

# High Pass Filter

**ZX75HP-139-S+**

## 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 |
|                | 92.74                  | 100.32 | 101.56 | 0.00                      | 0.00   | 0.00   | 0.00                       | 0.00   | 0.00   |
| 6              | 104.69                 | 107.07 | 106.89 | 0.00                      | 0.00   | 0.00   | 0.00                       | 0.00   | 0.00   |
| 12             | 117.39                 | 96.15  | 103.21 | 0.00                      | 0.00   | 0.00   | 0.00                       | 0.00   | 0.00   |
| 16             | 95.84                  | 119.25 | 102.90 | 0.01                      | 0.01   | 0.01   | 0.01                       | 0.01   | 0.01   |
| 20             | 114.83                 | 103.03 | 103.16 | 0.01                      | 0.01   | 0.01   | 0.01                       | 0.01   | 0.01   |
| 24             | 94.18                  | 112.36 | 94.24  | 0.01                      | 0.01   | 0.01   | 0.01                       | 0.01   | 0.01   |
| 30             | 91.37                  | 96.13  | 97.12  | 0.01                      | 0.02   | 0.02   | 0.01                       | 0.02   | 0.02   |
| 36             | 92.28                  | 105.26 | 99.08  | 0.02                      | 0.03   | 0.03   | 0.02                       | 0.03   | 0.03   |
| 40             | 104.42                 | 93.24  | 97.75  | 0.03                      | 0.04   | 0.04   | 0.03                       | 0.03   | 0.04   |
| 46             | 85.69                  | 87.09  | 89.32  | 0.04                      | 0.05   | 0.05   | 0.04                       | 0.04   | 0.04   |
| 54             | 75.87                  | 74.80  | 74.32  | 0.06                      | 0.07   | 0.07   | 0.05                       | 0.06   | 0.07   |
| 58             | 70.09                  | 70.10  | 69.69  | 0.06                      | 0.08   | 0.08   | 0.06                       | 0.07   | 0.08   |
| 64             | 63.26                  | 62.80  | 62.52  | 0.08                      | 0.10   | 0.11   | 0.07                       | 0.09   | 0.10   |
| 68             | 58.77                  | 58.61  | 58.37  | 0.10                      | 0.12   | 0.12   | 0.08                       | 0.11   | 0.11   |
| 72             | 54.72                  | 54.52  | 54.32  | 0.11                      | 0.13   | 0.15   | 0.10                       | 0.12   | 0.13   |
| 75             | 51.85                  | 51.61  | 51.39  | 0.12                      | 0.15   | 0.16   | 0.11                       | 0.14   | 0.15   |
| 78             | 49.09                  | 48.81  | 48.59  | 0.14                      | 0.17   | 0.18   | 0.13                       | 0.15   | 0.17   |
| 83             | 44.59                  | 44.33  | 44.10  | 0.17                      | 0.20   | 0.22   | 0.15                       | 0.18   | 0.20   |
| 86             | 41.98                  | 41.71  | 41.49  | 0.19                      | 0.22   | 0.24   | 0.17                       | 0.21   | 0.23   |
| 89             | 39.40                  | 39.15  | 38.94  | 0.21                      | 0.25   | 0.27   | 0.19                       | 0.23   | 0.26   |
| 95             | 34.41                  | 34.19  | 33.98  | 0.27                      | 0.31   | 0.34   | 0.24                       | 0.29   | 0.32   |
| 99             | 31.16                  | 30.95  | 30.75  | 0.31                      | 0.37   | 0.40   | 0.29                       | 0.35   | 0.38   |
| 102            | 28.74                  | 28.55  | 28.36  | 0.35                      | 0.42   | 0.45   | 0.33                       | 0.40   | 0.44   |
| 104            | 27.14                  | 26.96  | 26.78  | 0.38                      | 0.45   | 0.49   | 0.36                       | 0.43   | 0.48   |
| 109            | 23.19                  | 23.03  | 22.87  | 0.49                      | 0.57   | 0.62   | 0.46                       | 0.55   | 0.60   |
| 113            | 20.04                  | 19.92  | 19.77  | 0.60                      | 0.69   | 0.76   | 0.58                       | 0.68   | 0.75   |
| 117            | 16.91                  | 16.83  | 16.70  | 0.77                      | 0.88   | 0.96   | 0.76                       | 0.88   | 0.96   |
| 121            | 13.82                  | 13.78  | 13.68  | 1.04                      | 1.18   | 1.27   | 1.04                       | 1.18   | 1.29   |
| 124            | 11.56                  | 11.55  | 11.48  | 1.35                      | 1.51   | 1.63   | 1.36                       | 1.53   | 1.66   |
| 127            | 9.38                   | 9.41   | 9.37   | 1.81                      | 2.00   | 2.15   | 1.84                       | 2.05   | 2.21   |
