

Digital Step Attenuator

ZX76-15R5A-SP+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, TEMPERATURE=-40°C

| FREQUENCY (MHz) | STEP ATTENUATION* AT TTL CONTROL STATE | | | | | | |
|--------------------|--|------------------|------------------|------------------|------------------|------------------|-------------------|
| | (dB) | | | | | | |
| | 000000 THRU LOSS | 000001 0.5 dB | 000010 1.0 dB | 000100 2.0 dB | 001000 4.0 dB | 010000 8.0 dB | 011111 15.5 dB |
| 0.1 | 1.07 | 0.54 | 1.04 | 2.04 | 4.05 | 8.06 | 15.62 |
| 0.3 | 1.07 | 0.54 | 1.04 | 2.04 | 4.05 | 8.05 | 15.62 |
| 0.5 | 1.09 | 0.53 | 1.04 | 2.04 | 4.04 | 8.04 | 15.63 |
| 1 | 1.10 | 0.53 | 1.03 | 2.03 | 4.04 | 8.03 | 15.63 |
| 5 | 1.09 | 0.53 | 1.03 | 2.04 | 4.04 | 8.03 | 15.64 |
| 10 | 1.09 | 0.53 | 1.03 | 2.04 | 4.04 | 8.03 | 15.64 |
| 50 | 1.09 | 0.53 | 1.03 | 2.03 | 4.04 | 8.02 | 15.64 |
| 100 | 1.10 | 0.53 | 1.03 | 2.03 | 4.04 | 8.02 | 15.63 |
| 200 | 1.14 | 0.53 | 1.03 | 2.03 | 4.04 | 8.02 | 15.61 |
| 300 | 1.13 | 0.53 | 1.03 | 2.03 | 4.03 | 8.01 | 15.60 |
| 400 | 1.15 | 0.53 | 1.03 | 2.03 | 4.03 | 8.02 | 15.60 |
| 500 | 1.16 | 0.53 | 1.03 | 2.03 | 4.04 | 8.03 | 15.60 |
| 600 | 1.15 | 0.53 | 1.03 | 2.03 | 4.04 | 8.03 | 15.62 |
| 700 | 1.17 | 0.53 | 1.04 | 2.04 | 4.05 | 8.04 | 15.62 |
| 800 | 1.16 | 0.53 | 1.03 | 2.04 | 4.04 | 8.04 | 15.62 |
| 900 | 1.17 | 0.53 | 1.03 | 2.04 | 4.04 | 8.04 | 15.63 |
| 1000 | 1.19 | 0.53 | 1.04 | 2.04 | 4.04 | 8.04 | 15.64 |
| 1100 | 1.18 | 0.53 | 1.03 | 2.03 | 4.04 | 8.03 | 15.64 |
| 1200 | 1.21 | 0.53 | 1.04 | 2.04 | 4.04 | 8.04 | 15.65 |
| 1300 | 1.26 | 0.53 | 1.03 | 2.03 | 4.04 | 8.04 | 15.64 |
| 1400 | 1.33 | 0.53 | 1.03 | 2.03 | 4.03 | 8.04 | 15.66 |
| 1500 | 1.38 | 0.53 | 1.02 | 2.02 | 4.03 | 8.05 | 15.68 |
| 1600 | 1.43 | 0.53 | 1.02 | 2.02 | 4.02 | 8.05 | 15.71 |
| 1700 | 1.49 | 0.53 | 1.02 | 2.02 | 4.02 | 8.07 | 15.73 |
| 1800 | 1.56 | 0.52 | 1.02 | 2.01 | 4.02 | 8.08 | 15.77 |
| 1900 | 1.63 | 0.52 | 1.02 | 2.01 | 4.01 | 8.09 | 15.83 |
| 2000 | 1.69 | 0.52 | 1.02 | 2.01 | 4.01 | 8.11 | 15.89 |
| 2100 | 1.76 | 0.52 | 1.02 | 2.01 | 4.02 | 8.13 | 15.97 |
| 2200 | 1.81 | 0.53 | 1.02 | 2.01 | 4.02 | 8.16 | 16.03 |
| 2300 | 1.89 | 0.53 | 1.02 | 2.01 | 4.02 | 8.19 | 15.99 |
| 2400 | 1.95 | 0.53 | 1.02 | 2.01 | 4.03 | 8.22 | 16.09 |
| 2500 | 1.97 | 0.53 | 1.03 | 2.02 | 4.03 | 8.24 | 16.16 |
| 2600 | 2.00 | 0.54 | 1.03 | 2.02 | 4.04 | 8.26 | 16.26 |
| 2700 | 2.03 | 0.54 | 1.03 | 2.02 | 4.04 | 8.28 | 16.42 |
| 2800 | 2.07 | 0.54 | 1.03 | 2.03 | 4.05 | 8.31 | 16.61 |
| 2900 | 2.10 | 0.54 | 1.03 | 2.04 | 4.06 | 8.34 | 16.78 |
| 3000 | 2.13 | 0.54 | 1.03 | 2.04 | 4.07 | 8.37 | 16.85 |
| 3200 | 2.20 | 0.54 | 1.04 | 2.05 | 4.09 | 8.42 | 16.87 |
| 3400 | 2.26 | 0.54 | 1.04 | 2.07 | 4.11 | 8.47 | 16.93 |
| 3600 | 2.37 | 0.54 | 1.04 | 2.08 | 4.14 | 8.57 | 16.98 |
| 3800 | 2.58 | 0.54 | 1.04 | 2.10 | 4.18 | 8.69 | 17.02 |
| 4000 | 2.79 | 0.55 | 1.06 | 2.14 | 4.24 | 8.87 | 17.09 |
| 4200 | 2.73 | 0.57 | 1.09 | 2.19 | 4.30 | 9.02 | 17.19 |
| 4400 | 2.62 | 0.58 | 1.10 | 2.21 | 4.33 | 9.12 | 17.17 |
| 4600 | 2.62 | 0.58 | 1.11 | 2.21 | 4.36 | 9.25 | 17.51 |
| 4800 | 2.72 | 0.58 | 1.10 | 2.20 | 4.35 | 9.33 | 17.68 |
| 5000 | 2.93 | 0.58 | 1.09 | 2.18 | 4.34 | 9.40 | 18.06 |

* Step Attenuation above Thru Loss (TTL Logic 00000).

