

## F-13X

### Electrical Specifications (@25C)

1. Maximum Power: 3.78 VA
2. Primary: 115V 50/60 Hz
3. Secondary: 6.3V @ 0.68 Amps
4. Voltage Regulation: 30 % TYP @ full load to no load
5. Temperature Rise: 35C TYP (45C MAX allowed)

### Description:

The F-13X is part of a series which has a long history of reliable service in the field, made from a proven design and constructed with UL recognized materials.

### Construction:

Wound on a single channel nylon bobbin. Materials are UL recognized, Class B (130° C) rated.

### Safety:

These products are 100% hipot tested with an insulation of 1500V between primary and secondary windings as well as between the primary / secondary windings and the core.

### Dimensions: Units: In inches

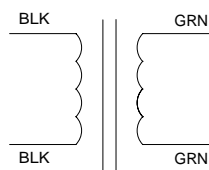
| A     | B     | C     | D    |
|-------|-------|-------|------|
| 1.375 | 2.375 | 1.375 | 2.00 |

Mounting Hole Diameter: .187 in

Lead length: 7.0 inches  $\pm$  1 inch

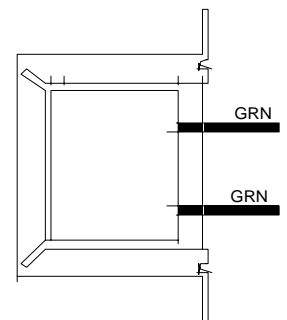
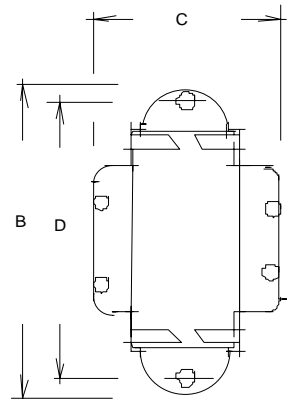
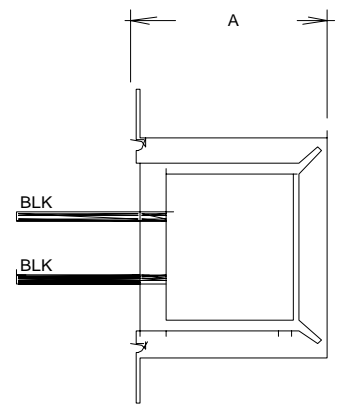
Weight: 0.37 lbs

### Schematic:



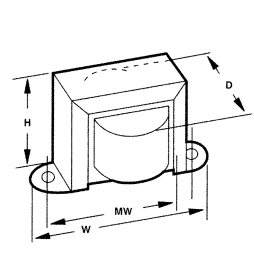
Primary: Black to Black  
Secondary: Green to Green

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

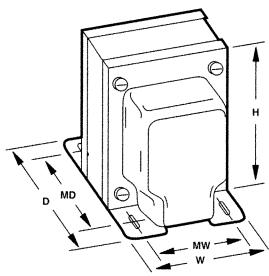


# Power Transformers

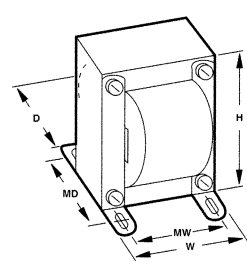
## Chassis Mount: Single Secondary



Case Type X



Case Type A



Case Type U

### :: Description

Triad offers a full choice of power supply transformers for direct use or in transformer, rectifier, or filter circuits. Other available secondary voltages include control, filament and low level signaling in standard values. The transformers are single primary with single and multiple secondaries in standard size and weight configurations.

