

Suspended substrate stripline

High Pass Filter

ZHSS-K11G+

Typical Performance Data

| FREQ. | INSERTION LOSS | | | INPUT RETURN LOSS | | | OUTPUT RETURN LOSS | | |
|-------|----------------|--------|--------|-------------------|--------|--------|--------------------|--------|--------|
| | (dB) | | | (dB) | | | (dB) | | |
| | @-40°C | @+25°C | @+85°C | @-40°C | @+25°C | @+85°C | @-40°C | @+25°C | @+85°C |
| 10 | 117.46 | 121.58 | 118.23 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.04 |
| 50 | 118.15 | 128.04 | 128.05 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 |
| 100 | 118.02 | 123.02 | 115.89 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.02 |
| 500 | 105.99 | 106.96 | 109.18 | 0.00 | 0.01 | 0.03 | 0.01 | 0.01 | 0.04 |
| 1000 | 103.09 | 109.06 | 104.24 | 0.03 | 0.04 | 0.08 | 0.03 | 0.03 | 0.09 |
| 2000 | 107.13 | 128.96 | 106.18 | 0.04 | 0.07 | 0.12 | 0.06 | 0.08 | 0.15 |
| 2500 | 104.94 | 101.42 | 100.87 | 0.09 | 0.12 | 0.18 | 0.08 | 0.10 | 0.16 |
| 3000 | 98.28 | 100.69 | 98.93 | 0.10 | 0.14 | 0.21 | 0.12 | 0.15 | 0.23 |
| 4000 | 92.96 | 93.02 | 92.80 | 0.25 | 0.32 | 0.38 | 0.22 | 0.28 | 0.40 |
| 5000 | 99.87 | 95.76 | 98.45 | 0.21 | 0.32 | 0.36 | 0.28 | 0.37 | 0.42 |
| 6000 | 106.47 | 100.32 | 96.56 | 0.44 | 0.55 | 0.60 | 0.39 | 0.51 | 0.61 |
| 6500 | 93.18 | 94.04 | 103.47 | 0.55 | 0.67 | 0.72 | 0.48 | 0.58 | 0.76 |
| 7000 | 79.46 | 79.27 | 79.03 | 0.54 | 0.66 | 0.71 | 0.53 | 0.65 | 0.78 |
| 7500 | 67.50 | 67.30 | 67.78 | 0.55 | 0.66 | 0.74 | 0.59 | 0.73 | 0.78 |
| 8000 | 55.84 | 55.91 | 56.19 | 0.71 | 0.80 | 0.92 | 0.63 | 0.78 | 0.83 |
| 8500 | 44.75 | 44.63 | 45.12 | 0.77 | 0.91 | 0.96 | 0.73 | 0.87 | 1.05 |
| 9000 | 31.47 | 31.36 | 31.82 | 0.80 | 0.96 | 1.02 | 0.78 | 0.93 | 1.20 |
| 9400 | 20.43 | 20.33 | 20.73 | 0.84 | 1.02 | 1.12 | 0.89 | 1.08 | 1.26 |
| 9500 | 17.46 | 17.36 | 17.74 | 0.91 | 1.10 | 1.20 | 0.97 | 1.18 | 1.33 |
| 10000 | 3.48 | 3.62 | 4.02 | 5.31 | 5.80 | 5.71 | 5.37 | 5.92 | 5.97 |
| 10500 | 1.00 | 1.21 | 1.43 | 20.49 | 20.55 | 20.79 | 25.48 | 25.85 | 24.88 |
| 11000 | 0.84 | 1.03 | 1.24 | 18.38 | 18.76 | 18.06 | 20.44 | 20.87 | 20.43 |
| 12000 | 0.68 | 0.85 | 1.01 | 21.03 | 21.09 | 22.48 | 18.49 | 18.43 | 18.96 |
| 12500 | 0.60 | 0.77 | 0.92 | 24.95 | 24.95 | 24.49 | 20.90 | 20.72 | 19.32 |
| 13000 | 0.56 | 0.72 | 0.83 | 28.35 | 28.72 | 30.15 | 25.03 | 24.78 | 24.18 |
| 13500 | 0.53 | 0.69 | 0.76 | 33.34 | 35.27 | 32.65 | 29.26 | 29.64 | 28.11 |
| 14000 | 0.53 | 0.69 | 0.71 | 21.09 | 21.41 | 22.61 | 20.80 | 21.14 | 22.96 |
| 14500 | 0.58 | 0.75 | 0.73 | 16.69 | 16.71 | 16.86 | 15.79 | 15.81 | 17.79 |