Notes

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Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, TEMPERATURE=-40°C

| FREQUENCY (MHz) | INPUT RETURN LOSS AT TTL CONTROL STATE | | | | | | |
|--------------------|--|------------------|------------------|------------------|------------------|------------------|-------------------|
| | (dB) | | | | | | |
| | 000000 0 dB | 000001 0.5 dB | 000010 1.0 dB | 000100 2.0 dB | 001000 4.0 dB | 010000 8.0 dB | 011111 15.5 dB |
| 0.1 | 19.34 | 21.29 | 23.32 | 21.57 | 23.41 | 29.28 | 40.77 |
| 0.3 | 19.32 | 21.28 | 23.30 | 21.55 | 23.38 | 29.22 | 40.66 |
| 0.5 | 19.32 | 21.28 | 23.30 | 21.49 | 23.28 | 28.96 | 40.61 |
| 1 | 19.24 | 21.21 | 23.22 | 21.40 | 23.18 | 28.81 | 40.58 |
| 5 | 19.13 | 21.08 | 23.07 | 21.31 | 23.09 | 28.67 | 39.86 |
| 10 | 19.12 | 21.07 | 23.05 | 21.29 | 23.07 | 28.63 | 39.85 |
| 50 | 19.14 | 21.08 | 23.05 | 21.28 | 23.02 | 28.47 | 40.01 |
| 100 | 19.16 | 21.08 | 23.02 | 21.24 | 22.93 | 28.19 | 40.18 |
| 200 | 19.14 | 21.01 | 22.91 | 21.10 | 22.67 | 27.57 | 40.30 |
| 300 | 18.99 | 20.81 | 22.64 | 20.86 | 22.37 | 27.02 | 41.91 |
| 400 | 18.74 | 20.52 | 22.31 | 20.64 | 22.16 | 26.81 | 45.91 |
| 500 | 18.60 | 20.37 | 22.13 | 20.54 | 22.11 | 26.83 | 39.28 |
| 600 | 18.50 | 20.27 | 22.03 | 20.52 | 22.17 | 27.09 | 37.89 |
| 700 | 18.63 | 20.45 | 22.28 | 20.76 | 22.51 | 27.82 | 39.23 |
| 800 | 18.82 | 20.71 | 22.60 | 21.03 | 22.85 | 28.51 | 43.58 |
| 900 | 19.14 | 21.09 | 23.08 | 21.39 | 23.28 | 29.27 | 44.51 |
| 1000 | 19.47 | 21.49 | 23.56 | 21.75 | 23.65 | 29.87 | 44.50 |
| 1100 | 19.47 | 21.49 | 23.56 | 21.74 | 23.62 | 29.70 | 49.23 |
| 1200 | 19.42 | 21.43 | 23.50 | 21.68 | 23.56 | 29.53 | 57.26 |
| 1300 | 19.10 | 21.00 | 22.93 | 21.17 | 22.85 | 27.81 | 43.74 |
| 1400 | 19.04 | 20.85 | 22.64 | 20.80 | 22.22 | 26.41 | 35.99 |
| 1500 | 18.96 | 20.70 | 22.41 | 20.58 | 21.96 | 26.24 | 32.24 |
| 1600 | 19.10 | 20.84 | 22.52 | 20.63 | 21.99 | 26.44 | 29.38 |
| 1700 | 19.63 | 21.45 | 23.19 | 21.10 | 22.51 | 27.30 | 26.68 |
| 1800 | 19.77 | 21.55 | 23.22 | 21.05 | 22.36 | 26.99 | 24.08 |
| 1900 | 20.27 | 21.98 | 23.59 | 21.25 | 22.45 | 27.27 | 21.87 |
| 2000 | 20.38 | 21.97 | 23.44 | 21.20 | 22.40 | 27.56 | 20.25 |
| 2100 | 20.58 | 22.06 | 23.35 | 21.28 | 22.54 | 28.24 | 18.88 |
| 2200 | 20.80 | 22.19 | 23.31 | 21.39 | 22.68 | 28.81 | 17.59 |
| 2300 | 20.54 | 21.59 | 22.35 | 21.01 | 22.32 | 28.65 | 16.05 |
| 2400 | 19.79 | 20.53 | 21.03 | 20.44 | 21.97 | 28.90 | 14.52 |
| 2500 | 19.53 | 20.20 | 20.64 | 20.32 | 22.03 | 29.41 | 13.84 |
| 2600 | 19.34 | 19.96 | 20.38 | 20.24 | 22.07 | 29.69 | 13.20 |
| 2700 | 19.04 | 19.58 | 19.95 | 20.05 | 21.99 | 29.39 | 12.59 |
| 2800 | 18.58 | 19.04 | 19.37 | 19.68 | 21.70 | 28.53 | 12.07 |
| 2900 | 18.19 | 18.60 | 18.88 | 19.37 | 21.43 | 27.46 | 11.78 |
| 3000 | 17.91 | 18.28 | 18.50 | 19.12 | 21.17 | 26.40 | 11.71 |
| 3200 | 17.35 | 17.67 | 17.76 | 18.59 | 20.53 | 24.02 | 11.67 |
| 3400 | 16.87 | 17.06 | 16.97 | 17.98 | 19.45 | 20.80 | 11.70 |
| 3600 | 16.85 | 16.84 | 16.58 | 17.64 | 18.48 | 18.28 | 11.46 |
| 3800 | 17.28 | 16.96 | 16.50 | 17.45 | 17.55 | 16.33 | 11.27 |
| 4000 | 17.21 | 16.78 | 16.26 | 16.98 | 16.76 | 15.28 | 10.91 |
| 4200 | 17.95 | 17.75 | 17.18 | 17.80 | 17.52 | 15.63 | 10.76 |
| 4400 | 19.66 | 19.74 | 18.89 | 19.56 | 19.00 | 16.12 | 11.22 |
| 4600 | 23.39 | 22.74 | 20.66 | 21.61 | 19.57 | 15.45 | 12.18 |
| 4800 | 32.54 | 24.94 | 21.28 | 22.66 | 18.82 | 14.19 | 13.39 |
| 5000 | 26.50 | 22.25 | 19.91 | 21.11 | 17.51 | 13.17 | 14.21 |

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TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, TEMPERATURE=-40°C

