV 0815-1	$\leq 1000\text{Vac}$	$\leq 1/2$ IC's power supply	$\leq 5'$	$\leq 0.1\%$	2 times of the rated value	
	TV0815-1M			$\leq 5'$	$\leq 0.1\%$		

## 8. Attention:

This voltage transformer model is a current-type transformer. Therefore, an open circuit is not permitted in the secondary circuit, and no fuse should be connected in the secondary circuit.

## TV1005-1M Microminiature Precision AC Voltage Transformers

LI039V1/2008-EN

### 1. Features:

- ① This component has a miniature size and high precision. It is capable of being directly soldered onto a PCB, is easy to use, and has an elegant outline.
- ② This component is fully encapsulated and has strong mechanical and environmental endurance, strong dielectric strength, and is safe and reliable.

### 2. Ambient Conditions

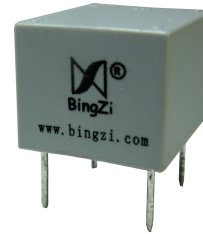
- ① Ambient temperature:  $-55^{\circ}\text{C}\sim+85^{\circ}\text{C}$ ;
- ② Relative humidity:  $\leq 90\%$  at  $40^{\circ}\text{C}$ ;
- ③ Atmospheric pressure:  $860\sim 1060\text{mbar}$ (about  $650\sim 800\text{mmHg}$ ).

### 3. Operating Frequency Range: 20Hz~20kHz

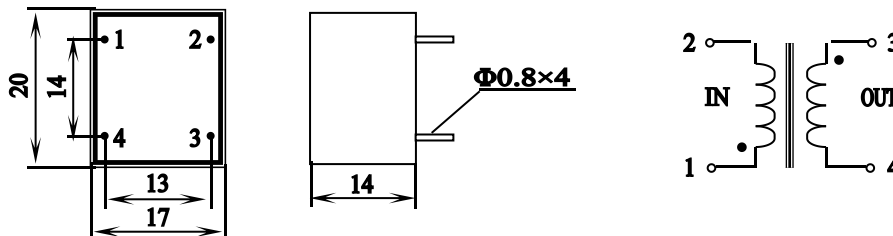
### 4. Insulation Thermal Class: Class B ( $130^{\circ}\text{C}$ )

### 5. Safety Features:

- ① Dielectric resistance:  $>1000\text{M}\Omega$  in normal condition;
- ② Insulation withstand voltages:  $2\text{KV}$   $50\text{Hz}/1\text{min}$ ;
- ③ Fire retardancy: In conformity with  $\text{UL94-V0}$ .



### 6. Outline Drawing, Installation Dimension and Coil Diagram (tolerance $\pm 0.3\text{mm}$ )



### 7. Typical Application and Technical Parameters

TV1005-1M is actually a current-type voltage transformer. There are two typical applications shown in Fig.1 and Fig.2, respectively. The parameters are listed in Table 1.

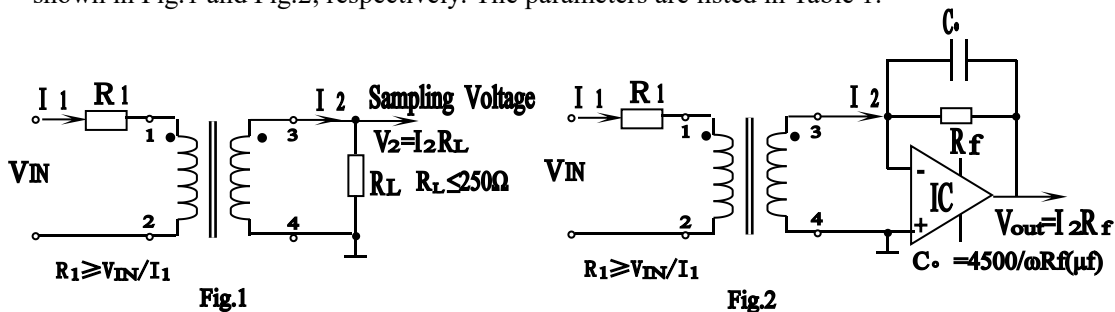


Table 1:

