

### VPP12-200

#### Electrical Specifications (@25C)

1. Maximum Power: 2.5VA
2. Secondary: Series: 12.6V CT@ 0.2A  
Parallel: 6.3V @ 0.4A
3. Voltage Regulation: 25% TYP @ full load to no load
4. Temperature Rise: 30C TYP (45C MAX allowed)
5. Insulation Resistance: 100MΩ

#### Construction:

Dual bobbin construction with an insulated shroud, both made of a high temperature material that exceeds UL flammability requirements.

#### Safety:

These units are designed with 4000VAC isolation between the primary and secondary, and also, between each winding and the core. Since the dual bobbin construction effectively reduces capacitance, electrostatic shielding is not required. World Series Transformers are designed and manufactured to meet the following agency approvals:



#### Agency File:

UL: File E65390, UL 1585, Class 2 / 3 Inherently Limited,  
CSA: File LR 37220. C22.2 NO. 66, General Purpose.  
VDE: File 18786-3390-0001, VDE/EN 60 950, (IEC950) information Technology Equipment.

#### A. Dimensions:

Units: In inches

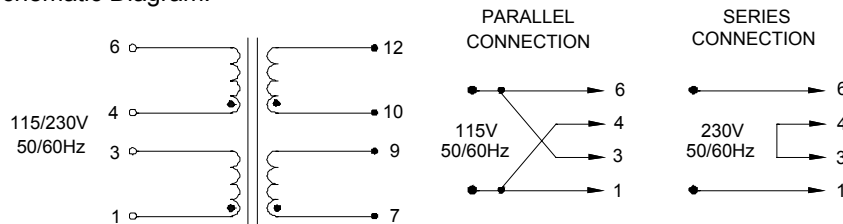
| A     | B     | C    | D    | E    | F     | G     | H     |
|-------|-------|------|------|------|-------|-------|-------|
| 1.062 | 1.125 | .187 | .200 | .250 | 1.312 | 1.625 | 1.000 |

B. PIN DIM. : 0.025 SQ

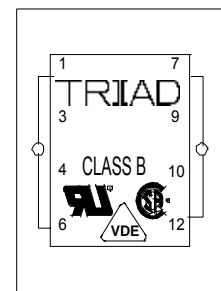
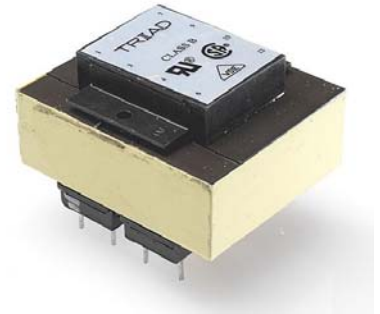
C. WT Lbs. : 0.25

D. Mounting Holes: .112 dia. x 2.

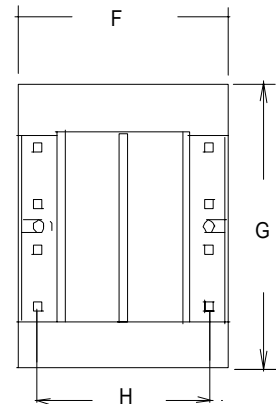
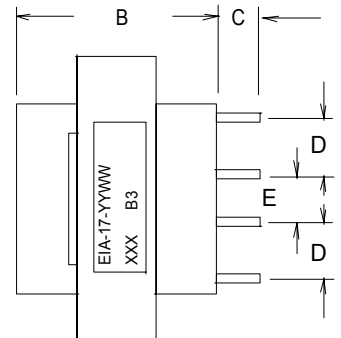
E. Schematic Diagram:



**RoHS Compliance:** As of manufacturing date February 2005, all standard products meet the requirements of 2002/95/EC, known as the RoHS initiative.



