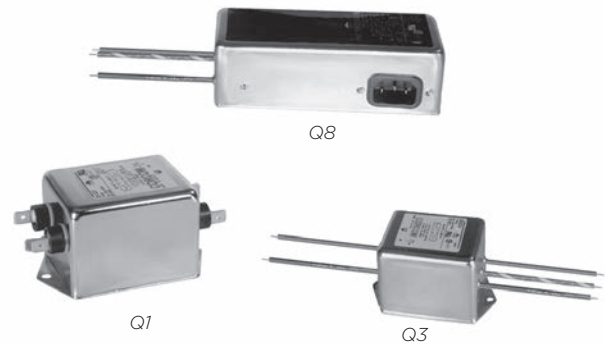


Highest Performance RFI Filters for Switching Power Supplies

Q Series



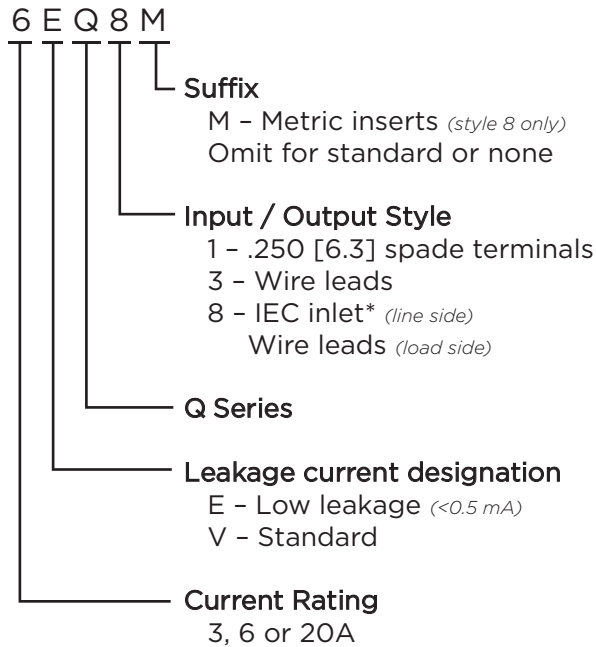
UL Recognized
CSA Certified
VDE Approved



Q Series

- Specifically developed for switching power supplies
- High attenuation for common and differential mode interference
- Effective from 10kHz to 30MHz
- Optimized for attenuation and size
- 3 or 6A versions available with IEC inlet

Ordering Information



*IEC 60320-1 C14 inlet mates with C13 connector

Specifications

Maximum leakage current each Line to Ground:

| | VQ Models | EQ Models |
|--------------------|-----------|-----------|
| 3 & 20A | | |
| @120 VAC 60 Hz: | .73 mA | .22 mA |
| @250 VAC 50 Hz: | 1.27 mA | .38 mA |
| 6A | | |
| @120 VAC 60 Hz: | — | .29 mA |
| @250 VAC 50 Hz: | — | .51 mA |

Hipot rating (one minute):

| | |
|-----------------|----------|
| Line to Ground: | 2250 VDC |
| Line to Line: | 1450 VDC |

Rated Voltage (max): 250 VAC

Operating Frequency: 50/60 Hz

Rated Current: 3 to 20A

Operating Ambient Temperature Range

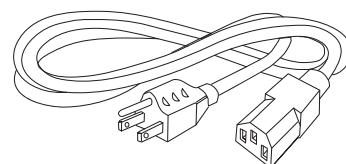
(at rated current I_r): -10°C to +40°C
In an ambient temperature (T_a) higher than +40°C the maximum operating current (I_o) is calculated as follows: $I_o = I_r \sqrt{(85-T_a)/45}$

Available Part Numbers

| | |
|-------|-------|
| 3EQ1 | 6EQ8M |
| 3EQ3 | 20EQ1 |
| 3EQ8 | 3VQ1 |
| 3EQ8M | 3VQ3 |
| 6EQ1 | 3VQ8 |
| 6EQ3 | 3VQ8M |
| 6EQ8 | 20VQ1 |