| FREQUENCY (MHz) | OUTPUT RETURN LOSS AT TTL CONTROL STATE | | | | | | |
|--------------------|---|------------------|------------------|------------------|------------------|------------------|-------------------|
| | (dB) | | | | | | |
| | 000000 0 dB | 000001 0.5 dB | 000010 1.0 dB | 000100 2.0 dB | 001000 4.0 dB | 010000 8.0 dB | 011111 15.5 dB |
| 0.1 | 19.19 | 20.09 | 20.53 | 27.37 | 35.22 | 48.10 | 26.11 |
| 0.3 | 19.17 | 20.08 | 20.52 | 27.34 | 35.16 | 48.87 | 26.13 |
| 0.5 | 19.08 | 19.99 | 20.41 | 27.18 | 34.80 | 50.78 | 26.13 |
| 1 | 19.08 | 19.99 | 20.41 | 27.20 | 34.74 | 51.32 | 26.12 |
| 5 | 18.93 | 19.85 | 20.27 | 26.92 | 34.21 | 51.57 | 26.15 |
| 10 | 18.91 | 19.82 | 20.24 | 26.87 | 34.12 | 51.56 | 26.16 |
| 50 | 18.89 | 19.79 | 20.20 | 26.75 | 33.73 | 49.89 | 26.13 |
| 100 | 18.91 | 19.79 | 20.19 | 26.64 | 33.28 | 48.25 | 26.13 |
| 200 | 18.78 | 19.63 | 20.01 | 26.19 | 32.18 | 45.91 | 26.17 |
| 300 | 18.91 | 19.74 | 20.09 | 26.24 | 31.97 | 44.71 | 26.70 |
| 400 | 19.00 | 19.83 | 20.19 | 26.40 | 32.12 | 43.08 | 27.52 |
| 500 | 19.26 | 20.12 | 20.49 | 26.88 | 32.72 | 41.69 | 26.17 |
| 600 | 19.40 | 20.29 | 20.69 | 27.32 | 33.61 | 41.22 | 26.02 |
| 700 | 19.47 | 20.39 | 20.81 | 27.75 | 34.96 | 42.40 | 26.27 |
| 800 | 19.33 | 20.26 | 20.69 | 27.63 | 35.34 | 44.99 | 27.00 |
| 900 | 19.17 | 20.10 | 20.53 | 27.37 | 35.07 | 47.10 | 27.42 |
| 1000 | 18.98 | 19.89 | 20.32 | 26.94 | 34.20 | 48.26 | 26.71 |
| 1100 | 18.80 | 19.70 | 20.13 | 26.54 | 33.36 | 49.96 | 27.95 |
| 1200 | 18.87 | 19.77 | 20.19 | 26.65 | 33.52 | 50.40 | 28.70 |
| 1300 | 19.05 | 19.91 | 20.29 | 26.66 | 33.01 | 40.61 | 30.63 |
| 1400 | 19.07 | 19.84 | 20.14 | 26.12 | 31.20 | 38.69 | 30.51 |
| 1500 | 19.52 | 20.24 | 20.49 | 26.56 | 31.22 | 41.55 | 29.38 |
| 1600 | 19.56 | 20.23 | 20.45 | 26.38 | 30.67 | 40.21 | 28.63 |
| 1700 | 19.35 | 19.99 | 20.18 | 25.91 | 29.88 | 38.43 | 25.71 |
| 1800 | 19.32 | 19.87 | 20.03 | 25.42 | 28.66 | 35.92 | 22.56 |
| 1900 | 18.86 | 19.32 | 19.44 | 24.26 | 26.89 | 32.87 | 20.24 |
| 2000 | 18.69 | 19.10 | 19.19 | 23.66 | 25.90 | 32.13 | 18.80 |
| 2100 | 18.41 | 18.75 | 18.85 | 22.94 | 24.82 | 30.83 | 17.52 |
| 2200 | 18.00 | 18.29 | 18.40 | 22.12 | 23.78 | 29.46 | 16.42 |
| 2300 | 17.22 | 17.43 | 17.53 | 20.54 | 21.84 | 26.69 | 15.21 |
| 2400 | 16.71 | 16.89 | 17.00 | 19.40 | 20.41 | 24.87 | 14.49 |
| 2500 | 16.58 | 16.75 | 16.87 | 19.05 | 19.98 | 24.31 | 14.16 |
| 2600 | 16.44 | 16.60 | 16.74 | 18.73 | 19.61 | 23.78 | 13.90 |
| 2700 | 16.26 | 16.39 | 16.54 | 18.32 | 19.11 | 23.02 | 13.69 |
| 2800 | 16.04 | 16.16 | 16.32 | 17.85 | 18.55 | 22.15 | 13.38 |
| 2900 | 15.93 | 16.04 | 16.21 | 17.54 | 18.16 | 21.48 | 12.97 |
| 3000 | 15.75 | 15.86 | 16.04 | 17.22 | 17.79 | 20.89 | 12.61 |
| 3200 | 15.54 | 15.68 | 15.86 | 16.69 | 17.08 | 19.53 | 11.92 |
| 3400 | 15.77 | 15.90 | 16.06 | 16.47 | 16.60 | 18.32 | 11.61 |
| 3600 | 17.01 | 16.99 | 17.13 | 16.84 | 16.51 | 17.23 | 11.50 |
| 3800 | 19.28 | 19.16 | 19.17 | 17.74 | 16.82 | 16.49 | 11.38 |
| 4000 | 21.40 | 20.92 | 20.71 | 17.75 | 16.42 | 15.34 | 11.07 |
| 4200 | 21.67 | 20.78 | 20.41 | 16.83 | 15.47 | 14.11 | 11.51 |
| 4400 | 22.56 | 21.47 | 20.86 | 16.59 | 15.13 | 13.45 | 11.71 |
| 4600 | 25.28 | 23.42 | 22.35 | 16.80 | 15.07 | 12.90 | 11.97 |
| 4800 | 25.62 | 23.87 | 22.89 | 17.02 | 15.15 | 12.55 | 12.35 |
| 5000 | 21.48 | 20.87 | 20.46 | 16.23 | 14.59 | 11.90 | 12.70 |

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TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, TEMPERATURE=+25°C

