

# Metal Shield High Pass Filter

RHP-44+

## Typical Performance Data

| FREQ.<br>(MHz) | INSERTION LOSS<br>(dB) |          |          | INPUT RETURN LOSS<br>(dB) |          |          | OUTPUT RETURN LOSS<br>(dB) |          |          |
|----------------|------------------------|----------|----------|---------------------------|----------|----------|----------------------------|----------|----------|
|                | @ -40° C               | @ +25° C | @ +85° C | @ -40° C                  | @ +25° C | @ +85° C | @ -40° C                   | @ +25° C | @ +85° C |
| 0.5            | 98.54                  | 96.70    | 91.00    | 0.01                      | 0.01     | 0.01     | 0.01                       | 0.01     | 0.02     |
| 1              | 98.66                  | 96.42    | 91.78    | 0.01                      | 0.01     | 0.01     | 0.01                       | 0.01     | 0.02     |
| 3              | 99.11                  | 95.32    | 94.90    | 0.01                      | 0.01     | 0.01     | 0.01                       | 0.01     | 0.02     |
| 5              | 99.56                  | 94.22    | 98.02    | 0.00                      | 0.01     | 0.01     | 0.01                       | 0.01     | 0.01     |
| 10             | 93.33                  | 89.55    | 102.65   | 0.02                      | 0.02     | 0.03     | 0.02                       | 0.02     | 0.03     |
| 12             | 90.74                  | 87.69    | 100.29   | 0.03                      | 0.03     | 0.04     | 0.03                       | 0.04     | 0.05     |
| 14             | 88.75                  | 86.01    | 92.85    | 0.04                      | 0.05     | 0.06     | 0.04                       | 0.05     | 0.06     |
| 16             | 86.76                  | 84.34    | 85.41    | 0.05                      | 0.07     | 0.08     | 0.05                       | 0.07     | 0.08     |
| 18             | 78.37                  | 76.75    | 76.59    | 0.08                      | 0.09     | 0.11     | 0.07                       | 0.09     | 0.11     |
| 20             | 68.21                  | 67.50    | 67.38    | 0.10                      | 0.12     | 0.14     | 0.09                       | 0.12     | 0.15     |
| 25             | 49.09                  | 49.06    | 48.92    | 0.20                      | 0.24     | 0.27     | 0.18                       | 0.23     | 0.28     |
| 30             | 34.56                  | 34.43    | 34.31    | 0.40                      | 0.47     | 0.53     | 0.37                       | 0.46     | 0.54     |
| 32             | 29.08                  | 28.95    | 28.85    | 0.50                      | 0.59     | 0.67     | 0.47                       | 0.58     | 0.67     |
| 40             | 9.57                   | 9.69     | 9.77     | 5.02                      | 5.41     | 5.75     | 5.05                       | 5.43     | 5.77     |
| 44             | 3.22                   | 3.49     | 3.70     | 11.22                     | 11.69    | 12.09    | 11.29                      | 11.74    | 12.11    |
| 50             | 1.46                   | 1.66     | 1.82     | 18.76                     | 18.86    | 18.76    | 18.61                      | 18.69    | 18.57    |
| 60             | 0.88                   | 1.01     | 1.11     | 30.15                     | 29.97    | 29.69    | 27.29                      | 26.47    | 25.91    |
| 70             | 0.67                   | 0.76     | 0.84     | 21.42                     | 21.51    | 21.49    | 21.27                      | 21.38    | 21.38    |
| 80             | 0.53                   | 0.62     | 0.68     | 21.69                     | 21.71    | 21.61    | 21.74                      | 21.83    | 21.80    |
| 90             | 0.44                   | 0.51     | 0.56     | 25.60                     | 25.59    | 25.42    | 26.11                      | 26.01    | 25.78    |
| 95             | 0.40                   | 0.47     | 0.52     | 28.60                     | 28.68    | 28.49    | 29.87                      | 29.45    | 28.95    |
| 100            | 0.37                   | 0.43     | 0.48     | 31.62                     | 31.88    | 31.87    | 34.95                      | 33.43    | 32.39    |
| 120            | 0.30                   | 0.36     | 0.40     | 26.63                     | 26.49    | 26.46    | 27.02                      | 26.61    | 26.40    |
| 150            | 0.25                   | 0.30     | 0.34     | 21.13                     | 21.12    | 21.04    | 21.13                      | 21.14    | 21.08    |
| 200            | 0.21                   | 0.26     | 0.30     | 19.71                     | 19.62    | 19.52    | 19.69                      | 19.63    | 19.57    |