Accessories

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



Highest Performance RFI Filters for Switching Power Supplies *(continued)*

Q Series

Electrical Schematics

3A

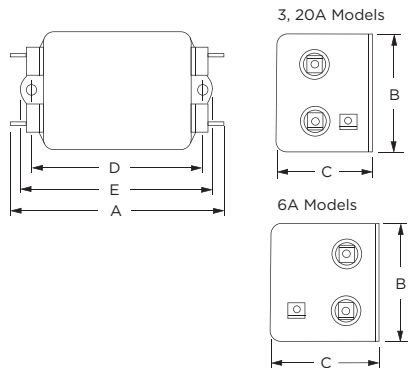


6, 20A



Case Styles

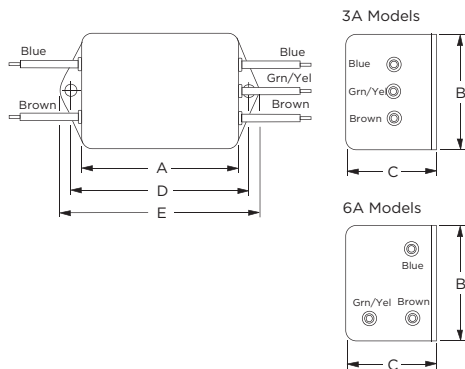
Q1



Typical Dimensions:

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

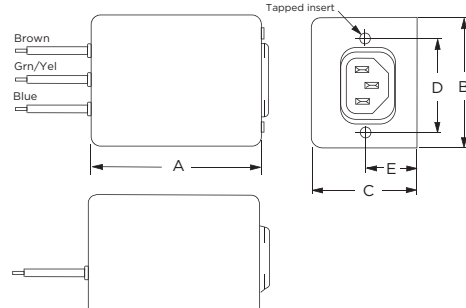
Q3



Typical Dimensions:

- Wire Leads (5): 4.0 [101.6] Min., 18AWG
- Mounting Holes (2): .188 [4.78] Dia.

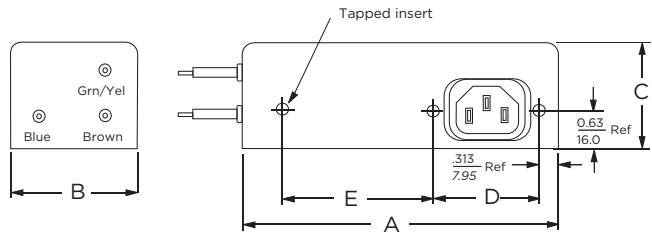
Q8, Q8M (3A)



Typical Dimensions:

- Wire Leads (3): 6.0 [152.4] Min., 18AWG
- Line Inlet (1): IEC 60320-1 C14
- Q8 Tapped Inserts (2): 6-32 x 1/4
- Q8M Tapped Inserts (2): M3 x .5

Q8, Q8M (6A)



Typical Dimensions:

- Wire Leads (3): 6.0 [152.4] Min., 18AWG
- Line Inlet (1): IEC 60320-1 C14
- Q8 Tapped Inserts (3): 6-32 x 1/4
- Q8M Tapped Inserts (3): M3 x .5

Case Dimensions

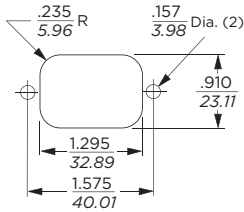
| Part No. | A (max) | B (max) | C (max) | D ±.015 ±.38 | E (max) |
|---------------------|-------------|-------------|-------------|--------------------|--------------|
| 3VQ1, 3EQ1 | 3.85 | 2.07 | 1.78 | 2.938 | 3.34 |
| | 97.8 | 52.6 | 45.2 | 74.63 | 84.8 |
| 3VQ3, 3EQ3 | 2.56 | 2.07 | 1.78 | 2.938 | 3.34 |
| | 65.0 | 52.6 | 45.2 | 74.63 | 84.8 |
| 3VQ8/8M, 3EQ8/8M | 3.07 | 2.25 | 1.78 | 1.575 | 0.63* |
| | 78.0 | 57.2 | 45.2 | 40.01 | 16.0* |
| 6EQ1 | 4.98 | 2.27 | 1.80 | 4.063 | 4.47 |
| | 126.5 | 57.7 | 45.7 | 103.2 | 113.5 |
| 6EQ3 | 3.69 | 2.27 | 1.80 | 4.063 | 4.47 |
| | 93.7 | 57.7 | 45.7 | 103.2 | 113.5 |
| 6EQ8/8M | 5.47 | 2.07 | 1.78 | 1.575 | 2.70 |
| | 138.9 | 52.6 | 45.2 | 40.01 | 68.0 |
| 20EQ1, 20VQ1 | 6.66 | 2.07 | 2.28 | 5.625 | 6.03* |
| | 168.1 | 52.6 | 57.9 | 142.9 | 153.2* |