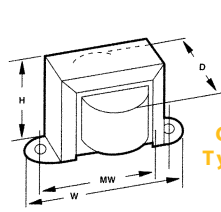
### :: Specifications

**Primary:** 115/230 V, 50/60 Hz

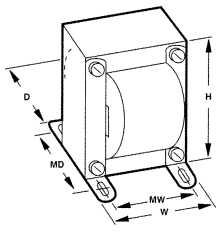
### :: Single Secondary

|       | Type No. | Secondary Volts  | Secondary Amps | Primary Voltage | RMS Test Voltage (Sec.) | Case Type | Connections     | Dimensions       |                  |                 | Mounting Dimensions |                  | Wt. Lbs. |
|-------|----------|------------------|----------------|-----------------|-------------------------|-----------|-----------------|------------------|------------------|-----------------|---------------------|------------------|----------|
|       |          |                  |                |                 |                         |           |                 | H                | W                | D               | MW                  | MD               |          |
| A     | F-1X#    | 2.5 CT           | 3.0            | 115             | 1,500                   | X         | Leads           | 1 $\frac{1}{8}$  | 2 $\frac{3}{16}$ | 1 $\frac{1}{8}$ | 2 $\frac{3}{8}$     | •                | 0.68     |
|       | F-301X   | 2.5 CT           | 3.0            | 115/230         | 1,500                   | X         | Leads           | 1 $\frac{1}{8}$  | 2 $\frac{3}{16}$ | 1 $\frac{1}{8}$ | 2 $\frac{3}{8}$     | •                | 0.68     |
|       | F-6X#    | 2.5 CT           | 6.0            | 115             | 2,500                   | X         | Leads           | 1 $\frac{1}{2}$  | 3 $\frac{3}{16}$ | 1 $\frac{3}{4}$ | 2 $\frac{3}{16}$    | •                | 1.00     |
|       | F-3X#    | 2.5 CT           | 10.0           | 115             | 3,000                   | X         | Leads           | 2 $\frac{1}{2}$  | 3 $\frac{3}{4}$  | 2 $\frac{1}{8}$ | 3 $\frac{3}{8}$     | •                | 1.70     |
| B     | F-7X     | 5.0 CT           | 3.0            | 115             | 1,500                   | X         | Leads           | 1 $\frac{1}{2}$  | 3 $\frac{3}{16}$ | 2               | 2 $\frac{3}{16}$    | •                | 1.30     |
|       | F-8X     | 5.0 CT           | 6.0            | 115             | 1,500                   | X         | Leads           | 2 $\frac{1}{2}$  | 3 $\frac{3}{4}$  | 2 $\frac{1}{8}$ | 3 $\frac{3}{8}$     | •                | 1.70     |
|       | F-12X    | 5.0 CT           | 8.0            | 115             | 2,500                   | X         | Leads           | 2 $\frac{1}{2}$  | 4                | 2 $\frac{1}{4}$ | 3 $\frac{3}{16}$    | •                | 2.50     |
| C     | F-13X    | 6.3              | 0.6            | 115             | 1,500                   | X         | Leads           | 1 $\frac{1}{8}$  | 2 $\frac{3}{8}$  | 1 $\frac{1}{8}$ | 2                   | •                | 0.37     |
|       | F-313X   | 6.3              | 0.6            | 115/230         | 1,500                   | X         | Leads           | 1 $\frac{1}{8}$  | 2 $\frac{3}{8}$  | 1 $\frac{1}{8}$ | 2                   | •                | 0.37     |