A



# Power Transformers

VDE File: 18786-3390-0001

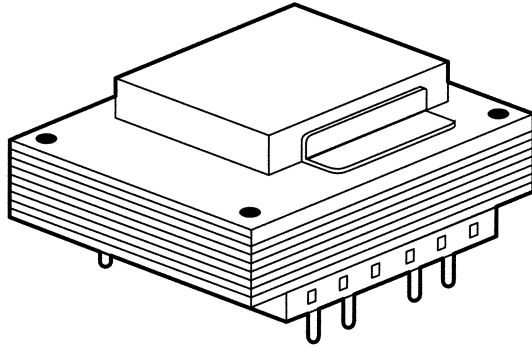
Class B

UL File: E53148

CSA File: 221330



## PC Mount: World Series™



### :: Description

Triad PC mount World Series transformers incorporate a dual bobbin construction with an insulating shroud, both made of a high temperature material that exceeds UL flammability requirements. These units are designed with very high isolation between the primary and secondary, and also, between each winding and the core. Since the dual bobbin construction effectively reduces capacitance, electrostatic shielding is not required. PC mount transformers are available with ratings from 2.5 VA 56.0 VA and have dimensionally accurate pin placement for through hole PC board mounting. All World Series transformers meet U.S. and International standards including CSA, IEC, VDE and UL requirements, and therefore have universal application.