Usage	Input Voltage	Output Voltage	Phase Shift	Non Linearity	Linear Range	Rated Current	Withstand Voltage
Used as in Fig. 1	$\leq 1000\text{Vac}$	$\leq 0.75\text{Vac}$	$\leq 15'$	$\leq 0.2\%$	1.5 times of the rated value	2mA/2mA	$\geq 2000\text{V}$
Used as in Fig. 2	$\leq 1000\text{Vac}$	$\leq 1/2$ IC's power supply	$\leq 5'$	$\leq 0.1\%$	2 times of the Rated value		

### 8. Attention:

This voltage transformer model is a current-type transformer. Therefore, an open circuit is not permitted in the secondary circuit, and no fuse should be connected in the secondary circuit.

## TV1013 Series Microminiature Precision AC Voltage Transformers

LI040V1/2008-EN

**1. Features:**

- ① This component has a miniature size and high precision. It is capable of being directly soldered onto a PCB, is easy to use, and has an elegant outline.
- ② This component is fully encapsulated and has strong mechanical and environmental endurance, strong dielectric strength, and is safe and reliable.

**2. Ambient Conditions:**

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

**3. Operating Frequency Range :** 20Hz~20kHz

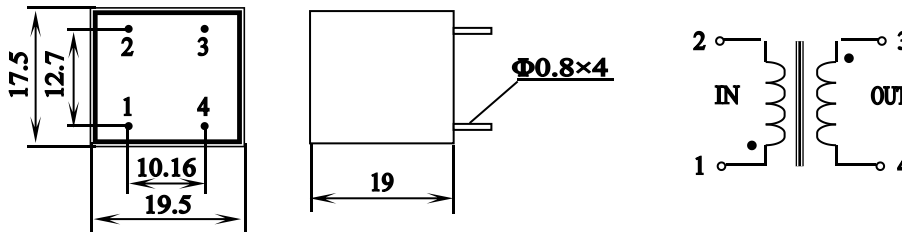
**4. Insulation Thermal Class:** Class F (155°C)

**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 and Coil Diagram(tolerance ± 0.3mm)**



**7. Typical Application and Technical Parameters**

TV1013 is actually a current-type voltage transformer. There are two typical applications shown in Fig.1 and Fig.2, respectively. The parameters are listed in Table 1.

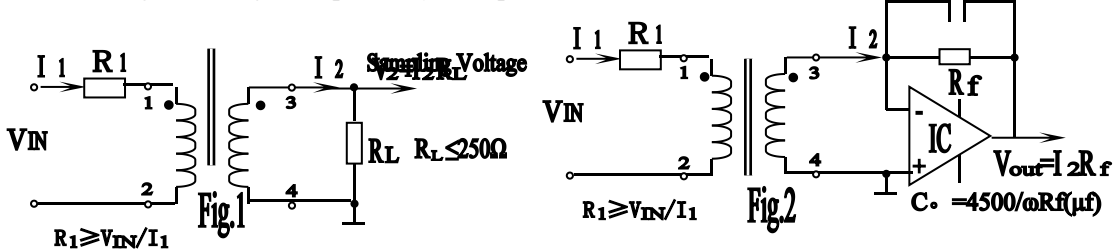


Table 1:

Usage	Model	Input Voltage	Output Voltage	Phase Shift	Non Linearity	Linear Range	Rated Current	Withstand Voltage
Used as in Fig.1	TV1013-1	≤1000Vac	≤0.5Vac	≤30'	≤0.2%	1.5 times of the rated value	2mA/2mA	≥2000V
	TV1013-1M		≤0.625Vac	≤40'	≤0.25%			
Used as in Fig.2	TV1013-1	≤1000Vac	≤1/2 IC's power supply	≤5'	≤0.1%	2 times of the rated value		
	TV1013-1M			≤5'	≤0.1%			

**8. Attention:**

This voltage transformer model is a current-type transformer. Therefore, an open circuit is not permitted in the secondary circuit, and no fuse should be connected in the secondary circuit.