|       | F-14X#   | 6.3 CT           | 1.2            | 115             | 2,500                   | X         | Leads           | 1 $\frac{1}{8}$  | 2 $\frac{3}{16}$ | 1 $\frac{1}{8}$ | 2 $\frac{3}{8}$     | •                | 0.70     |
|       | F-314X   | 6.3 CT           | 1.2            | 115/230         | 2,500                   | X         | Leads           | 1 $\frac{1}{8}$  | 2 $\frac{3}{16}$ | 1 $\frac{1}{8}$ | 2 $\frac{3}{8}$     | •                | 0.70     |
|       | F-16X    | 6.3 CT           | 3.0            | 115             | 2,500                   | X         | Leads           | 1 $\frac{1}{2}$  | 3 $\frac{3}{16}$ | 2               | 2 $\frac{3}{16}$    | •                | 1.30     |
|       | F-316X   | 6.3 CT           | 3.0            | 115/230         | 2,500                   | X         | Leads           | 1 $\frac{1}{2}$  | 3 $\frac{3}{16}$ | 2               | 2 $\frac{3}{16}$    | •                | 1.30     |
|       | F-43X#   | 6.3              | 4.0            | 115             | 1,500                   | X         | Leads           | 1 $\frac{1}{2}$  | 3 $\frac{3}{16}$ | 2               | 2 $\frac{3}{16}$    | •                | 1.25     |
|       | F-18X    | 6.3 CT           | 6.0            | 115             | 1,500                   | X         | Leads           | 2 $\frac{1}{2}$  | 4                | 2 $\frac{1}{4}$ | 3 $\frac{3}{16}$    | •                | 2.30     |
|       | F-318X   | 6.3 CT           | 6.0            | 115/230         | 1,500                   | X         | Leads           | 2 $\frac{1}{2}$  | 4                | 2 $\frac{1}{4}$ | 3 $\frac{3}{16}$    | •                | 2.30     |
|       | F-69X    | 6.3 CT           | 8.0            | 115             | 1,500                   | X         | Leads           | 2 $\frac{1}{2}$  | 4                | 2 $\frac{1}{4}$ | 3 $\frac{3}{16}$    | •                | 2.30     |
|       | F-21A    | 6.3 CT           | 10.0           | 115             | 1,500                   | A         | 1-Leads         | 3 $\frac{3}{32}$ | 2 $\frac{3}{32}$ | 3 $\frac{3}{8}$ | 2 $\frac{1}{4}$     | 2                | 3.80     |
| F-22A | 6.3 CT   | 20.0             | 115            | 2,000           | A                       | 2-Leads   | 3 $\frac{3}{8}$ | 3 $\frac{3}{32}$ | 4 $\frac{1}{8}$  | 2 $\frac{1}{2}$ | 3                   | 7.00             |          |
| D     | F-28U†   | 7.5 CT or 6.3 CT | 25.0           | 115             | 3,000                   | U         | Leads & Lugs    | 4 $\frac{1}{8}$  | 3 $\frac{3}{16}$ | 3 $\frac{3}{8}$ | 3                   | 3 $\frac{3}{16}$ | 7.50     |
| E     | F-180X   | 10.0 CT          | 1.0            | 115             | 1,500                   | X         | Leads           | 1 $\frac{1}{2}$  | 3 $\frac{3}{16}$ | 1 $\frac{1}{4}$ | 2 $\frac{3}{16}$    | •                | 0.90     |
|       | F-31X    | 10.0 CT          | 3.0            | 115             | 2,000                   | X         | Leads           | 2 $\frac{1}{2}$  | 3 $\frac{3}{4}$  | 2 $\frac{1}{8}$ | 3 $\frac{3}{8}$     | •                | 1.70     |