### :: Specifications

Primary: 115/230 V, 50/60 Hz | VA Ranges: 2.5 to 56.0

### :: World Series

| Section | Type No.   | VA   | Secondary        |               | Dimensions                     |                               |                                |      |      |       | Pin Dim.  | Mounting                       |                               |                                | WT Lbs. |
|---------|------------|------|------------------|---------------|--------------------------------|-------------------------------|--------------------------------|------|------|-------|-----------|--------------------------------|-------------------------------|--------------------------------|---------|
|         |            |      | Series           | Parallel      | H                              | W                             | D                              | A    | B    | C     |           | ML                             | MD                            | MW                             |         |
| A       | VPP10-250* | 2.5  | 10.0V CT @ 0.25A | 5.0V @ 0.5A   | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .250 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.25    |
|         | VPP10-500  | 5.0  | 10.0V CT @ 0.5A  | 5.0V @ 1.0A   | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.37    |
|         | VPP10-1000 | 10.0 | 10.0V CT @ 1.0A  | 5.0V @ 2.0A   | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.140 | 0.036 Sq. | 1 <sup>1</sup> / <sub>4</sub>  | •                             | •                              | 0.53    |
|         | VPP10-2000 | 20.0 | 10.0V CT @ 2.0A  | 5.0V @ 4.0A   | 1 <sup>1</sup> / <sub>8</sub>  | 2 <sup>1</sup> / <sub>4</sub> | 1 <sup>1</sup> / <sub>8</sub>  | .400 | .400 | 1.460 | 0.036 Sq. | 1 <sup>1</sup> / <sub>2</sub>  | •                             | •                              | 0.90    |
|         | VPP10-3000 | 30.0 | 10.0V CT @ 3.0A  | 5.0V @ 6.0A   | 1 <sup>1</sup> / <sub>16</sub> | 2 <sup>3</sup> / <sub>8</sub> | 2 <sup>3</sup> / <sub>16</sub> | .550 | .275 | 1.680 | 0.045 Sq. | •                              | 1 <sup>3</sup> / <sub>4</sub> | 2 <sup>3</sup> / <sub>16</sub> | 1.15    |
|         | VPP10-5600 | 56.0 | 10.0V CT @ 5.6A  | 5.0V @ 11.2A  | 1 <sup>1</sup> / <sub>16</sub> | 3                             | 2 <sup>1</sup> / <sub>2</sub>  | .600 | .300 | 1.900 | 0.045 Sq. | •                              | 2                             | 2 <sup>1</sup> / <sub>2</sub>  | 1.70    |
| B       | VPP12-200* | 2.5  | 12.6V CT @ 0.2A  | 6.3V @ 0.4A   | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .250 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.25    |
|         | VPP12-400  | 5.0  | 12.6V CT @ 0.4A  | 6.3V @ 0.8A   | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.37    |
|         | VPP12-800  | 10.0 | 12.6V CT @ 0.8A  | 6.3V @ 1.6A   | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.140 | 0.036 Sq. | 1 <sup>1</sup> / <sub>4</sub>  | •                             | •                              | 0.53    |
|         | VPP12-1600 | 20.0 | 12.6V CT @ 1.6A  | 6.3V @ 3.2A   | 1 <sup>1</sup> / <sub>8</sub>  | 2 <sup>1</sup> / <sub>4</sub> | 1 <sup>1</sup> / <sub>8</sub>  | .400 | .400 | 1.460 | 0.036 Sq. | 1 <sup>1</sup> / <sub>2</sub>  | •                             | •                              | 0.90    |
|         | VPP12-2400 | 30.0 | 12.6V CT @ 2.4A  | 6.3V @ 4.8A   | 1 <sup>1</sup> / <sub>16</sub> | 2 <sup>3</sup> / <sub>8</sub> | 2 <sup>3</sup> / <sub>16</sub> | .550 | .275 | 1.680 | 0.045 Sq. | •                              | 1 <sup>3</sup> / <sub>4</sub> | 2 <sup>3</sup> / <sub>16</sub> | 1.15    |
|         | VPP12-4400 | 56.0 | 12.6V CT @ 4.4A  | 6.3V @ 8.8A   | 1 <sup>1</sup> / <sub>16</sub> | 3                             | 2 <sup>1</sup> / <sub>2</sub>  | .600 | .300 | 1.900 | 0.045 Sq. | •                              | 2                             | 2 <sup>1</sup> / <sub>2</sub>  | 1.70    |
