

Catalog: 1654001 Issue Date: 06.2011

High Performance RFI Power Line Filters for Switching Power Supplies

T Series



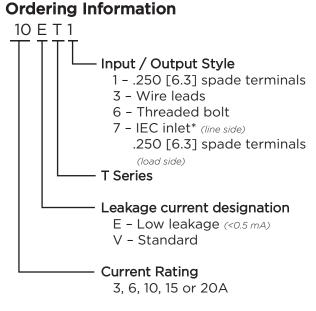
UL Recognized CSA Certified VDE Approved



T Series

- Superior common-mode and premium differential-mode attenuation
- Smaller package sizes than the EP Series
- Size and cost-effective
- ET models can help meet very low leakage current requirements

Ordering Information



*IEC 60320-1 C14 inlet mates with C13 connector

Specifications

Maximum leakage current each Line to Ground:

| <u>3, 6 & 10A</u> | ET Models | VT Models |
|-----------------------|-----------|-----------|
| @120 VAC 60 Hz: | .30 mA | .75 mA |
| @250 VAC 50 Hz: | .50 mA | 1.2 mA |
| 15 & 20A | | |
| @120 VAC 60 Hz: | .30 mA | 1.2 mA |
| @250 VAC 50 Hz: | .50 mA | 2.0 mA |

Hipot rating (one minute):

| Line to Ground: Line to Line: | 2250 VDC 1450 VDC |
|----------------------------------|----------------------|
| Rated Voltage (max): | 250 VAC |
| Operating Frequency: | 50/60 Hz |
| Rated Current: | 3 to 20A |

Operating Ambient Temperature Range

(at rated current I_r): -10°C to +40°C In an ambient temperature (T_a) higher than +40°C the maximum operating current (I_o) is calculated as follows: $I_o = I_r \sqrt{(85-T_a)/45}$

Available Part Numbers

| 3ET1 | 10ET1 | 10VT1 |
|------|-------|-------|
| 3ET3 | 10ET3 | 10VT3 |
| 3ET7 | 15ET1 | 15VT1 |
| 6ET1 | 15ET6 | 15VT6 |
| 6ET3 | 20ET1 | 20VT1 |
| 6ET7 | 20ET6 | 20VT6 |

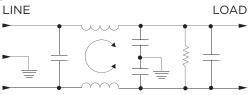


High Performance RFI Filters for Switching Power Supplies (continued)

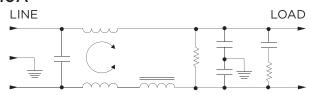
T Series

Electrical Schematics

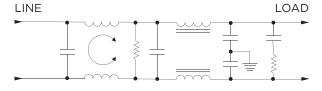




10A

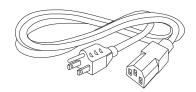


15 & 20A



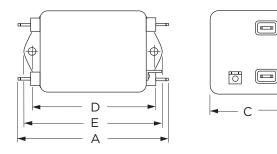
Accessories

GA400: NEMA 5-15P to IEC 60320-1 C-13 line cord



Case Styles

T1 (3, 6, 10A)



Typical Dimensions:

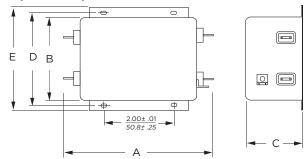
Line/Load Terminals (4): Ground Terminal (1): Mounting Holes (2): .250 [6.3] with .07 [1.8] Dia. hole .250 [6.3] with .07 x .16 [1.8 x 3.8] slot .188 [4.78] Dia.

Catalog: 1654001

В

Issue Date: 06.2011

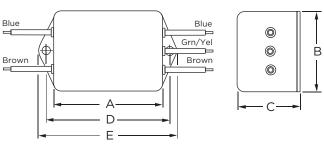
T1 (15 & 20A)



Typical Dimensions:

Line/Load Terminals (4): Ground Terminal (1): Mounting Slots (4): .250 [6.3] with .07 [1.8] Dia. hole .250 [6.3] with .07 x .16 [1.8 x 3.8] slot .250 x .156 [6.35 x 3.96] Dia.

T3



Typical Dimensions:

Wire Leads (5): Mounting Holes (2): 4.0 [*101.6*] Min., AWG18 .188 [4.78] Dia.



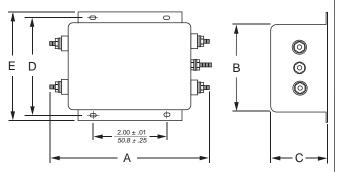
Catalog: 1654001 Issue Date: 06.2011

High Performance RFI Filters for Switching Power Supplies (continued)

T Series

Case Styles (continued)

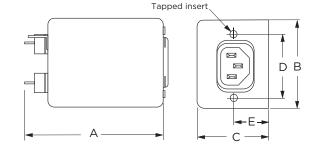
T6



Typical Dimensions:

Terminals (5): Mounting Slots (4): 8-32, Torque 18 lbf-in. [2.03 N-m] max. \pm 2 [.22] .250 x .156 [6.35 x 3.96] Dia.