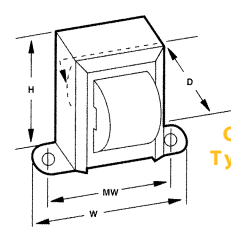
# 60 Hz †Tapped primary to produce lower voltages CT = Center Tap Mounting hole sizes: X =  $\frac{3}{16}$ " U =  $\frac{13}{64}$  x  $\frac{3}{8}$ " A =  $\frac{3}{8}$  x  $\frac{3}{16}$ "



Case Type X



Case Type U



Case Type Z

:: Single Secondary continued

| Section | Type No. | Secondary                     |         | Primary Voltage | RMS Test Voltage (Sec.) | Case Type | Connections | Dimensions |    |    | Mounting Dimensions |       | Wt. Lbs. |
|---------|----------|-------------------------------|---------|-----------------|-------------------------|-----------|-------------|------------|----|----|---------------------|-------|----------|
|         |          | Volts                         | Amps    |                 |                         |           |             | H          | W  | D  | MW                  | MD    |          |
| A       | F-96U    | 10.0 CT                       | 6.000   | 115             | 1,500                   | U         | Leads       | 3          | 2½ | 2¾ | 2                   | 2¾    | 2.10     |
|         | F-97U    | 10.0 CT                       | 8.000   | 115             | 1,500                   | U         | Leads       | 3½         | 2¾ | 3  | 2½                  | 2½    | 4.00     |
| B       | F-113X   | 12.0                          | 0.150   | 115             | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1¾ | 2                   | •     | 0.40     |
|         | F-216X#  | 12.0                          | 0.350   | 115             | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1¾ | 2                   | •     | 0.37     |
|         | F-114X   | 12.0                          | 0.700   | 115             | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1¾ | 2¾                  | •     | 0.80     |
|         | F-217X#  | 12.0                          | 1.200   | 115             | 1,500                   | X         | Leads       | 2          | 3¼ | 1¾ | 2¾                  | •     | 1.00     |
|         | F-218X#  | 12.0                          | 2.000   | 115             | 1,500                   | X         | Leads       | 2          | 3¼ | 1¾ | 2¾                  | •     | 1.13     |
|         | F-219X#  | 12.0                          | 4.000   | 115             | 1,500                   | X         | Leads       | 2¾         | 4  | 2¼ | 3¾                  | •     | 2.30     |
|         | F-220U#  | 12.0                          | 6.000   | 115             | 1,500                   | U         | Leads       | 3¾         | 2¾ | 2½ | 2¼                  | 2¾    | 3.50     |
|         | F-221U#  | 12.0                          | 8.000   | 115             | 1,500                   | U         | Leads       | 3¾         | 3¾ | 2¾ | 2½                  | 2¾    | 4.00     |
| C       | F-29U†   | 12.0 CT or 11.0 CT or 10.0 CT | 11.0    | 115             | 3,000                   | U         | Leads       | 4¾         | 3½ | 3¾ | 2¾                  | 2¾    | 6.50     |
| D       | F-70X    | 12.6 CT                       | 1.000   | 115             | 1,500                   | X         | Leads       | 1¾         | 3¾ | 1¾ | 2¾                  | •     | 1.30     |
|         | F-25X    | 12.6 CT                       | 1.500   | 115             | 1,500                   | X         | Leads       | 1¾         | 3¾ | 2  | 2¾                  | •     | 1.30     |
|         | F-325X   | 12.6 CT                       | 1.500   | 115/230         | 1,500                   | X         | Leads       | 1¾         | 3¾ | 2  | 2¾                  | •     | 1.30     |
|         | F-44X#   | 12.6 CT                       | 2.000   | 115             | 1,500                   | X         | Leads       | 1¾         | 3¾ | 2  | 2¾                  | •     | 1.25     |
|         | F-344X   | 12.6 CT                       | 2.000   | 115/230         | 1,500                   | X         | Leads       | 1¾         | 3¾ | 2  | 2¾                  | •     | 1.25     |
|         | F-26X#   | 12.6 CT                       | 2.500   | 115             | 1,500                   | X         | Leads       | 2¾         | 3¾ | 2  | 3¾                  | •     | 1.55     |
|         | F-326X   | 12.6 CT                       | 2.500   | 115/230         | 1,500                   | X         | Leads       | 2¾         | 3¾ | 2  | 3¾                  | •     | 1.55     |
|         | F-224X#  | 12.6                          | 3.000   | 115             | 1,500                   | X         | Leads       | 2¼         | 3¼ | 2¾ | 3¾                  | •     | 1.60     |
|         | F-225X#  | 12.6                          | 4.000   | 115             | 1,500                   | X         | Leads       | 2¾         | 4  | 2¾ | 3¾                  | •     | 2.30     |
|         | F-3181U  | 12.6 CT                       | 4.000   | 115/230         | 1,500                   | U         | Leads       | 3¾         | 2¾ | 2¾ | 2                   | 2     | 2.30     |
|         | F-182U   | 12.6 CT                       | 6.000   | 115             | 1,500                   | U         | Leads       | 3¾         | 2¾ | 1¾ | 2¼                  | 2¾    | 3.80     |
|         | F-183U   | 12.6 CT                       | 8.000   | 115             | 1,500                   | U         | Leads       | 3¾         | 3¾ | 2¾ | 2½                  | 2¼    | 5.00     |
| E       | F-112X   | 14.0 CT                       | 0.250   | 115             | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1¾ | 2                   | •     | 0.40     |
|         | F-3112X  | 14.0 CT                       | 0.250   | 115/230         | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1½ | 2                   | •     | 0.30     |