| C       | VPP16-150* | 2.5  | 16.0V CT @ 0.15A | 8.0V @ 0.3A   | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .250 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.25    |
|         | VPP16-310  | 5.0  | 16.0V CT @ 0.31A | 8.0V @ 0.62A  | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.37    |
|         | VPP16-620  | 10.0 | 16.0V CT @ 0.62A | 8.0V @ 1.25A  | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.140 | 0.036 Sq. | 1 <sup>1</sup> / <sub>4</sub>  | •                             | •                              | 0.53    |
|         | VPP16-1250 | 20.0 | 16.0V CT @ 1.25A | 8.0V @ 2.5A   | 1 <sup>1</sup> / <sub>8</sub>  | 2 <sup>1</sup> / <sub>4</sub> | 1 <sup>1</sup> / <sub>8</sub>  | .400 | .400 | 1.460 | 0.036 Sq. | 1 <sup>1</sup> / <sub>2</sub>  | •                             | •                              | 0.90    |
|         | VPP16-1900 | 30.0 | 16.0V CT @ 1.9A  | 8.0V @ 3.8A   | 1 <sup>1</sup> / <sub>16</sub> | 2 <sup>3</sup> / <sub>8</sub> | 2 <sup>3</sup> / <sub>16</sub> | .550 | .275 | 1.680 | 0.045 Sq. | •                              | 1 <sup>3</sup> / <sub>4</sub> | 2 <sup>3</sup> / <sub>16</sub> | 1.15    |
|         | VPP16-3500 | 56.0 | 16.0V CT @ 3.5A  | 8.0V @ 7.0A   | 1 <sup>1</sup> / <sub>16</sub> | 3                             | 2 <sup>1</sup> / <sub>2</sub>  | .600 | .300 | 1.900 | 0.045 Sq. | •                              | 2                             | 2 <sup>1</sup> / <sub>2</sub>  | 1.70    |
| D       | VPP20-120* | 2.5  | 20.0V CT @0.12A  | 10.0V @ 0.24A | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .250 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.25    |
|         | VPP20-250  | 5.0  | 20.0V CT @0.25A  | 10.0V @ 0.5A  | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.37    |
|         | VPP20-500  | 10.0 | 20.0V CT @0.5A   | 10.0V @ 1.0A  | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.140 | 0.036 Sq. | 1 <sup>1</sup> / <sub>4</sub>  | •                             | •                              | 0.53    |
|         | VPP20-1000 | 20.0 | 20.0V CT @1.0A   | 10.0V @ 2.0A  | 1 <sup>1</sup> / <sub>8</sub>  | 2 <sup>1</sup> / <sub>4</sub> | 1 <sup>1</sup> / <sub>8</sub>  | .400 | .400 | 1.460 | 0.036 Sq. | 1 <sup>1</sup> / <sub>2</sub>  | •                             | •                              | 0.90    |
|         | VPP20-1500 | 30.0 | 20.0V CT @1.5A   | 10.0V @ 3.0A  | 1 <sup>1</sup> / <sub>16</sub> | 2 <sup>3</sup> / <sub>8</sub> | 2 <sup>3</sup> / <sub>16</sub> | .550 | .275 | 1.680 | 0.045 Sq. | •                              | 1 <sup>3</sup> / <sub>4</sub> | 2 <sup>3</sup> / <sub>16</sub> | 1.15    |
|         | VPP20-2800 | 56.0 | 20.0V CT @2.8A   | 10.0V @ 5.6A  | 1 <sup>1</sup> / <sub>16</sub> | 3                             | 2 <sup>1</sup> / <sub>2</sub>  | .600 | .300 | 1.900 | 0.045 Sq. | •                              | 2                             | 2 <sup>1</sup> / <sub>2</sub>  | 1.70    |
| E       | VPP24-100* | 2.5  | 24.0V CT @0.1A   | 12.0V @ 0.2A  | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .250 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.25    |
|         | VPP24-210  | 5.0  | 24.0V CT @0.21A  | 12.0V @ 0.42A | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.37    |
|         | VPP24-420  | 10.0 | 24.0V CT @0.42A  | 12.0V @ 0.84A | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.140 | 0.036 Sq. | 1 <sup>1</sup> / <sub>4</sub>  | •                             | •                              | 0.53    |
|         | VPP24-830  | 20.0 | 24.0V CT @0.83A  | 12.0V @ 1.66A | 1 <sup>1</sup> / <sub>8</sub>  | 2 <sup>1</sup> / <sub>4</sub> | 1 <sup>1</sup> / <sub>8</sub>  | .400 | .400 | 1.460 | 0.036 Sq. | 1 <sup>1</sup> / <sub>2</sub>  | •                             | •                              | 0.90    |
