

**Chassis or PC Board Mountable Power Line Filters for Emission Control**

# X, Y, Z Series



UL Recognized  
CSA Certified  
VDE Approved



XP / YP / ZP



3EX1 / 3EZ1

## X, Y, Z Series

- Compact chassis or PC board mountable
- Three levels of performance
- Complete filtering solution in minimal size

### X Series

- Designed to bring most digital equipment (including those with switching power supplies) into compliance with FCC Part 15J, Class B conducted emission limits

### Y Series

- Designed to bring most digital equipment (including those with switching power supplies) into compliance with EN55022, Level A and FCC Part 15J, Class B conducted emission limits

### Z Series

- Designed to bring most digital equipment (including those with switching power supplies) into compliance with EN55022, Level B and FCC Part 15J, Class B conducted emission limits

## Specifications

### Maximum leakage current each Line to Ground:

|                  |        |
|------------------|--------|
| @ 120 VAC 60 Hz: | .30 mA |
| @ 250 VAC 50 Hz: | .50 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:

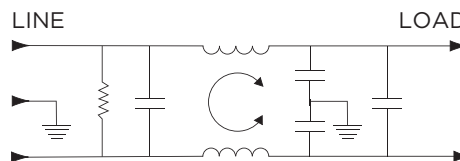
1 to 6A

### Operating Ambient Temperature Range

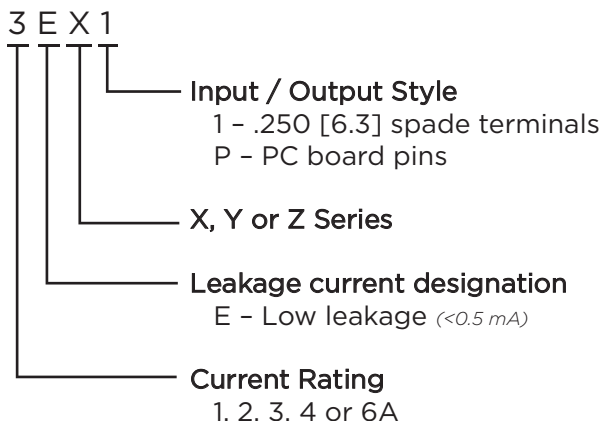
(at rated current  $I_r$ ): -10°C to +40°C

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

## Electrical Schematic



## Ordering Information



## Available Part Numbers

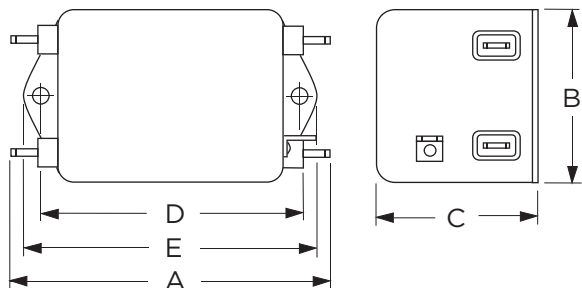
|      |      |
|------|------|
| 3EXP | 4EYP |
| 3EX1 | 1EZP |
| 4EXP | 2EZP |
| 6EXP | 3EZP |
| 2EYP | 3EZ1 |
| 3EYP |      |

**Chassis & PC Board Mountable RFI Filters for Emission Control** *(continued)*

# X, Y, Z Series

## Case Styles

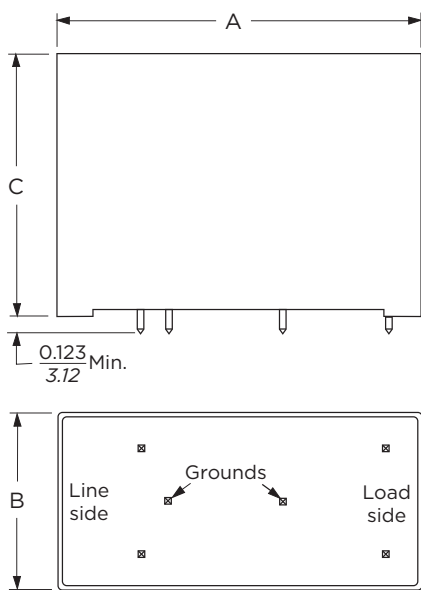
### X1 & Z1



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.