|         | F-250X   | 14.0 CT                       | 1.000   | 115             | 1,500                   | X         | Leads       | 1¾         | 3¾ | 1¾ | 2¾                  | •     | 1.20     |
|         | F-251X   | 14.0 CT                       | 2.000   | 115             | 1,500                   | X         | Leads       | 2¼         | 3¾ | 1¾ | 2¾                  | •     | 1.50     |
|         | F-252U   | 14.0 CT                       | 4.000   | 115             | 1,500                   | U         | Leads       | 3          | 2½ | 2¾ | 2                   | 2¼    | 3.00     |
|         | F-253U   | 14.0 CT                       | 6.000   | 115             | 1,500                   | U         | Leads       | 3¾         | 2¾ | 2¾ | 2¼                  | 2¾    | 4.00     |
| F       | F-254X   | 20.0 CT                       | 1.000   | 115             | 1,500                   | X         | Leads       | 2¼         | 3¾ | 1¾ | 3¾                  | •     | 1.50     |
|         | F-255X   | 20.0 CT                       | 2.000   | 115             | 1,500                   | X         | Leads       | 2¾         | 4  | 2¼ | 3¾                  | •     | 2.50     |
|         | F-256U   | 20.0 CT                       | 4.000   | 115             | 1,500                   | U         | Leads       | 3¾         | 2¾ | 2¾ | 2¾                  | •     | 4.00     |
|         | F-257U   | 20.0 CT                       | 6.000   | 115             | 1,500                   | U         | Leads       | 3¾         | 3¾ | 3¾ | 2½                  | 2¾    | 5.70     |
|         | F-258U   | 20.0 CT                       | 8.000   | 115             | 1,500                   | U         | Leads       | 3¾         | 3¾ | 3½ | 2½                  | 2¾    | 6.40     |
|         | F-259U   | 20.0 CT                       | 10.000  | 115             | 1,500                   | U         | Leads       | 4¾         | 3¾ | 3½ | 2¾                  | 2¾    | 7.40     |
| G       | F-115X   | 24.0 CT                       | 0.085   | 115             | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1¾ | 1¾                  | •     | 0.30     |
|         | F-3115X  | 24.0 CT                       | 0.085   | 115/230         | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1¾ | 1¾                  | •     | 0.30     |
|         | F-116X   | 24.0 CT                       | 0.200   | 115             | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1½ | 2                   | •     | 0.45     |
|         | F-3116X  | 24.0 CT                       | 0.200   | 115/230         | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1½ | 2                   | •     | 0.45     |
|         | F-117X   | 24.0 CT                       | 0.400   | 115             | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1¾ | 2¾                  | •     | 0.80     |
|         | F-3117X  | 24.0 CT                       | 0.400   | 115/230         | 1,500                   | X         | Leads       | 1¾         | 2¾ | 1½ | 2¾                  | •     | 0.75     |
|         | F-118X   | 24.0 CT                       | 0.700   | 115             | 1,500                   | X         | Leads       | 2          | 3¼ | 2  | 2¾                  | •     | 1.30     |
|         | F-3118X  | 24.0 CT                       | 0.700   | 115/230         | 1,500                   | X         | Leads       | 2          | 3¼ | 2  | 2¾                  | •     | 1.30     |
|         | F-45X#   | 24.0 CT                       | 1.000   | 115             | 1,500                   | X         | Leads       | 1¾         | 3¾ | 2  | 2¾                  | •     | 1.30     |
|         | F-345X   | 24.0 CT                       | 1.000   | 115/230         | 1,500                   | X         | Leads       | 1¾         | 3¾ | 2  | 2¾                  | •     | 1.30     |
|         | F-46X#   | 24.0                          | 1.000   | 115             | 1,500                   | X         | Leads       | 1¾         | 3¾ | 2¾ | 2¾                  | •     | 1.40     |
|         | F-229X#  | 24.0                          | 2.000   | 115             | 1,500                   | X         | Leads       | 2¾         | 4  | 2  | 3¾                  | •     | 2.30     |
|         | F-192X   | 24.0 CT                       | 2.000   | 115             | 1,500                   | X         | Leads       | 2¾         | 4  | 2¼ | 3¾                  | •     | 2.30     |
|         | F-193U   | 24.0 CT                       | 4.000   | 115             | 1,500                   | U         | Leads       | 2¾         | 3¾ | 2¾ | 2½                  | 2¾    | 4.00     |
|         | F-260U   | 24.0 CT                       | 6.000   | 115             | 1,500                   | U         | Leads       | 3¾         | 3¾ | 3½ | 2½                  | 2¾    | 6.40     |
|         | F-261U   | 24.0 CT                       | 8.000   | 115             | 1,500                   | U         | Leads       | 4¾         | 3¾ | 3½ | 2¾                  | 2¾    | 7.40     |
|         | F-401U   | 24.0 CT                       | 10.000  | 115             | 1,500                   | U         | Leads       | 4¾         | 3¾ | 3¾ | 2¾                  | 3     | 8.00     |
|         | F-226U#  | 24.0 CT                       | 12.000  | 115             | 1,500                   | U         | Leads       | 4¾         | 3¾ | 4¾ | 3                   | 3¾    | 10.40    |
| F-1000U | 24.0 CT  | 21.000                        | 115/230 | 1,500           | U                       | Leads     | 4¾          | 3¾         | 4¾ | 3  | 3¾                  | 10.40 |          |

# 60 Hz †Tapped primary to produce lower voltages CT = Center Tap Mounting hole sizes: U = 1/64 x 3/8" X = 3/16"