| FREQUENCY (MHz) | STEP ATTENUATION* AT TTL CONTROL STATE | | | | | | |
|--------------------|--|------------------|------------------|------------------|------------------|------------------|-------------------|
| | (dB) | | | | | | |
| | 000000 THRU LOSS | 000001 0.5 dB | 000010 1.0 dB | 000100 2.0 dB | 001000 4.0 dB | 010000 8.0 dB | 011111 15.5 dB |
| 0.1 | 1.21 | 0.04 | 1.01 | 2.01 | 4.00 | 7.97 | 15.46 |
| 0.3 | 1.22 | 0.04 | 1.01 | 2.01 | 4.00 | 7.97 | 15.46 |
| 0.5 | 1.22 | 0.03 | 1.01 | 2.01 | 4.00 | 7.97 | 15.46 |
| 1 | 1.23 | 0.03 | 1.01 | 2.01 | 4.00 | 7.97 | 15.46 |
| 5 | 1.23 | 0.03 | 1.01 | 2.01 | 4.00 | 7.97 | 15.47 |
| 10 | 1.24 | 0.03 | 1.01 | 2.01 | 4.00 | 7.97 | 15.47 |
| 50 | 1.25 | 0.03 | 1.01 | 2.01 | 4.00 | 7.97 | 15.47 |
| 100 | 1.27 | 0.03 | 1.01 | 2.01 | 4.00 | 7.97 | 15.46 |
| 200 | 1.31 | 0.03 | 1.01 | 2.01 | 4.00 | 7.97 | 15.45 |
| 300 | 1.34 | 0.03 | 1.01 | 2.01 | 4.00 | 7.97 | 15.45 |
| 400 | 1.38 | 0.03 | 1.01 | 2.00 | 3.99 | 7.97 | 15.45 |
| 500 | 1.42 | 0.03 | 1.01 | 2.00 | 3.99 | 7.97 | 15.44 |
| 600 | 1.46 | 0.03 | 1.00 | 2.00 | 3.99 | 7.97 | 15.44 |
| 700 | 1.49 | 0.03 | 1.00 | 2.00 | 3.99 | 7.97 | 15.44 |
| 800 | 1.54 | 0.03 | 1.00 | 2.00 | 3.99 | 7.97 | 15.44 |
| 900 | 1.57 | 0.03 | 1.00 | 1.99 | 3.98 | 7.97 | 15.45 |
| 1000 | 1.61 | 0.03 | 1.00 | 1.99 | 3.98 | 7.98 | 15.45 |
| 1100 | 1.65 | 0.03 | 1.00 | 1.99 | 3.98 | 7.98 | 15.46 |
| 1200 | 1.69 | 0.03 | 1.00 | 1.99 | 3.98 | 7.99 | 15.46 |
| 1300 | 1.73 | 0.03 | 1.00 | 1.99 | 3.98 | 7.99 | 15.47 |
| 1400 | 1.77 | 0.03 | 1.00 | 1.99 | 3.98 | 8.00 | 15.49 |
| 1500 | 1.81 | 0.03 | 1.00 | 1.99 | 3.98 | 8.00 | 15.52 |
| 1600 | 1.85 | 0.03 | 1.00 | 1.99 | 3.98 | 8.01 | 15.55 |
| 1700 | 1.89 | 0.03 | 1.00 | 1.99 | 3.98 | 8.01 | 15.59 |
| 1800 | 1.93 | 0.02 | 1.00 | 1.99 | 3.98 | 8.02 | 15.63 |
| 1900 | 1.98 | 0.02 | 1.00 | 1.99 | 3.98 | 8.02 | 15.69 |
| 2000 | 2.02 | 0.02 | 1.00 | 1.99 | 3.98 | 8.02 | 15.75 |
| 2100 | 2.07 | 0.02 | 1.00 | 1.99 | 3.98 | 8.02 | 15.83 |
| 2200 | 2.11 | 0.03 | 1.00 | 1.99 | 3.97 | 8.03 | 15.82 |
| 2300 | 2.15 | 0.03 | 1.00 | 1.99 | 3.97 | 8.03 | 15.86 |
| 2400 | 2.19 | 0.03 | 1.00 | 2.00 | 3.97 | 8.04 | 15.96 |
| 2500 | 2.23 | 0.03 | 1.00 | 2.00 | 3.97 | 8.05 | 16.06 |
| 2600 | 2.26 | 0.04 | 1.01 | 2.00 | 3.98 | 8.06 | 16.18 |
| 2700 | 2.29 | 0.04 | 1.01 | 2.00 | 3.98 | 8.08 | 16.35 |
| 2800 | 2.32 | 0.04 | 1.01 | 2.01 | 3.98 | 8.10 | 16.50 |
| 2900 | 2.35 | 0.04 | 1.02 | 2.01 | 3.99 | 8.12 | 16.59 |
| 3000 | 2.37 | 0.04 | 1.02 | 2.02 | 4.00 | 8.15 | 16.62 |
| 3200 | 2.41 | 0.04 | 1.03 | 2.04 | 4.03 | 8.23 | 16.65 |
| 3400 | 2.43 | 0.04 | 1.05 | 2.07 | 4.07 | 8.34 | 16.72 |
| 3600 | 2.44 | 0.04 | 1.07 | 2.10 | 4.13 | 8.46 | 16.79 |
| 3800 | 2.46 | 0.04 | 1.08 | 2.13 | 4.17 | 8.57 | 16.84 |
| 4000 | 2.52 | 0.05 | 1.08 | 2.15 | 4.20 | 8.69 | 16.91 |
| 4200 | 2.67 | 0.07 | 1.08 | 2.16 | 4.23 | 8.81 | 16.91 |
| 4400 | 2.93 | 0.08 | 1.07 | 2.16 | 4.25 | 8.93 | 17.00 |
| 4600 | 3.14 | 0.08 | 1.08 | 2.18 | 4.28 | 9.07 | 17.35 |
| 4800 | 3.12 | 0.08 | 1.09 | 2.18 | 4.29 | 9.17 | 17.67 |
| 5000 | 3.11 | 0.08 | 1.07 | 2.14 | 4.24 | 9.22 | 18.10 |

* Step Attenuation above Thru Loss (TTL Logic 00000).