| 131            | 6.72                   | 6.80   | 6.80   | 2.81                      | 3.05   | 3.24   | 2.89                       | 3.15   | 3.36   |
| 133            | 5.55                   | 5.65   | 5.68   | 3.55                      | 3.82   | 4.03   | 3.65                       | 3.95   | 4.18   |
| 136            | 4.06                   | 4.19   | 4.26   | 5.03                      | 5.35   | 5.60   | 5.21                       | 5.57   | 5.84   |
| 139            | 2.93                   | 3.08   | 3.17   | 7.05                      | 7.42   | 7.71   | 7.34                       | 7.77   | 8.09   |
| 144            | 1.78                   | 1.95   | 2.05   | 11.67                     | 12.20  | 12.55  | 12.31                      | 12.99  | 13.43  |
| 152            | 1.09                   | 1.24   | 1.34   | 22.15                     | 23.22  | 23.77  | 25.22                      | 28.29  | 30.61  |
| 161            | 0.85                   | 0.98   | 1.07   | 29.74                     | 27.73  | 26.51  | 27.87                      | 26.46  | 25.62  |
| 167            | 0.76                   | 0.89   | 0.96   | 31.64                     | 28.52  | 26.77  | 26.83                      | 25.48  | 24.61  |
| 174            | 0.69                   | 0.80   | 0.87   | 42.91                     | 34.50  | 30.84  | 28.37                      | 27.44  | 26.54  |
| 181            | 0.63                   | 0.73   | 0.80   | 34.22                     | 39.30  | 39.14  | 28.62                      | 29.38  | 29.51  |
| 188            | 0.59                   | 0.68   | 0.74   | 26.76                     | 28.35  | 29.93  | 25.72                      | 26.87  | 28.02  |
| 208            | 0.52                   | 0.61   | 0.65   | 19.80                     | 19.72  | 19.99  | 19.72                      | 19.63  | 19.92  |
| 225            | 0.49                   | 0.57   | 0.62   | 18.25                     | 17.61  | 17.54  | 18.08                      | 17.45  | 17.39  |
| 260            | 0.41                   | 0.50   | 0.55   | 18.42                     | 17.27  | 16.64  | 18.04                      | 16.94  | 16.35  |
| 290            | 0.35                   | 0.43   | 0.48   | 19.99                     | 18.73  | 17.76  | 19.37                      | 18.20  | 17.32  |
| 330            | 0.30                   | 0.37   | 0.41   | 22.92                     | 22.03  | 20.81  | 21.99                      | 21.14  | 20.10  |
| 380            | 0.25                   | 0.31   | 0.34   | 27.51                     | 28.35  | 27.36  | 26.17                      | 26.58  | 25.88  |
| 525            | 0.20                   | 0.27   | 0.31   | 33.35                     | 29.03  | 26.48  | 33.22                      | 28.72  | 26.10  |
| 825            | 0.22                   | 0.32   | 0.38   | 22.21                     | 20.54  | 18.80  | 21.43                      | 19.84  | 18.20  |
| 975            | 0.23                   | 0.34   | 0.41   | 21.26                     | 19.39  | 17.75  | 20.34                      | 18.66  | 17.13  |
| 1250           | 0.25                   | 0.39   | 0.47   | 20.16                     | 18.09  | 16.86  | 19.68                      | 17.71  | 16.54  |
| 1450           | 0.26                   | 0.41   | 0.49   | 19.61                     | 17.77  | 16.73  | 19.48                      | 17.70  | 16.72  |
| 1675           | 0.27                   | 0.43   | 0.52   | 19.50                     | 17.94  | 17.03  | 19.78                      | 18.23  | 17.33  |
| 1800           | 0.27                   | 0.43   | 0.53   | 19.92                     | 18.36  | 17.48  | 20.29                      | 18.78  | 17.91  |
| 1875           | 0.28                   | 0.44   | 0.53   | 20.17                     | 18.69  | 17.84  | 20.67                      | 19.21  | 18.32  |
| 1950           | 0.27                   | 0.44   | 0.54   | 20.40                     | 19.07  | 18.23  | 21.10                      | 19.70  | 18.79  |
| 2025           | 0.28                   | 0.45   | 0.55   | 20.83                     | 19.56  | 18.73  | 21.69                      | 20.28  | 19.32  |
| 2075           | 0.28                   | 0.45   | 0.55   | 21.34                     | 19.96  | 19.18  | 22.24                      | 20.69  | 19.74  |
| 2150           | 0.27                   | 0.45   | 0.55   | 22.23                     | 20.64  | 19.87  | 23.16                      | 21.33  | 20.36  |
| 2200           | 0.28                   | 0.45   | 0.56   | 22.92                     | 21.17  | 20.40  | 23.85                      | 21.86  | 20.80  |