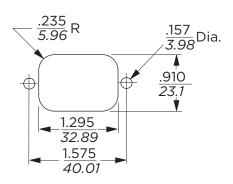
T7



Typical Dimensions:

Load Terminals (2): Ground Terminal (1): Line Inlet (1): Tapped Inserts (2): .250 [6.3] with .07 [1.8] Dia. hole .250 [6.3] with .07 x .16 [1.8 x 3.8] slot IEC 60320-1 C14 6-32 x 1/4

Recommended Panel Cutout



Tolerance ± .005 [0.13]

Case Dimensions

| Part No. | Α | В | С | D | E | | |
|---------------|-------|-------|-------|-----------------|-------|--|--|
| Part No. | (max) | (max) | (max) | ± .015 ± .38 | (max) | | |
| 3ET1, 6ET1 | 3.56 | 2.15 | 1.81 | 2.938 | 3.38 | | |
| <u></u> | 90.4 | 54.6 | 46.0 | 74.63 | 85.9 | | |
| 3ET3, 6ET3 | 2.55 | 2.15 | 1.81 | 2.938 | 3.38 | | |
| <u></u> | 64.8 | 54.6 | 46.0 | 74.63 | 85.9 | | |
| 7ET7 6ET7 | 3.52 | 2.25 | 1.78 | 1.575 | 0.63* | | |
| 3ET7, 6ET7 | 89.4 | 57.2 | 45.2 | 40.01 | 16.0° | | |
| 10ET1, 10VT1 | 4.69 | 2.27 | 1.80 | 4.063 | 4.47 | | |
| | 119.1 | 57.7 | 45.7 | 103.2 | 113.5 | | |
| 10ET3, 10VT3 | 3.69 | 2.27 | 1.80 | 40.63 | 4.47 | | |
| | 93.7 | 57.7 | 45.7 | 103.2 | 113.5 | | |
| 15ET1, 15VT1, | 5.45 | 3.12 | 2.18 | 3.5 | 3.96 | | |
| 20ET1, 20VT1 | 138.4 | 79.2 | 55.4 | 88.9 | 100.6 | | |
| 15ET6, 15VT6, | 5.95 | 3.12 | 2.18 | 3.5 | 3.96 | | |
| 20ET6, 20VT6 | 151.1 | 79.2 | 55.4 | 88.9 | 100.6 | | |

*±0.02 [0.5]



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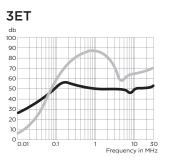
T Series

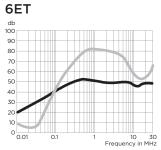
Performance Data

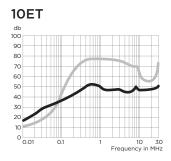
Typical Insertion Loss

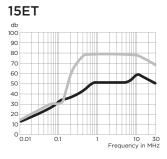
Measured in closed 50 Ohm system

Common Mode / Asymmetrical (L-G)
Differential Mode / Symmetrical (L-L)



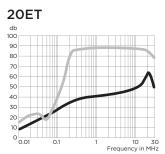


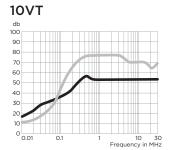


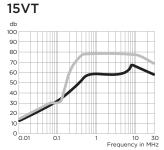


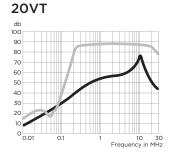
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Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

Differential Mode / Symmetrical (Line to Line)

| | Current | Frequency – MHz | | | | | | | | | Current Frequency – MHz | | | | | | | | | | | | | |
|----|----------|-----------------|-----|-----|-----|----|----|----|----|----|-------------------------|----|-----------|-----|-----|-----|-----|----|----|----|----|----|----|----|
| | Rating | .01 | .03 | .05 | .15 | .5 | 1 | 2 | 5 | 10 | 20 | 30 | Rating | .01 | .03 | .05 | .15 | .5 | 1 | 2 | 5 | 10 | 20 | 30 |
| E. | T Models | | | | | | | | | | | | ET Models | | | | | | | | | | | |
| | 3A | 22 | 32 | 36 | 46 | 47 | 44 | 43 | 40 | 42 | 42 | 42 | 3A | 3 | 1 | 30 | 61 | 70 | 70 | 70 | 50 | 50 | 50 | 55 |
| | 6A | 16 | 26 | 30 | 41 | 47 | 44 | 43 | 43 | 40 | 42 | 42 | 6A | 4 | 2 | 14 | 51 | 70 | 70 | 70 | 65 | 47 | 50 | 55 |
| | 10A | 12 | 22 | 26 | 36 | 47 | 42 | 42 | 40 | 42 | 42 | 45 | 10A | 7 | 12 | 17 | 52 | 70 | 70 | 70 | 65 | 55 | 50 | 60 |
| | 15A | 8 | 17 | 22 | 31 | 43 | 44 | 44 | 42 | 47 | 52 | 43 | 15A | 12 | 19 | 15 | 51 | 70 | 70 | 70 | 70 | 70 | 65 | 60 |
| | 20A | 3 | 12 | 17 | 26 | 34 | 36 | 37 | 37 | 42 | 47 | 38 | 20A | 10 | 17 | 13 | 51 | 70 | 70 | 70 | 70 | 67 | 65 | 60 |
| V | T Models | | | | | | | | | | | | VT Models | | | | | | | | | | | |
| | 10A | 12 | 22 | 26 | 38 | 52 | 50 | 50 | 50 | 50 | 50 | 50 | 10A | 7 | 12 | 17 | 52 | 70 | 70 | 70 | 65 | 65 | 50 | 65 |
| | 15A | 8 | 17 | 22 | 33 | 52 | 52 | 52 | 52 | 57 | 45 | 35 | 15A | 12 | 19 | 15 | 51 | 70 | 70 | 70 | 70 | 70 | 65 | 60 |
| | 20A | 3 | 12 | 17 | 29 | 42 | 47 | 50 | 51 | 55 | 40 | 30 | 20A | 10 | 17 | 13 | 51 | 70 | 70 | 70 | 70 | 67 | 65 | 60 |