*±0.02 [0.5]

Highest Performance RFI Filters for Switching Power Supplies *(continued)*

Q Series

Recommended Panel Cutout



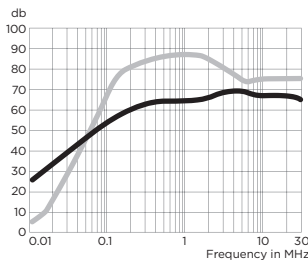
Tolerance $\pm .005$ [0.13]

Performance Data

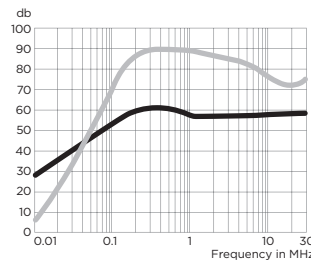
Typical Insertion Loss

Measured in closed 50 Ohm system

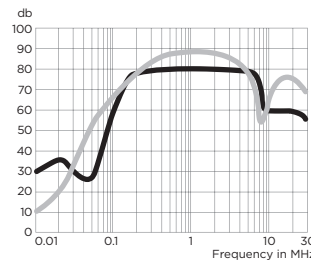
3VQ



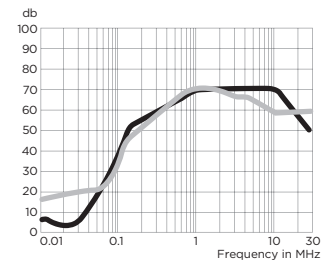
3EQ



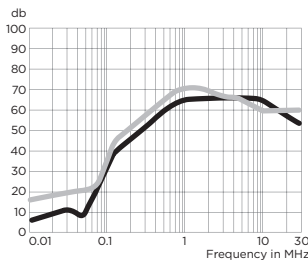
6EQ



20VQ



20EQ



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

Minimum Insertion Loss

Common Mode / Asymmetrical (Line to Ground)

| Current Rating | Frequency – MHz | | | | | | | | |
|----------------|-----------------|-----|-----|-----|----|----|----|----|----|
| | .01 | .02 | .05 | .15 | .5 | 1 | 5 | 10 | 30 |
| 3VQ | 22 | 27 | 37 | 50 | 55 | 55 | 55 | 50 | 55 |
| 3EQ | 22 | 27 | 36 | 47 | 47 | 43 | 45 | 45 | 45 |
| 6EQ | 26 | 31 | 20 | 68 | 72 | 72 | 65 | 65 | 65 |
| 20EQ | 6 | 10 | 8 | 39 | 60 | 65 | 65 | 65 | 55 |
| 20VQ | 6 | 3 | 17 | 52 | 65 | 70 | 70 | 70 | 70 |

Differential Mode / Symmetrical (Line to Line)

| Current Rating | Frequency – MHz | | | | | | | | |
|----------------|-----------------|-----|-----|-----|----|----|----|----|----|
| | .01 | .02 | .05 | .15 | .5 | 1 | 5 | 10 | 30 |
| 3VQ | 1 | 17 | 42 | 65 | 75 | 75 | 60 | 65 | 65 |
| 3EQ | 1 | 17 | 42 | 65 | 75 | 75 | 65 | 65 | 60 |
| 6EQ | 6 | 10 | 43 | 70 | 75 | 75 | 65 | 55 | 55 |
| 20EQ | 15 | 20 | 20 | 46 | 65 | 70 | 65 | 60 | 60 |
| 20VQ | 15 | 20 | 20 | 46 | 65 | 70 | 65 | 60 | 60 |