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**High Pass Filter****ZX75HP-139-S+***Typical Performance Data*

| FREQ.<br>(MHz) | GROUP DELAY |        |        |
|----------------|-------------|--------|--------|
|                | (nsec)      |        |        |
|                | @-40°C      | @+25°C | @+85°C |
| 225            | 3.16        | 3.14   | 3.14   |
| 226            | 3.13        | 3.11   | 3.11   |
| 227            | 3.10        | 3.08   | 3.07   |
| 229            | 3.02        | 3.00   | 2.99   |
| 230            | 2.93        | 2.91   | 2.89   |
| 240            | 2.80        | 2.78   | 2.77   |
| 250            | 2.64        | 2.62   | 2.61   |
| 260            | 2.46        | 2.43   | 2.42   |
| 270            | 2.28        | 2.26   | 2.24   |
| 280            | 2.12        | 2.10   | 2.09   |
| 290            | 1.98        | 1.97   | 1.95   |
| 300            | 1.86        | 1.85   | 1.84   |
| 310            | 1.76        | 1.74   | 1.73   |
| 320            | 1.66        | 1.65   | 1.64   |
| 330            | 1.58        | 1.56   | 1.56   |
| 340            | 1.50        | 1.49   | 1.48   |
| 350            | 1.43        | 1.42   | 1.41   |
| 360            | 1.36        | 1.35   | 1.35   |
| 380            | 1.25        | 1.24   | 1.24   |
| 390            | 1.20        | 1.19   | 1.19   |
| 410            | 1.12        | 1.11   | 1.11   |
| 420            | 1.08        | 1.07   | 1.07   |
| 430            | 1.04        | 1.03   | 1.03   |
| 450            | 0.98        | 0.97   | 0.97   |
| 470            | 0.92        | 0.91   | 0.91   |
| 490            | 0.87        | 0.86   | 0.86   |
| 525            | 0.81        | 0.80   | 0.80   |
| 575            | 0.74        | 0.73   | 0.73   |
| 625            | 0.67        | 0.67   | 0.66   |
| 650            | 0.65        | 0.64   | 0.64   |
| 725            | 0.58        | 0.58   | 0.57   |
| 775            | 0.55        | 0.54   | 0.54   |
| 825            | 0.53        | 0.52   | 0.51   |
| 875            | 0.51        | 0.50   | 0.49   |
| 925            | 0.49        | 0.48   | 0.48   |
| 950            | 0.48        | 0.47   | 0.47   |
| 1000           | 0.47        | 0.46   | 0.45   |
| 1025           | 0.46        | 0.45   | 0.45   |
| 1075           | 0.45        | 0.44   | 0.43   |
| 1125           | 0.44        | 0.43   | 0.43   |
| 1200           | 0.43        | 0.42   | 0.41   |
| 1300           | 0.42        | 0.41   | 0.40   |
| 1375           | 0.41        | 0.40   | 0.39   |
| 1500           | 0.40        | 0.39   | 0.38   |
| 1650           | 0.39        | 0.38   | 0.38   |
| 1675           | 0.39        | 0.38   | 0.37   |
| 1775           | 0.38        | 0.37   | 0.37   |
| 1900           | 0.38        | 0.37   | 0.37   |
| 1925           | 0.38        | 0.37   | 0.37   |
| 1950           | 0.38        | 0.37   | 0.37   |
| 1975           | 0.38        | 0.37   | 0.36   |
| 2000           | 0.38        | 0.37   | 0.36   |
| 2025           | 0.38        | 0.37   | 0.36   |
| 2050           | 0.38        | 0.37   | 0.36   |
| 2075           | 0.38        | 0.37   | 0.36   |
| 2100           | 0.38        | 0.37   | 0.36   |
| 2125           | 0.37        | 0.37   | 0.36   |
| 2150           | 0.37        | 0.36   | 0.36   |
| 2175           | 0.37        | 0.36   | 0.36   |
| 2200           | 0.37        | 0.36   | 0.36   |



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