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| FREQUENCY (MHz) | INPUT RETURN LOSS AT TTL CONTROL STATE | | | | | | |
|--------------------|--|------------------|------------------|------------------|------------------|------------------|-------------------|
| | (dB) | | | | | | |
| | 000000 0 dB | 000001 0.5 dB | 000010 1.0 dB | 000100 2.0 dB | 001000 4.0 dB | 010000 8.0 dB | 011111 15.5 dB |
| 0.1 | 18.79 | 20.34 | 21.87 | 19.97 | 21.00 | 24.11 | 28.22 |
| 0.3 | 18.77 | 20.32 | 21.84 | 19.96 | 20.99 | 24.08 | 28.22 |
| 0.5 | 18.76 | 20.31 | 21.83 | 19.90 | 20.88 | 23.85 | 28.26 |
| 1 | 18.66 | 20.23 | 21.75 | 19.81 | 20.79 | 23.77 | 28.28 |
| 5 | 18.56 | 20.12 | 21.64 | 19.74 | 20.75 | 23.75 | 28.47 |
| 10 | 18.54 | 20.10 | 21.62 | 19.72 | 20.73 | 23.73 | 28.44 |
| 50 | 18.55 | 20.11 | 21.62 | 19.73 | 20.73 | 23.72 | 28.48 |
| 100 | 18.57 | 20.12 | 21.63 | 19.74 | 20.74 | 23.72 | 28.45 |
| 200 | 18.59 | 20.15 | 21.66 | 19.77 | 20.78 | 23.77 | 28.48 |
| 300 | 18.64 | 20.19 | 21.69 | 19.79 | 20.76 | 23.70 | 28.44 |
| 400 | 18.58 | 20.12 | 21.61 | 19.73 | 20.70 | 23.60 | 28.44 |
| 500 | 18.59 | 20.12 | 21.60 | 19.72 | 20.68 | 23.53 | 28.34 |
| 600 | 18.53 | 20.05 | 21.51 | 19.65 | 20.59 | 23.39 | 28.26 |
| 700 | 18.54 | 20.05 | 21.51 | 19.64 | 20.58 | 23.35 | 27.90 |
| 800 | 18.53 | 20.03 | 21.49 | 19.63 | 20.56 | 23.28 | 27.46 |
| 900 | 18.59 | 20.09 | 21.54 | 19.66 | 20.56 | 23.23 | 26.66 |
| 1000 | 18.60 | 20.08 | 21.51 | 19.63 | 20.49 | 23.06 | 25.71 |
| 1100 | 18.45 | 19.92 | 21.32 | 19.48 | 20.32 | 22.83 | 25.00 |
| 1200 | 18.44 | 19.89 | 21.29 | 19.44 | 20.26 | 22.73 | 24.12 |
| 1300 | 18.21 | 19.58 | 20.87 | 19.05 | 19.74 | 21.82 | 23.14 |
| 1400 | 18.09 | 19.40 | 20.60 | 18.75 | 19.30 | 21.07 | 22.22 |
| 1500 | 18.15 | 19.41 | 20.56 | 18.61 | 19.03 | 20.58 | 21.55 |
| 1600 | 18.11 | 19.31 | 20.38 | 18.36 | 18.64 | 20.01 | 20.90 |
| 1700 | 18.16 | 19.28 | 20.28 | 18.17 | 18.34 | 19.58 | 20.26 |
| 1800 | 17.98 | 19.01 | 19.90 | 17.82 | 17.94 | 19.18 | 19.79 |
| 1900 | 18.03 | 18.96 | 19.75 | 17.70 | 17.77 | 19.05 | 19.36 |
| 2000 | 17.60 | 18.38 | 19.05 | 17.24 | 17.36 | 18.73 | 18.67 |
| 2100 | 16.90 | 17.54 | 18.08 | 16.65 | 16.86 | 18.38 | 17.86 |
| 2200 | 16.33 | 16.85 | 17.27 | 16.23 | 16.59 | 18.37 | 17.35 |
| 2300 | 15.93 | 16.36 | 16.71 | 16.03 | 16.57 | 18.71 | 16.25 |
| 2400 | 15.47 | 15.84 | 16.12 | 15.79 | 16.55 | 19.11 | 14.89 |
| 2500 | 14.99 | 15.31 | 15.56 | 15.43 | 16.28 | 19.00 | 14.24 |
| 2600 | 14.73 | 15.02 | 15.24 | 15.28 | 16.22 | 19.14 | 13.67 |
| 2700 | 14.46 | 14.72 | 14.91 | 15.11 | 16.15 | 19.22 | 13.19 |
| 2800 | 14.41 | 14.63 | 14.78 | 15.16 | 16.30 | 19.58 | 12.82 |
| 2900 | 14.20 | 14.40 | 14.52 | 15.04 | 16.25 | 19.57 | 12.61 |
| 3000 | 14.15 | 14.32 | 14.40 | 15.05 | 16.33 | 19.67 | 12.54 |
| 3200 | 14.14 | 14.26 | 14.27 | 15.15 | 16.50 | 19.59 | 12.53 |
| 3400 | 13.84 | 13.87 | 13.79 | 14.80 | 15.96 | 18.09 | 12.64 |
| 3600 | 13.76 | 13.70 | 13.54 | 14.57 | 15.47 | 16.70 | 12.60 |
| 3800 | 13.84 | 13.66 | 13.41 | 14.37 | 14.90 | 15.22 | 12.35 |
| 4000 | 13.77 | 13.60 | 13.30 | 14.15 | 14.51 | 14.49 | 12.26 |
| 4200 | 14.90 | 14.63 | 14.12 | 15.01 | 15.08 | 14.38 | 12.49 |
| 4400 | 17.09 | 16.42 | 15.50 | 16.56 | 16.02 | 14.28 | 13.61 |
| 4600 | 21.93 | 19.84 | 17.97 | 19.40 | 17.50 | 14.24 | 15.13 |
| 4800 | 24.89 | 20.88 | 18.59 | 19.88 | 17.09 | 13.37 | 16.35 |
| 5000 | 22.12 | 19.52 | 17.97 | 18.84 | 16.24 | 12.62 | 15.75 |

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Digital Step Attenuator

ZX76-15R5A-SP+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, TEMPERATURE=+25°C

| FREQUENCY (MHz) | OUTPUT RETURN LOSS AT TTL CONTROL STATE | | | | | | |
|--------------------|---|------------------|------------------|------------------|------------------|------------------|-------------------|
| | (dB) | | | | | | |
| | 000000 0 dB | 000001 0.5 dB | 000010 1.0 dB | 000100 2.0 dB | 001000 4.0 dB | 010000 8.0 dB | 011111 15.5 dB |
| 0.1 | 18.63 | 19.24 | 19.43 | 24.48 | 28.24 | 32.18 | 52.48 |
| 0.3 | 18.62 | 19.23 | 19.42 | 24.47 | 28.22 | 32.16 | 53.12 |
| 0.5 | 18.52 | 19.13 | 19.32 | 24.32 | 27.99 | 31.69 | 52.40 |
| 1 | 18.51 | 19.13 | 19.30 | 24.34 | 27.99 | 31.68 | 52.93 |
| 5 | 18.41 | 19.03 | 19.22 | 24.21 | 27.88 | 31.63 | 53.10 |
| 10 | 18.39 | 19.02 | 19.21 | 24.20 | 27.86 | 31.61 | 54.08 |
| 50 | 18.42 | 19.06 | 19.24 | 24.24 | 27.90 | 31.66 | 53.47 |
| 100 | 18.52 | 19.15 | 19.33 | 24.35 | 28.02 | 31.76 | 53.68 |
| 200 | 18.49 | 19.12 | 19.30 | 24.30 | 27.94 | 31.64 | 53.34 |
| 300 | 18.54 | 19.16 | 19.34 | 24.31 | 27.88 | 31.38 | 52.52 |
| 400 | 18.42 | 19.03 | 19.22 | 24.10 | 27.58 | 30.96 | 50.27 |
| 500 | 18.53 | 19.14 | 19.32 | 24.22 | 27.69 | 30.98 | 63.15 |
| 600 | 18.55 | 19.16 | 19.33 | 24.22 | 27.66 | 30.82 | 60.04 |
| 700 | 18.51 | 19.11 | 19.28 | 24.10 | 27.46 | 30.44 | 50.38 |
| 800 | 18.50 | 19.10 | 19.27 | 24.06 | 27.37 | 30.24 | 44.39 |
| 900 | 18.49 | 19.09 | 19.25 | 24.00 | 27.23 | 29.92 | 39.27 |
| 1000 | 18.49 | 19.07 | 19.23 | 23.92 | 27.04 | 29.56 | 35.53 |
| 1100 | 18.47 | 19.06 | 19.21 | 23.87 | 26.96 | 29.35 | 32.36 |
| 1200 | 18.46 | 19.04 | 19.17 | 23.77 | 26.75 | 28.93 | 29.64 |
| 1300 | 18.43 | 18.96 | 19.05 | 23.40 | 25.97 | 27.52 | 27.38 |
| 1400 | 18.39 | 18.85 | 18.89 | 22.97 | 25.11 | 26.12 | 25.48 |
| 1500 | 18.34 | 18.74 | 18.72 | 22.59 | 24.36 | 25.04 | 23.76 |
| 1600 | 18.40 | 18.71 | 18.61 | 22.30 | 23.71 | 24.18 | 22.28 |
| 1700 | 18.46 | 18.67 | 18.51 | 22.00 | 23.04 | 23.42 | 20.94 |
| 1800 | 18.58 | 18.67 | 18.45 | 21.69 | 22.41 | 22.87 | 19.70 |
| 1900 | 18.33 | 18.34 | 18.09 | 21.00 | 21.52 | 22.19 | 18.57 |
| 2000 | 18.20 | 18.12 | 17.86 | 20.45 | 20.84 | 21.81 | 17.56 |
| 2100 | 17.83 | 17.70 | 17.49 | 19.67 | 20.05 | 21.47 | 16.71 |
| 2200 | 17.11 | 16.99 | 16.87 | 18.66 | 19.11 | 21.03 | 16.04 |
| 2300 | 16.41 | 16.32 | 16.28 | 17.75 | 18.29 | 20.67 | 15.46 |
| 2400 | 15.72 | 15.67 | 15.72 | 16.89 | 17.52 | 20.32 | 15.03 |
| 2500 | 15.20 | 15.20 | 15.30 | 16.34 | 17.04 | 20.03 | 14.84 |
| 2600 | 14.80 | 14.83 | 14.97 | 15.91 | 16.67 | 19.79 | 14.65 |
| 2700 | 14.49 | 14.54 | 14.72 | 15.57 | 16.35 | 19.60 | 14.43 |
| 2800 | 14.20 | 14.29 | 14.49 | 15.28 | 16.08 | 19.41 | 14.17 |
| 2900 | 14.01 | 14.12 | 14.34 | 15.05 | 15.85 | 19.21 | 13.82 |
| 3000 | 13.84 | 13.97 | 14.21 | 14.84 | 15.64 | 18.99 | 13.51 |
| 3200 | 13.83 | 13.99 | 14.25 | 14.70 | 15.43 | 18.63 | 13.01 |
| 3400 | 14.11 | 14.30 | 14.57 | 14.82 | 15.45 | 18.35 | 12.74 |
| 3600 | 15.04 | 15.21 | 15.47 | 15.34 | 15.71 | 17.97 | 12.53 |
| 3800 | 16.46 | 16.58 | 16.82 | 16.02 | 16.03 | 17.36 | 12.38 |
| 4000 | 17.39 | 17.45 | 17.64 | 16.09 | 15.76 | 16.18 | 12.34 |
| 4200 | 18.27 | 18.22 | 18.28 | 16.04 | 15.41 | 15.13 | 12.81 |
| 4400 | 20.26 | 20.04 | 19.89 | 16.55 | 15.52 | 14.51 | 13.54 |
| 4600 | 25.03 | 23.82 | 22.99 | 17.41 | 15.83 | 13.96 | 14.53 |
| 4800 | 27.89 | 25.53 | 24.21 | 17.70 | 15.80 | 13.28 | 15.23 |
| 5000 | 22.61 | 21.91 | 21.47 | 17.10 | 15.42 | 12.68 | 15.37 |