| 300            | 0.15                   | 0.22     | 0.26     | 21.06                     | 20.45    | 19.93    | 21.02                      | 20.46    | 19.96    |
| 400            | 0.13                   | 0.20     | 0.26     | 23.01                     | 21.71    | 20.67    | 22.96                      | 21.72    | 20.69    |
| 500            | 0.12                   | 0.21     | 0.26     | 24.55                     | 22.64    | 21.22    | 24.64                      | 22.75    | 21.33    |
| 600            | 0.12                   | 0.21     | 0.28     | 26.03                     | 23.39    | 21.64    | 26.03                      | 23.42    | 21.68    |
| 700            | 0.12                   | 0.22     | 0.30     | 26.90                     | 23.71    | 21.66    | 27.04                      | 23.87    | 21.80    |
| 800            | 0.13                   | 0.24     | 0.33     | 27.75                     | 24.01    | 21.77    | 27.89                      | 24.14    | 21.88    |
| 900            | 0.13                   | 0.26     | 0.35     | 27.93                     | 24.01    | 21.57    | 28.04                      | 24.11    | 21.66    |
| 1000           | 0.14                   | 0.27     | 0.37     | 28.45                     | 24.05    | 21.59    | 28.37                      | 24.02    | 21.60    |
| 1500           | 0.17                   | 0.36     | 0.48     | 26.69                     | 23.46    | 21.57    | 26.80                      | 23.63    | 21.74    |
| 1600           | 0.18                   | 0.38     | 0.51     | 27.34                     | 23.70    | 21.97    | 27.42                      | 23.86    | 22.06    |
| 1700           | 0.20                   | 0.41     | 0.56     | 26.67                     | 23.87    | 22.40    | 26.72                      | 23.88    | 22.38    |
| 1800           | 0.27                   | 0.48     | 0.62     | 26.66                     | 24.37    | 23.07    | 25.70                      | 23.90    | 22.68    |
| 2000           | 0.24                   | 0.47     | 0.62     | 25.91                     | 23.98    | 23.31    | 25.50                      | 23.67    | 22.89    |
| 2400           | 0.22                   | 0.49     | 0.67     | 27.49                     | 26.57    | 27.55    | 26.31                      | 25.41    | 25.25    |
| 2500           | 0.23                   | 0.50     | 0.70     | 27.63                     | 27.09    | 28.50    | 26.34                      | 25.61    | 25.98    |
| 3000           | 0.33                   | 0.65     | 0.88     | 26.75                     | 28.66    | 32.56    | 24.69                      | 25.50    | 25.94    |
| 3500           | 0.48                   | 0.81     | 1.09     | 21.35                     | 23.66    | 25.55    | 20.86                      | 22.48    | 23.25    |
| 4000           | 0.61                   | 1.04     | 1.38     | 20.08                     | 21.31    | 22.17    | 19.92                      | 21.33    | 22.70    |
| 4500           | 1.24                   | 1.83     | 2.27     | 24.02                     | 22.23    | 21.63    | 20.90                      | 19.90    | 19.90    |
| 5000           | 6.59                   | 5.19     | 5.14     | 11.11                     | 11.15    | 11.15    | 10.47                      | 14.25    | 14.08    |
| 5500           | 2.70                   | 3.68     | 3.82     | 9.49                      | 10.93    | 11.52    | 9.57                       | 12.27    | 13.25    |
| 6000           | 1.13                   | 1.72     | 2.25     | 14.53                     | 15.07    | 15.15    | 14.44                      | 15.70    | 16.11    |
| 6500           | 1.12                   | 1.88     | 2.46     | 15.99                     | 17.10    | 17.94    | 16.11                      | 18.02    | 19.19    |
| 6600           | 1.17                   | 1.99     | 2.58     | 17.12                     | 18.34    | 19.51    | 17.38                      | 19.09    | 21.63    |
| 7000           | 2.76                   | 4.54     | 4.96     | 18.14                     | 13.79    | 14.61    | 21.62                      | 18.01    | 19.08    |
| 7500           | 1.90                   | 2.66     | 3.52     | 20.09                     | 22.85    | 27.55    | 20.54                      | 29.57    | 35.49    |
| 8000           | 2.52                   | 3.79     | 4.65     | 20.99                     | 17.98    | 18.60    | 16.10                      | 15.52    | 15.86    |
| 8400           | 5.92                   | 7.27     | 8.14     | 11.53                     | 11.96    | 13.13    | 10.70                      | 12.33    | 13.15    |
| 8500           | 7.16                   | 7.97     | 8.61     | 10.77                     | 12.09    | 12.65    | 10.94                      | 13.85    | 14.88    |