| 15000 | 0.66 | 0.83 | 0.77 | 14.48 | 14.42 | 14.66 | 13.77 | 13.67 | 14.01 |
| 15500 | 0.71 | 0.89 | 0.79 | 13.40 | 13.31 | 13.95 | 13.32 | 13.12 | 12.00 |
| 16000 | 0.69 | 0.88 | 0.82 | 13.46 | 13.36 | 13.44 | 13.49 | 13.31 | 11.91 |
| 17000 | 0.53 | 0.71 | 0.78 | 16.97 | 17.12 | 16.07 | 16.42 | 16.50 | 16.39 |
| 18000 | 0.39 | 0.57 | 0.66 | 29.07 | 30.34 | 28.99 | 30.10 | 31.35 | 28.02 |
| 19000 | 0.43 | 0.60 | 0.72 | 20.06 | 20.63 | 21.20 | 20.11 | 20.56 | 21.03 |
| 20000 | 0.49 | 0.66 | 0.79 | 15.86 | 16.45 | 17.55 | 16.22 | 16.86 | 17.35 |
| 21000 | 0.48 | 0.67 | 0.81 | 16.20 | 16.50 | 17.29 | 16.71 | 17.07 | 18.45 |
| 22000 | 0.44 | 0.64 | 0.80 | 16.95 | 17.34 | 16.76 | 17.42 | 17.67 | 16.88 |
| 23000 | 0.44 | 0.62 | 0.78 | 17.62 | 18.20 | 17.24 | 17.45 | 17.83 | 17.16 |
| 24000 | 0.41 | 0.61 | 0.74 | 20.22 | 20.56 | 20.71 | 18.72 | 18.87 | 19.05 |
| 25000 | 0.38 | 0.58 | 0.72 | 22.65 | 22.52 | 23.27 | 21.13 | 21.25 | 22.64 |
| 26500 | 0.35 | 0.56 | 0.71 | 23.37 | 22.38 | 22.66 | 24.94 | 24.43 | 24.51 |
| 27000 | 0.37 | 0.59 | 0.72 | 21.66 | 20.03 | 22.26 | 23.10 | 21.38 | 23.73 |
| 27500 | 0.37 | 0.61 | 0.72 | 19.43 | 17.91 | 20.45 | 20.30 | 18.77 | 21.11 |
| 28000 | 0.41 | 0.66 | 0.75 | 18.72 | 17.06 | 20.09 | 18.92 | 17.43 | 20.13 |
| 28500 | 0.42 | 0.67 | 0.77 | 17.55 | 16.43 | 18.77 | 17.67 | 16.66 | 19.13 |
| 29000 | 0.44 | 0.68 | 0.80 | 17.15 | 16.43 | 17.69 | 17.26 | 16.65 | 17.67 |
| 29500 | 0.43 | 0.67 | 0.82 | 16.38 | 16.50 | 16.07 | 16.73 | 16.77 | 16.24 |
| 30000 | 0.43 | 0.65 | 0.83 | 16.73 | 17.54 | 16.41 | 16.66 | 17.47 | 16.26 |
| 30500 | 0.45 | 0.65 | 0.84 | 17.19 | 18.80 | 17.17 | 17.37 | 18.85 | 17.15 |
| 31000 | 0.41 | 0.62 | 0.80 | 19.75 | 21.84 | 19.63 | 18.95 | 21.08 | 19.07 |
| 31500 | 0.40 | 0.62 | 0.79 | 21.36 | 24.06 | 21.34 | 21.38 | 23.86 | 21.94 |
| 32000 | 0.39 | 0.62 | 0.78 | 23.46 | 26.14 | 23.69 | 23.94 | 26.70 | 25.20 |
| 32500 | 0.40 | 0.63 | 0.79 | 29.09 | 30.23 | 26.91 | 29.98 | 31.78 | 30.91 |
| 33000 | 0.40 | 0.63 | 0.80 | 29.01 | 30.88 | 24.83 | 36.43 | 41.64 | 27.76 |
| 34000 | 0.41 | 0.64 | 0.82 | 25.33 | 25.88 | 24.16 | 26.93 | 27.76 | 24.38 |
| 35000 | 0.44 | 0.68 | 0.86 | 21.83 | 21.58 | 22.13 | 23.82 | 23.26 | 24.02 |
| 36000 | 0.47 | 0.70 | 0.90 | 19.10 | 18.78 | 18.94 | 19.86 | 19.45 | 18.91 |
| 37000 | 0.52 | 0.75 | 0.97 | 17.23 | 17.94 | 16.28 | 16.63 | 17.17 | 16.21 |
| 38000 | 0.60 | 0.80 | 1.01 | 15.29 | 16.67 | 15.45 | 15.34 | 16.86 | 15.28 |
| 40000 | 0.68 | 0.86 | 1.10 | 14.61 | 15.45 | 14.96 | 15.20 | 16.13 | 14.97 |