Notes

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Digital Step Attenuator

ZX76-15R5A-SP+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, TEMPERATURE=+85°C

| FREQUENCY (MHz) | STEP ATTENUATION* AT TTL CONTROL STATE | | | | | | |
|--------------------|--|------------------|------------------|------------------|------------------|------------------|-------------------|
| | (dB) | | | | | | |
| | 000000 THRU LOSS | 000001 0.5 dB | 000010 1.0 dB | 000100 2.0 dB | 001000 4.0 dB | 010000 8.0 dB | 011111 15.5 dB |
| 0.1 | 1.22 | 0.52 | 1.02 | 2.01 | 4.00 | 7.92 | 15.32 |
| 0.3 | 1.23 | 0.52 | 1.02 | 2.01 | 4.00 | 7.92 | 15.32 |
| 0.5 | 1.25 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.32 |
| 1 | 1.27 | 0.52 | 1.02 | 2.01 | 3.99 | 7.89 | 15.33 |
| 5 | 1.26 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.34 |
| 10 | 1.26 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.34 |
| 50 | 1.26 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.34 |
| 100 | 1.26 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.33 |
| 200 | 1.30 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.31 |
| 300 | 1.29 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.31 |
| 400 | 1.31 | 0.52 | 1.02 | 2.01 | 4.00 | 7.90 | 15.32 |
| 500 | 1.34 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.32 |
| 600 | 1.34 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.31 |
| 700 | 1.38 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.31 |
| 800 | 1.38 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.31 |
| 900 | 1.41 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.31 |
| 1000 | 1.43 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.32 |
| 1100 | 1.43 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.33 |
| 1200 | 1.47 | 0.52 | 1.02 | 2.01 | 3.99 | 7.90 | 15.34 |
| 1300 | 1.56 | 0.52 | 1.02 | 2.01 | 3.99 | 7.91 | 15.35 |
| 1400 | 1.65 | 0.51 | 1.02 | 2.01 | 3.99 | 7.92 | 15.38 |
| 1500 | 1.74 | 0.51 | 1.02 | 2.01 | 3.99 | 7.93 | 15.41 |
| 1600 | 1.83 | 0.51 | 1.02 | 2.01 | 4.00 | 7.95 | 15.44 |
| 1700 | 1.92 | 0.51 | 1.02 | 2.01 | 4.00 | 7.96 | 15.47 |
| 1800 | 2.01 | 0.51 | 1.02 | 2.02 | 4.01 | 7.98 | 15.51 |
| 1900 | 2.10 | 0.51 | 1.02 | 2.02 | 4.01 | 8.00 | 15.56 |
| 2000 | 2.20 | 0.52 | 1.02 | 2.02 | 4.01 | 8.02 | 15.62 |
| 2100 | 2.29 | 0.52 | 1.02 | 2.03 | 4.02 | 8.04 | 15.68 |
| 2200 | 2.38 | 0.52 | 1.03 | 2.03 | 4.02 | 8.06 | 15.68 |
| 2300 | 2.47 | 0.52 | 1.03 | 2.04 | 4.02 | 8.09 | 15.77 |
| 2400 | 2.55 | 0.52 | 1.03 | 2.04 | 4.02 | 8.11 | 15.91 |
| 2500 | 2.59 | 0.53 | 1.03 | 2.04 | 4.02 | 8.12 | 16.03 |
| 2600 | 2.64 | 0.53 | 1.03 | 2.04 | 4.03 | 8.14 | 16.16 |
| 2700 | 2.68 | 0.53 | 1.04 | 2.05 | 4.03 | 8.15 | 16.31 |
| 2800 | 2.72 | 0.53 | 1.04 | 2.05 | 4.03 | 8.17 | 16.41 |
| 2900 | 2.77 | 0.53 | 1.04 | 2.05 | 4.03 | 8.19 | 16.45 |
| 3000 | 2.82 | 0.53 | 1.04 | 2.06 | 4.03 | 8.21 | 16.45 |
| 3200 | 2.89 | 0.54 | 1.04 | 2.07 | 4.04 | 8.24 | 16.42 |
| 3400 | 3.00 | 0.54 | 1.04 | 2.09 | 4.05 | 8.30 | 16.35 |
| 3600 | 3.17 | 0.54 | 1.05 | 2.09 | 4.07 | 8.39 | 16.28 |
| 3800 | 3.38 | 0.54 | 1.06 | 2.12 | 4.13 | 8.53 | 16.39 |
| 4000 | 3.47 | 0.55 | 1.08 | 2.16 | 4.18 | 8.68 | 16.72 |
| 4200 | 3.36 | 0.56 | 1.11 | 2.20 | 4.24 | 8.83 | 16.91 |
| 4400 | 3.28 | 0.58 | 1.13 | 2.23 | 4.30 | 9.01 | 17.01 |
| 4600 | 3.32 | 0.58 | 1.13 | 2.25 | 4.34 | 9.18 | 17.25 |
| 4800 | 3.49 | 0.58 | 1.12 | 2.25 | 4.34 | 9.30 | 17.50 |
| 5000 | 3.74 | 0.57 | 1.10 | 2.23 | 4.33 | 9.40 | 17.89 |