### XP, YP & ZP



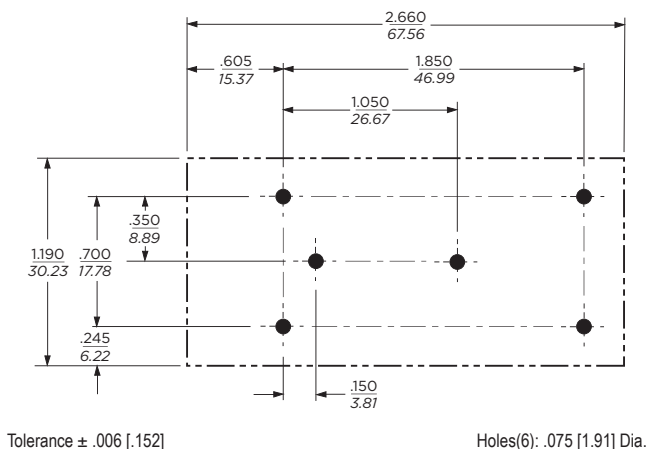
Typical Dimensions:

- Pins (5): 0.065 [1.65] max. diagonal

## Case Dimensions

| Part No.   | A<br>(max)          | B<br>(max)          | C<br>(max)           | D<br>$\pm .015$<br>$\pm .38$ | E<br>(max)           |
|------------|---------------------|---------------------|----------------------|------------------------------|----------------------|
| 3EXP       | <b>2.61</b><br>66.3 | <b>1.13</b><br>28.7 | <b>1.62</b><br>41.1  | —                            | —                    |
| 3EX1       | <b>3.01</b><br>76.7 | <b>1.84</b><br>46.8 | <b>1.16</b><br>29.46 | <b>2.375</b><br>60.33        | <b>2.79</b><br>70.87 |
| 4EXP       | <b>2.61</b><br>66.6 | <b>1.13</b><br>28.7 | <b>1.62</b><br>41.1  | —                            | —                    |
| 6EXP       | <b>2.61</b><br>66.3 | <b>1.13</b><br>28.7 | <b>1.75</b><br>44.5  | —                            | —                    |
| 2EYP       | <b>2.61</b><br>66.3 | <b>1.13</b><br>28.7 | <b>1.62</b><br>41.1  | —                            | —                    |
| 3EYP, 4EYP | <b>2.61</b><br>66.3 | <b>1.13</b><br>28.7 | <b>1.75</b><br>44.5  | —                            | —                    |
| 1EZP       | <b>2.61</b><br>66.3 | <b>1.13</b><br>28.7 | <b>1.62</b><br>41.1  | —                            | —                    |
| 2EZP, 3EZP | <b>2.61</b><br>66.3 | <b>1.13</b><br>28.7 | <b>1.75</b><br>44.5  | —                            | —                    |
| 3EZ1       | <b>3.54</b><br>89.9 | <b>2.08</b><br>52.8 | <b>1.31</b><br>33.3  | <b>2.938</b><br>74.63        | <b>3.35</b><br>85.1  |