Suspended substrate stripline High Pass Filter

ZHSS-K11G+

Typical Performance Data

| FREQ. (MHz) | GROUP DELAY | | |
|--------------------|-------------|--------|--------|
| | (nsec) | | |
| | @-40°C | @+25°C | @+85°C |
| 11000 | 0.40 | 0.39 | 0.40 |
| 11700 | 0.32 | 0.31 | 0.32 |
| 12000 | 0.30 | 0.30 | 0.30 |
| 13000 | 0.25 | 0.25 | 0.25 |
| 13800 | 0.23 | 0.23 | 0.23 |
| 14000 | 0.23 | 0.23 | 0.23 |
| 15200 | 0.20 | 0.20 | 0.20 |
| 15000 | 0.20 | 0.20 | 0.21 |
| 16600 | 0.19 | 0.18 | 0.19 |
| 17300 | 0.18 | 0.18 | 0.18 |
| 18000 | 0.17 | 0.17 | 0.17 |
| 18700 | 0.17 | 0.17 | 0.18 |
| 19400 | 0.17 | 0.17 | 0.17 |
| 20000 | 0.17 | 0.16 | 0.17 |
| 20800 | 0.16 | 0.16 | 0.16 |
| 21500 | 0.15 | 0.15 | 0.16 |
| 22200 | 0.16 | 0.15 | 0.16 |
| 22900 | 0.15 | 0.15 | 0.15 |
| 23600 | 0.15 | 0.15 | 0.15 |
| 24300 | 0.15 | 0.15 | 0.15 |
| 25000 | 0.15 | 0.15 | 0.15 |
| 25700 | 0.15 | 0.15 | 0.15 |
| 26400 | 0.14 | 0.14 | 0.14 |
| 27000 | 0.14 | 0.14 | 0.15 |
| 27800 | 0.15 | 0.15 | 0.15 |
| 28500 | 0.15 | 0.14 | 0.15 |
| 29200 | 0.14 | 0.14 | 0.14 |
| 29900 | 0.14 | 0.14 | 0.14 |
| 30000 | 0.14 | 0.14 | 0.15 |
| 31000 | 0.14 | 0.14 | 0.14 |
| 32000 | 0.14 | 0.14 | 0.14 |
| 32700 | 0.14 | 0.14 | 0.14 |
| 33400 | 0.14 | 0.14 | 0.14 |
| 34000 | 0.14 | 0.14 | 0.14 |
| 34800 | 0.14 | 0.14 | 0.14 |
| 35000 | 0.14 | 0.14 | 0.14 |
| 36200 | 0.14 | 0.14 | 0.14 |
| 36900 | 0.14 | 0.14 | 0.14 |
| 37600 | 0.14 | 0.14 | 0.14 |
| 38300 | 0.14 | 0.14 | 0.14 |
| 39000 | 0.14 | 0.14 | 0.15 |
| 40000 | 0.14 | 0.14 | 0.14 |