* Step Attenuation above Thru Loss (TTL Logic 00000).

Notes

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Digital Step Attenuator

ZX76-15R5A-SP+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, TEMPERATURE=+85°C

| FREQUENCY (MHz) | INPUT RETURN LOSS AT TTL CONTROL STATE | | | | | | |
|--------------------|--|------------------|------------------|------------------|------------------|------------------|-------------------|
| | (dB) | | | | | | |
| | 000000 0 dB | 000001 0.5 dB | 000010 1.0 dB | 000100 2.0 dB | 001000 4.0 dB | 010000 8.0 dB | 011111 15.5 dB |
| 0.1 | 18.17 | 19.34 | 20.32 | 18.20 | 18.45 | 19.87 | 21.45 |
| 0.3 | 18.16 | 19.34 | 20.31 | 18.19 | 18.44 | 19.85 | 21.45 |
| 0.5 | 18.15 | 19.32 | 20.30 | 18.14 | 18.37 | 19.75 | 21.45 |
| 1 | 18.06 | 19.26 | 20.24 | 18.09 | 18.32 | 19.73 | 21.47 |
| 5 | 17.96 | 19.15 | 20.14 | 18.04 | 18.30 | 19.74 | 21.53 |
| 10 | 17.94 | 19.14 | 20.12 | 18.03 | 18.29 | 19.73 | 21.54 |
| 50 | 17.94 | 19.14 | 20.12 | 18.04 | 18.32 | 19.77 | 21.59 |
| 100 | 17.94 | 19.14 | 20.13 | 18.06 | 18.35 | 19.84 | 21.58 |
| 200 | 17.92 | 19.14 | 20.15 | 18.12 | 18.45 | 19.98 | 21.61 |
| 300 | 17.92 | 19.15 | 20.18 | 18.17 | 18.54 | 20.14 | 21.78 |
| 400 | 17.91 | 19.15 | 20.21 | 18.23 | 18.62 | 20.26 | 22.09 |
| 500 | 17.96 | 19.19 | 20.25 | 18.27 | 18.63 | 20.20 | 22.28 |
| 600 | 17.96 | 19.18 | 20.21 | 18.22 | 18.54 | 20.05 | 21.65 |
| 700 | 17.97 | 19.16 | 20.18 | 18.18 | 18.46 | 19.90 | 21.49 |
| 800 | 17.87 | 19.03 | 20.01 | 18.02 | 18.27 | 19.61 | 21.08 |
| 900 | 17.85 | 18.98 | 19.93 | 17.93 | 18.15 | 19.42 | 20.60 |
| 1000 | 17.82 | 18.93 | 19.85 | 17.83 | 18.01 | 19.23 | 20.05 |
| 1100 | 17.67 | 18.74 | 19.62 | 17.63 | 17.81 | 18.98 | 19.59 |
| 1200 | 17.62 | 18.68 | 19.54 | 17.56 | 17.72 | 18.87 | 19.01 |
| 1300 | 17.58 | 18.60 | 19.35 | 17.32 | 17.37 | 18.31 | 18.34 |
| 1400 | 17.46 | 18.42 | 19.12 | 17.04 | 16.96 | 17.70 | 17.66 |
| 1500 | 17.47 | 18.37 | 19.02 | 16.84 | 16.64 | 17.23 | 17.11 |
| 1600 | 17.53 | 18.37 | 18.95 | 16.71 | 16.41 | 16.89 | 16.59 |
| 1700 | 17.65 | 18.43 | 18.93 | 16.65 | 16.27 | 16.68 | 16.16 |
| 1800 | 17.63 | 18.33 | 18.77 | 16.53 | 16.15 | 16.58 | 15.91 |
| 1900 | 17.47 | 18.07 | 18.43 | 16.34 | 15.96 | 16.45 | 15.80 |
| 2000 | 17.09 | 17.59 | 17.86 | 16.07 | 15.79 | 16.40 | 15.57 |
| 2100 | 16.65 | 17.05 | 17.26 | 15.81 | 15.66 | 16.44 | 15.31 |
| 2200 | 16.08 | 16.41 | 16.58 | 15.50 | 15.52 | 16.55 | 15.19 |
| 2300 | 15.42 | 15.68 | 15.81 | 15.12 | 15.33 | 16.66 | 14.53 |
| 2400 | 14.86 | 15.07 | 15.15 | 14.84 | 15.26 | 16.92 | 13.48 |
| 2500 | 14.65 | 14.84 | 14.90 | 14.77 | 15.31 | 17.19 | 12.93 |
| 2600 | 14.49 | 14.67 | 14.71 | 14.74 | 15.40 | 17.52 | 12.46 |
| 2700 | 14.37 | 14.53 | 14.55 | 14.74 | 15.52 | 17.91 | 12.08 |
| 2800 | 14.17 | 14.33 | 14.33 | 14.66 | 15.56 | 18.18 | 11.81 |
| 2900 | 13.95 | 14.09 | 14.07 | 14.56 | 15.57 | 18.42 | 11.66 |
| 3000 | 13.78 | 13.89 | 13.87 | 14.50 | 15.60 | 18.66 | 11.58 |
| 3200 | 13.65 | 13.69 | 13.62 | 14.56 | 15.81 | 19.05 | 11.35 |
| 3400 | 13.64 | 13.60 | 13.46 | 14.61 | 15.85 | 18.64 | 10.81 |
| 3600 | 13.68 | 13.56 | 13.32 | 14.53 | 15.62 | 17.54 | 9.73 |
| 3800 | 13.42 | 13.23 | 12.92 | 14.08 | 14.93 | 16.05 | 8.49 |
| 4000 | 13.27 | 13.08 | 12.72 | 13.81 | 14.45 | 15.07 | 8.41 |
| 4200 | 14.36 | 14.07 | 13.53 | 14.67 | 15.02 | 14.87 | 9.30 |
| 4400 | 16.94 | 16.24 | 15.27 | 16.71 | 16.38 | 14.84 | 10.96 |
| 4600 | 20.89 | 18.96 | 17.28 | 19.05 | 17.44 | 14.43 | 13.71 |
| 4800 | 23.44 | 20.20 | 18.32 | 19.65 | 17.21 | 13.62 | 17.84 |
| 5000 | 20.80 | 18.90 | 17.80 | 18.42 | 16.32 | 12.92 | 22.11 |