## Recommended PC Board Layout



**Chassis & PC Board Mountable RFI Filters for Emission Control** *(continued)*

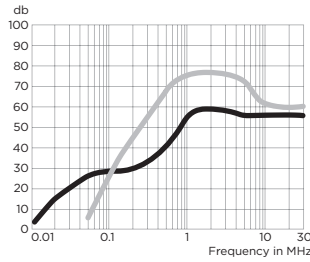
# X, Y, Z Series

## Performance Data

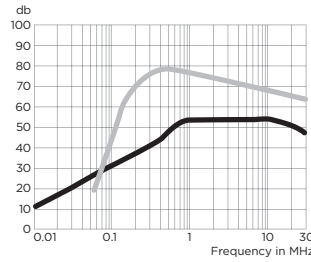
### Typical Insertion Loss

Measured in closed 50 Ohm system

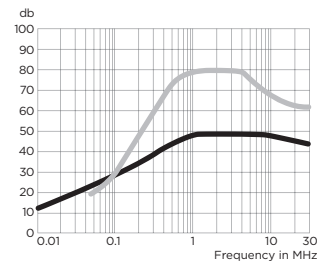
**3EX**



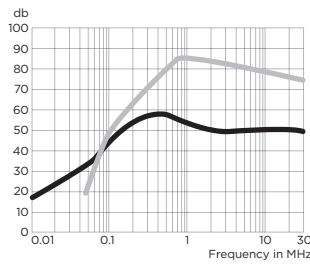
**4EX**



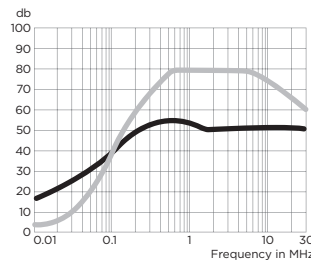
**6EX**



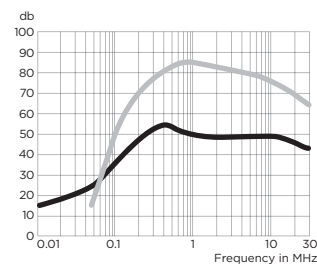
**2EY**



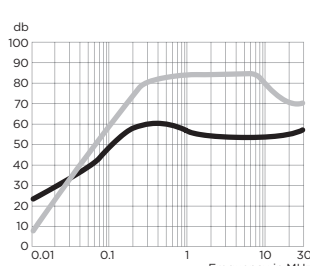
**3EY**



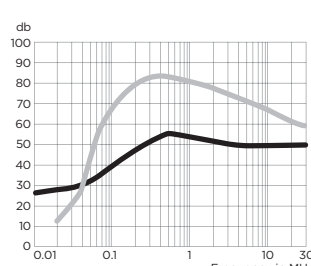
**4EY**



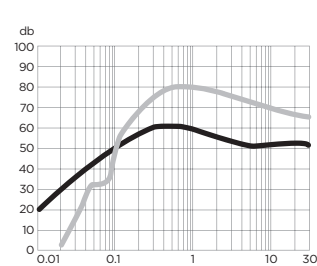
**1EZ**



**2EZ**



**3EZ**



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

**Chassis & PC Board Mountable RFI Filters for Emission Control** *(continued)*

**Performance Data** *(Continued)*

**Minimum Insertion Loss**

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

| Part No.        | Frequency – MHz |     |     |    |    |    |    |    |
|-----------------|-----------------|-----|-----|----|----|----|----|----|
|                 | .01             | .05 | .15 | .5 | 1  | 5  | 10 | 30 |
| <b>X Series</b> |                 |     |     |    |    |    |    |    |
| 3A              | 2               | 13  | 21  | 35 | 46 | 44 | 44 | 44 |
| 4A              | 2               | 13  | 22  | 38 | 44 | 44 | 44 | 38 |
| 6A              | 2               | 11  | 20  | 35 | 40 | 40 | 40 | 36 |
| <b>Y Series</b> |                 |     |     |    |    |    |    |    |
| 2A              | 8               | 21  | 31  | 49 | 44 | 40 | 40 | 40 |
| 3A              | 11              | 24  | 36  | 43 | 40 | 40 | 40 | 40 |
| 4A              | 5               | 18  | 28  | 45 | 40 | 40 | 40 | 36 |
| <b>Z Series</b> |                 |     |     |    |    |    |    |    |
| 1A              | 18              | 32  | 43  | 47 | 44 | 43 | 43 | 45 |
| 2A              | 18              | 32  | 45  | 41 | 40 | 40 | 40 | 40 |
| 3A              | 15              | 29  | 39  | 43 | 42 | 40 | 40 | 40 |

Differential Mode / Symmetrical (Line to Line)

| Part No.        | Frequency – MHz |     |     |     |     |    |    |    |    |    |
|-----------------|-----------------|-----|-----|-----|-----|----|----|----|----|----|
|                 | .02             | .03 | .05 | .07 | .15 | .5 | 1  | 5  | 10 | 30 |
| <b>X Series</b> |                 |     |     |     |     |    |    |    |    |    |
| 3A              | -               | -   | -   | 5   | 34  | 60 | 65 | 60 | 45 | 50 |
| 4A              | -               | -   | -   | 10  | 37  | 70 | 70 | 70 | 65 | 55 |
| 6A              | -               | -   | -   | 3   | 31  | 65 | 70 | 70 | 65 | 55 |
| <b>Y Series</b> |                 |     |     |     |     |    |    |    |    |    |
| 2A              | -               | -   | 10  | 19  | 40  | 70 | 75 | 70 | 60 | 55 |
| 3A              | -               | -   | 10  | 20  | 42  | 68 | 68 | 67 | 62 | 50 |
| 4A              | -               | -   | 6   | 18  | 41  | 67 | 75 | 70 | 65 | 55 |
| <b>Z Series</b> |                 |     |     |     |     |    |    |    |    |    |
| 1A              | 7               | 29  | 34  | 43  | 62  | 70 | 70 | 70 | 60 | 55 |
| 2A              | 2               | 15  | 31  | 40  | 57  | 75 | 70 | 65 | 55 | 50 |
| 3A              | -               | 10  | 26  | 34  | 53  | 75 | 75 | 70 | 60 | 55 |