|         | VPP24-1250 | 30.0 | 24.0V CT @1.25A  | 12.0V @ 2.50A | 1 <sup>1</sup> / <sub>16</sub> | 2 <sup>3</sup> / <sub>8</sub> | 2 <sup>3</sup> / <sub>16</sub> | .550 | .275 | 1.680 | 0.045 Sq. | •                              | 1 <sup>3</sup> / <sub>4</sub> | 2 <sup>3</sup> / <sub>16</sub> | 1.15    |
|         | VPP24-2330 | 56.0 | 24.0V CT @2.33A  | 12.0V @ 4.66A | 1 <sup>1</sup> / <sub>16</sub> | 3                             | 2 <sup>1</sup> / <sub>2</sub>  | .600 | .300 | 1.900 | 0.045 Sq. | •                              | 2                             | 2 <sup>1</sup> / <sub>2</sub>  | 1.70    |
| F       | VPP28-090* | 2.5  | 28.0V CT @0.09A  | 14.0V @ 0.18A | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .250 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.25    |
|         | VPP28-180  | 5.0  | 28.0V CT @0.18A  | 14.0V @ 0.36A | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.37    |
|         | VPP28-360  | 10.0 | 28.0V CT @0.36A  | 14.0V @ 0.72A | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.140 | 0.036 Sq. | 1 <sup>1</sup> / <sub>4</sub>  | •                             | •                              | 0.53    |
|         | VPP28-720  | 20.0 | 28.0V CT @0.72A  | 14.0V @ 1.44A | 1 <sup>1</sup> / <sub>8</sub>  | 2 <sup>1</sup> / <sub>4</sub> | 1 <sup>1</sup> / <sub>8</sub>  | .400 | .400 | 1.460 | 0.036 Sq. | 1 <sup>1</sup> / <sub>2</sub>  | •                             | •                              | 0.90    |
|         | VPP28-1060 | 30.0 | 28.0V CT @1.06A  | 14.0V @ 2.12A | 1 <sup>1</sup> / <sub>16</sub> | 2 <sup>3</sup> / <sub>8</sub> | 2 <sup>3</sup> / <sub>16</sub> | .550 | .275 | 1.680 | 0.045 Sq. | •                              | 1 <sup>3</sup> / <sub>4</sub> | 2 <sup>3</sup> / <sub>16</sub> | 1.15    |
|         | VPP28-2000 | 56.0 | 28.0V CT @2.0A   | 14.0V @ 4.0A  | 1 <sup>1</sup> / <sub>16</sub> | 3                             | 2 <sup>1</sup> / <sub>2</sub>  | .600 | .300 | 1.900 | 0.045 Sq. | •                              | 2                             | 2 <sup>1</sup> / <sub>2</sub>  | 1.70    |
| G       | VPP36-070* | 2.5  | 36.0V CT @0.07A  | 18.0V @ 0.14A | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .250 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.25    |
|         | VPP36-140  | 5.0  | 36.0V CT @0.14A  | 18.0V @ 0.28A | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.000 | 0.025 Sq. | 1 <sup>1</sup> / <sub>16</sub> | •                             | •                              | 0.37    |
|         | VPP36-280  | 10.0 | 36.0V CT @0.28A  | 18.0V @ 0.56A | 1 <sup>1</sup> / <sub>8</sub>  | 1 <sup>1</sup> / <sub>8</sub> | 1 <sup>1</sup> / <sub>16</sub> | .200 | .400 | 1.140 | 0.036 Sq. | 1 <sup>1</sup> / <sub>4</sub>  | •                             | •                              | 0.53    |
|         | VPP36-560  | 20.0 | 36.0V CT @0.56A  | 18.0V @ 1.12A | 1 <sup>1</sup> / <sub>8</sub>  | 2 <sup>1</sup> / <sub>4</sub> | 1 <sup>1</sup> / <sub>8</sub>  | .400 | .400 | 1.460 | 0.036 Sq. | 1 <sup>1</sup> / <sub>2</sub>  | •                             | •                              | 0.90    |
|         | VPP36-820  | 30.0 | 36.0V CT @0.82A  | 18.0V @ 1.64A | 1 <sup>1</sup> / <sub>16</sub> | 2 <sup>3</sup> / <sub>8</sub> | 2 <sup>3</sup> / <sub>16</sub> | .550 | .275 | 1.680 | 0.045 Sq. | •                              | 1 <sup>3</sup> / <sub>4</sub> | 2 <sup>3</sup> / <sub>16</sub> | 1.15    |
|         | VPP36-1560 | 56.0 | 36.0V CT @1.56A  | 18.0V @ 3.12A | 1 <sup>1</sup> / <sub>16</sub> | 3                             | 2 <sup>1</sup> / <sub>2</sub>  | .600 | .300 | 1.900 | 0.045 Sq. | •                              | 2                             | 2 <sup>1</sup> / <sub>2</sub>  | 1.70    |

CT = Center Tap \* Note: All 2.5 VA units are Class 2 UL File: E63390.

:: Outline Dimensions

**Technical Notes**

1. Hi-pot tested at 4,000 VRMS.
2. Both primary and secondary coils may be connected as either series or parallel, but both must be used simultaneously.