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## Typical Performance Data

| FREQ.<br>(MHz) | GROUP DELAY<br>(nsec) |          |          |
|----------------|-----------------------|----------|----------|
|                | @ -40° C              | @ +25° C | @ +85° C |
| 95             | 9.88                  | 9.80     | 9.76     |
| 100            | 9.48                  | 9.41     | 9.36     |
| 110            | 7.59                  | 7.52     | 7.47     |
| 120            | 5.13                  | 5.10     | 5.08     |
| 150            | 2.66                  | 2.65     | 2.64     |
| 200            | 1.46                  | 1.45     | 1.45     |
| 250            | 1.02                  | 1.01     | 1.01     |
| 300            | 0.80                  | 0.79     | 0.79     |
| 400            | 0.59                  | 0.59     | 0.58     |
| 500            | 0.50                  | 0.49     | 0.49     |
| 600            | 0.45                  | 0.45     | 0.44     |
| 700            | 0.42                  | 0.42     | 0.41     |
| 800            | 0.40                  | 0.40     | 0.40     |
| 900            | 0.39                  | 0.38     | 0.38     |
| 1000           | 0.38                  | 0.38     | 0.37     |
| 1100           | 0.38                  | 0.37     | 0.37     |
| 1200           | 0.37                  | 0.36     | 0.36     |
| 1300           | 0.37                  | 0.36     | 0.36     |
| 1400           | 0.37                  | 0.36     | 0.36     |
| 1500           | 0.36                  | 0.35     | 0.35     |
| 1600           | 0.36                  | 0.35     | 0.35     |
| 1700           | 0.36                  | 0.35     | 0.35     |
| 1800           | 0.35                  | 0.34     | 0.34     |
| 1900           | 0.35                  | 0.34     | 0.34     |
| 2000           | 0.35                  | 0.35     | 0.34     |
| 2100           | 0.36                  | 0.35     | 0.35     |
| 2200           | 0.35                  | 0.35     | 0.34     |
| 2300           | 0.36                  | 0.35     | 0.35     |
| 2400           | 0.36                  | 0.35     | 0.35     |
| 2500           | 0.35                  | 0.35     | 0.35     |
| 2600           | 0.36                  | 0.35     | 0.35     |
| 2700           | 0.36                  | 0.35     | 0.35     |
| 2800           | 0.36                  | 0.35     | 0.35     |
| 2900           | 0.36                  | 0.35     | 0.34     |
| 3000           | 0.35                  | 0.34     | 0.34     |
| 3100           | 0.36                  | 0.35     | 0.35     |
| 3200           | 0.36                  | 0.36     | 0.35     |
| 3300           | 0.37                  | 0.36     | 0.36     |
| 3400           | 0.37                  | 0.35     | 0.35     |
| 3500           | 0.36                  | 0.36     | 0.36     |
| 3600           | 0.38                  | 0.37     | 0.37     |
| 3700           | 0.34                  | 0.30     | 0.31     |
| 3800           | 0.30                  | 0.35     | 0.36     |
| 3900           | 0.39                  | 0.38     | 0.37     |
| 4000           | 0.38                  | 0.37     | 0.37     |
| 4100           | 0.38                  | 0.37     | 0.37     |
| 4200           | 0.38                  | 0.38     | 0.38     |
| 4300           | 0.39                  | 0.39     | 0.39     |
| 4400           | 0.41                  | 0.41     | 0.41     |
| 4500           | 0.44                  | 0.44     | 0.43     |
| 4600           | 0.41                  | 0.40     | 0.38     |
| 4700           | 0.24                  | 0.20     | 0.19     |
| 4800           | 0.32                  | 0.27     | 0.21     |

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