# TV1014-1M Microminiature Precision AC Voltage Transformer

LI182V1/2016

## 1. Features:

- ① This component has a miniature size and high precision. It is capable of being directly soldered onto a PCB, is easy to use, and has an elegant outline.
- ② This component is fully encapsulated and has strong mechanical and environmental endurance, strong dielectric strength, and is safe and reliable.

## 2. Ambient Conditions

- ① Ambient temperature:  $-55^{\circ}\text{C}\sim+85^{\circ}\text{C}$ ;
- ② Relative humidity:  $\leq 90\%$  at  $40^{\circ}\text{C}$ ;
- ③ Atmospheric pressure:  $860\sim 1060\text{mbar}$ (about  $650\sim 800\text{mmHg}$ ).



## 3. Operating Frequency Range: 20Hz~20kHz

## 4. Insulation Thermal Class: Class B ( $130^{\circ}\text{C}$ )

## 5. Safety Features:

- ① Dielectric resistance:  $>1000\text{M}\Omega$  in normal condition;
- ② Insulation withstand voltages:  $2\text{KV}$   $50\text{Hz}/1\text{min}$ ;
- ③ Fire retardancy: In conformity with  $\text{UL94-V0}$ .

## 6. Outline Drawing, Installation Dimension and Coil Diagram

(Figure 1) :(tolerance  $\pm 0.3\text{mm}$ )

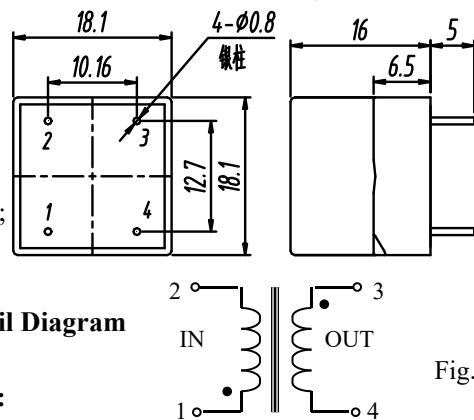


Fig.1

## 7. Typical Application and Performance Parameters:

TV1014 is a current-mode voltage transformer. Typical applications are shown in Figure 2 and Figure 3 below. The performance parameters are shown in the table below.

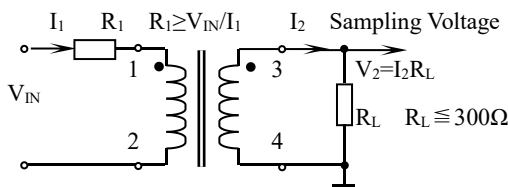


Figure 2

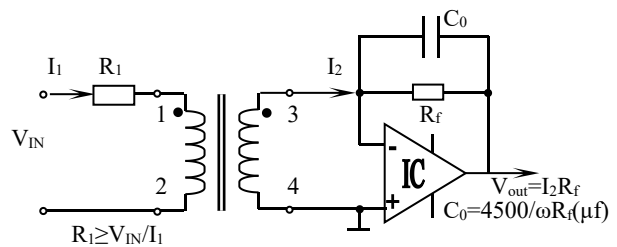


Figure3

Usage	Model	Input Voltage	Output Voltage	Load	Phase Shift	Non-linearity	Linear Range	Rated Current
Used as in Fig. 2	TV1014-1M	$\leq 1000\text{Vac}$	$\leq 0.75\text{Vac}$	$300\Omega$	$\leq 2^{\circ}$	$\leq 0.2\%$	2 times of the rated value	2.5mA/2.5mA
Used as in Fig. 3	TV1014-1M	$\leq 1000\text{Vac}$	$\leq 1/2$ IC's power supply	$300\Omega$	$\leq 5^{\circ}$	$\leq 0.1\%$	2 times of the rated value	

## 8. Attention:

This voltage transformer model is a current-type transformer. Therefore, an open circuit is not permitted in the secondary circuit, and no fuse should be connected in the secondary circuit.