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Digital Step Attenuator

ZX76-15R5A-SP+

Typical Performance Data

TEST CONDITIONS: INPUT POWER=0 dBm, Vdd=+3V, TEMPERATURE=+85°C

| FREQUENCY (MHz) | OUTPUT RETURN LOSS AT TTL CONTROL STATE | | | | | | |
|--------------------|---|------------------|------------------|------------------|------------------|------------------|-------------------|
| | (dB) | | | | | | |
| | 000000 0 dB | 000001 0.5 dB | 000010 1.0 dB | 000100 2.0 dB | 001000 4.0 dB | 010000 8.0 dB | 011111 15.5 dB |
| 0.1 | 19.19 | 18.36 | 18.23 | 21.73 | 23.27 | 23.97 | 27.23 |
| 0.3 | 19.17 | 18.35 | 18.22 | 21.72 | 23.25 | 23.94 | 27.19 |
| 0.5 | 19.08 | 18.26 | 18.14 | 21.63 | 23.14 | 23.81 | 27.21 |
| 1 | 19.08 | 18.27 | 18.14 | 21.65 | 23.16 | 23.82 | 27.22 |
| 5 | 18.93 | 18.20 | 18.08 | 21.58 | 23.13 | 23.86 | 27.25 |
| 10 | 18.91 | 18.18 | 18.07 | 21.57 | 23.12 | 23.86 | 27.22 |
| 50 | 18.89 | 18.25 | 18.14 | 21.66 | 23.24 | 24.00 | 27.30 |
| 100 | 18.91 | 18.40 | 18.28 | 21.87 | 23.47 | 24.25 | 27.32 |
| 200 | 18.78 | 18.52 | 18.42 | 22.12 | 23.81 | 24.69 | 27.35 |
| 300 | 18.91 | 18.69 | 18.59 | 22.37 | 24.14 | 25.06 | 27.55 |
| 400 | 19.00 | 18.59 | 18.51 | 22.25 | 24.05 | 25.01 | 28.22 |
| 500 | 19.26 | 18.48 | 18.39 | 22.01 | 23.71 | 24.55 | 28.26 |
| 600 | 19.40 | 18.26 | 18.16 | 21.64 | 23.24 | 24.01 | 26.90 |
| 700 | 19.47 | 18.12 | 18.01 | 21.36 | 22.88 | 23.57 | 26.56 |
| 800 | 19.33 | 18.04 | 17.91 | 21.18 | 22.61 | 23.21 | 25.60 |
| 900 | 19.17 | 18.10 | 17.95 | 21.22 | 22.60 | 23.13 | 24.99 |
| 1000 | 18.98 | 18.14 | 17.99 | 21.23 | 22.56 | 23.02 | 24.26 |
| 1100 | 18.80 | 18.16 | 18.00 | 21.24 | 22.53 | 22.93 | 23.42 |
| 1200 | 18.87 | 18.26 | 18.09 | 21.34 | 22.60 | 22.92 | 22.41 |
| 1300 | 19.05 | 18.02 | 17.84 | 20.82 | 21.78 | 21.79 | 21.40 |
| 1400 | 19.07 | 17.95 | 17.69 | 20.50 | 21.18 | 20.93 | 20.32 |
| 1500 | 19.52 | 17.87 | 17.55 | 20.18 | 20.59 | 20.17 | 19.29 |
| 1600 | 19.56 | 17.88 | 17.49 | 19.96 | 20.13 | 19.63 | 18.37 |
| 1700 | 19.35 | 17.83 | 17.38 | 19.64 | 19.62 | 19.15 | 17.55 |
| 1800 | 19.32 | 17.67 | 17.19 | 19.23 | 19.10 | 18.78 | 16.81 |
| 1900 | 18.86 | 17.45 | 16.97 | 18.78 | 18.59 | 18.50 | 16.12 |
| 2000 | 18.69 | 17.17 | 16.72 | 18.27 | 18.12 | 18.35 | 15.53 |
| 2100 | 18.41 | 16.76 | 16.37 | 17.67 | 17.61 | 18.21 | 15.08 |
| 2200 | 18.00 | 16.29 | 15.98 | 17.05 | 17.11 | 18.16 | 14.77 |
| 2300 | 17.22 | 15.76 | 15.58 | 16.44 | 16.66 | 18.21 | 14.57 |
| 2400 | 16.71 | 15.21 | 15.15 | 15.85 | 16.23 | 18.32 | 14.47 |
| 2500 | 16.58 | 14.92 | 14.91 | 15.53 | 15.98 | 18.32 | 14.43 |
| 2600 | 16.44 | 14.63 | 14.66 | 15.21 | 15.73 | 18.32 | 14.38 |
| 2700 | 16.26 | 14.39 | 14.46 | 14.94 | 15.52 | 18.33 | 14.27 |
| 2800 | 16.04 | 14.14 | 14.25 | 14.68 | 15.31 | 18.34 | 14.13 |
| 2900 | 15.93 | 13.93 | 14.09 | 14.45 | 15.13 | 18.37 | 13.90 |
| 3000 | 15.75 | 13.76 | 13.95 | 14.25 | 14.98 | 18.40 | 13.73 |
| 3200 | 15.54 | 13.78 | 14.00 | 14.16 | 14.87 | 18.47 | 13.43 |
| 3400 | 15.77 | 14.11 | 14.34 | 14.25 | 14.93 | 18.58 | 13.27 |
| 3600 | 17.01 | 14.78 | 15.03 | 14.64 | 15.23 | 18.70 | 13.10 |
| 3800 | 19.28 | 16.01 | 16.28 | 15.29 | 15.64 | 18.30 | 13.09 |
| 4000 | 21.40 | 16.72 | 16.96 | 15.36 | 15.50 | 17.18 | 13.40 |
| 4200 | 21.67 | 17.51 | 17.69 | 15.53 | 15.42 | 16.20 | 14.41 |
| 4400 | 22.56 | 19.78 | 19.84 | 16.44 | 15.90 | 15.59 | 16.21 |
| 4600 | 25.28 | 24.29 | 23.81 | 17.81 | 16.62 | 15.00 | 18.63 |
| 4800 | 25.62 | 26.00 | 24.89 | 18.42 | 16.81 | 14.20 | 20.22 |
| 5000 | 21.48 | 21.95 | 21.71 | 18.06 | 16.62 | 13.56 | 18.98 |

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at www.minicircuits.com/MC_Store/terms.jsp