# TV1115-1M

## Microminiature Precision AC Voltage Transformer

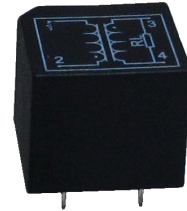
LI090V2/2016

**1. Features:**

- ① This component has a miniature size and high precision. It is capable of being directly soldered onto a PCB, is easy to use, and has an elegant outline.
- ② This component is fully encapsulated and has strong mechanical and environmental endurance, strong dielectric strength, and is safe and reliable.

**2. Ambient Conditions**

- ① Ambient temperature:  $-55^{\circ}\text{C} \sim +85^{\circ}\text{C}$ ;
- ② Relative humidity:  $\leq 90\%$  at  $40^{\circ}\text{C}$ ;
- ③ Atmospheric pressure:  $860 \sim 1060\text{mbar}$ (about  $650 \sim 800\text{mmHg}$ ).

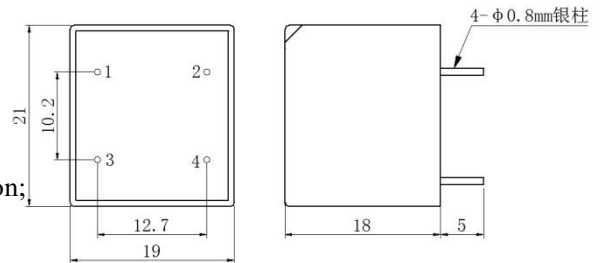


**3. Operating Frequency Range: 20Hz~20kHz**

**4. Insulation Thermal Class: Class B (130°C)**

**5. Safety Features:**

- ① Dielectric resistance:  $>1000\text{M}\Omega$  in normal condition;
- ② Insulation withstand voltages:  $3\text{KV } 50\text{Hz}/1\text{min}$ ;
- ③ Fire retardancy: In conformity with UL94-V0.



**6. Outline Drawing, Installation Dimension and Coil Diagram**

(Figure 1) : (tolerance  $\pm 0.3\text{mm}$ )

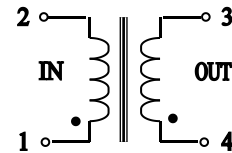


Fig.1

**7. Typical Application and Performance Parameters:**

TV1115 is a current-mode voltage transformer, the typical application is shown in Figure 2 and

Figure 3, and the performance parameters are shown in below table.

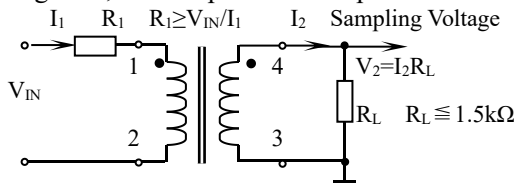


Figure 2

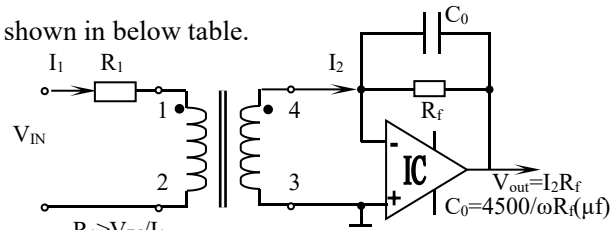


Figure 3

Usage	Model	Input Voltage	Output Voltage	Phase Shift	Non-linearity	Linear Range	Rated Current
Used as in Fig. 2	TV1115-1M	$\leq 1000\text{Vac}$	$\leq 3\text{Vac}$	$\leq 30'$	$\leq 0.2\%$	1.5 times of the rated value	2mA/2mA
Used as in Fig. 3	TV1115-1M	$\leq 1000\text{Vac}$	$\leq 1/2 \text{ IC's power supply}$	$\leq 5'$	$\leq 0.1\%$	2 times of the rated value	

**8. Attention:**

This voltage transformer model is a current-type transformer. Therefore, an open circuit is not permitted in the secondary circuit, and no fuse should be connected in the secondary circuit.

# TV1907G Microminiature High Withstand Voltage Precision AC Voltage Transformer

LI181V1/2016

## 1. Features:

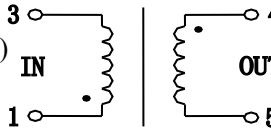
- ① This component has a miniature size and high precision. It is capable of being directly soldered onto a PCB, is easy to use, and has an elegant outline.
- ② This component is fully encapsulated and has strong mechanical and environmental endurance, strong dielectric strength, and is safe and reliable.

## 2. Ambient Conditions:

- ① Ambient temperature:  $-55^{\circ}\text{C}\sim+85^{\circ}\text{C}$ ;
- ② Relative humidity:  $\leq 90\%$  at  $40^{\circ}\text{C}$ ;
- ③ Atmospheric pressure:  $860\sim 1060\text{mbar}$ (about  $650\sim 800\text{mmHg}$ )

## 3. Operating Frequency Range: 20Hz~20kHz

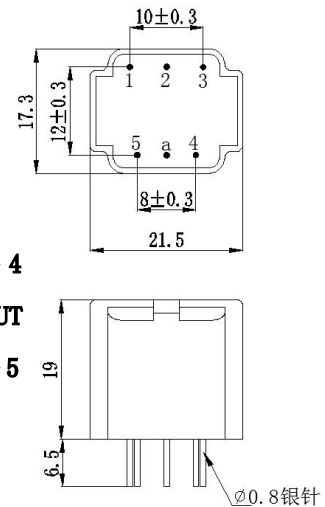
## 4. Insulation Thermal Class: Class B ( $130^{\circ}\text{C}$ )



## 5. Safety Features:

- ① Dielectric resistance:  $>1000\text{M}\Omega$  in normal condition;
- ② Insulation withstand voltages:  $10\text{KV}$   $50\text{Hz}/1\text{min}$ ;
- ③ Fire retardancy: In conformity with  $\text{UL94-V0}$ .

## 6. Outline Drawing, Installation Dimension and Coil Diagram

 (Figure 1) : (tolerance  $\pm 0.5\text{mm}$ )


## 7. Typical Application Performance Parameters:

TV1907G-1 is a current-mode voltage transformer, the typical application is shown in Figure 2 and Figure 3, and the performance parameters are shown in the below table.

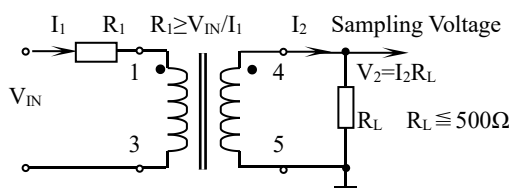


Figure 2

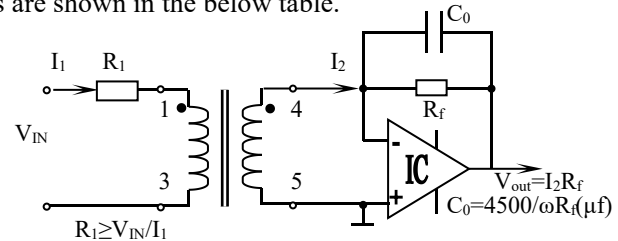


Figure 3

Usage	Input Voltage	Output Voltage	Phase Shift	Non-linearity	Linear Range	Rated Current	Withstand Voltage
Used as in Fig. 2	$\leq 4000\text{Vac}$	$\leq 2.5\text{Vac}$	$\leq 30'$	$\leq 0.2\%$	1.5 times of the rated value	5mA/5mA	$\geq 8000\text{V}$
Used as in Fig. 3	$\leq 4000\text{Vac}$	$\leq 1/2$ IC's power supply	$\leq 5'$	$\leq 0.1\%$	2 times of the rated value	5mA/5mA	$\geq 8000\text{V}$

## 8. Attention:

This voltage transformer model is a current-type transformer. Therefore, an open circuit is not permitted in the secondary circuit, and no fuse should be connected in the secondary circuit.