

Amplifier

ZX60-V81-S+

Typical Performance Data

**NOTE: Use PDF Bookmarks to view DATA at required conditions
or to view GRAPHS.**

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: I = 69mA, Vd = 5V @Temperature = +25degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP3 Output | 1dB Comp. Output | Noise Figure |
|-------|-------|-----------|-------------------|--------------------|-----------|-------|------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 20 | 10.57 | 20.80 | 21.06 | 15.98 | 1.73 | 0.32 | 38.23 | 17.89 | 7.24 |
| 100 | 10.47 | 20.47 | 26.74 | 27.48 | 1.73 | 0.32 | 40.29 | 18.64 | 7.53 |
| 220 | 10.49 | 20.46 | 26.73 | 28.32 | 1.73 | 0.32 | 39.74 | 18.76 | 7.61 |
| 300 | 10.48 | 20.48 | 26.73 | 29.31 | 1.73 | 0.31 | 39.75 | 18.90 | 7.66 |
| 420 | 10.39 | 20.55 | 26.60 | 29.23 | 1.76 | 0.31 | 39.27 | 18.93 | 7.70 |
| 620 | 10.38 | 20.51 | 25.33 | 27.28 | 1.75 | 0.31 | 38.60 | 18.90 | 7.74 |
| 820 | 10.29 | 20.57 | 24.68 | 25.85 | 1.77 | 0.30 | 38.13 | 18.87 | 7.76 |
| 1000 | 10.24 | 20.59 | 23.81 | 24.39 | 1.78 | 0.30 | 37.75 | 18.59 | 7.78 |
| 1220 | 10.14 | 20.62 | 22.92 | 22.84 | 1.80 | 0.29 | 37.42 | 18.57 | 7.80 |
| 1420 | 10.04 | 20.67 | 22.40 | 21.86 | 1.82 | 0.29 | 37.20 | 18.56 | 7.80 |
| 1500 | 9.99 | 20.70 | 22.18 | 21.41 | 1.83 | 0.29 | 37.09 | 17.45 | 7.79 |
| 1620 | 9.93 | 20.70 | 21.75 | 20.74 | 1.84 | 0.28 | 37.08 | 18.67 | 7.79 |
| 1820 | 9.83 | 20.78 | 21.33 | 20.01 | 1.87 | 0.28 | 36.59 | 19.05 | 7.79 |
| 2000 | 9.72 | 20.82 | 20.89 | 19.20 | 1.89 | 0.27 | 36.32 | 18.60 | 7.82 |
| 2220 | 9.60 | 20.87 | 20.51 | 18.40 | 1.91 | 0.26 | 36.02 | 19.31 | 7.84 |
| 2420 | 9.49 | 20.95 | 20.45 | 17.83 | 1.94 | 0.26 | 35.71 | 19.12 | 7.85 |
| 2620 | 9.36 | 20.98 | 20.35 | 17.39 | 1.97 | 0.25 | 35.45 | 19.33 | 7.88 |
| 2820 | 9.25 | 21.04 | 20.15 | 16.95 | 2.00 | 0.24 | 35.25 | 19.09 | 7.91 |
| 3000 | 9.17 | 21.06 | 20.39 | 16.55 | 2.02 | 0.24 | 35.01 | 19.02 | 7.90 |
| 3220 | 9.04 | 21.13 | 20.58 | 16.25 | 2.06 | 0.23 | 34.61 | 19.24 | 7.86 |
| 3420 | 8.96 | 21.17 | 21.16 | 16.00 | 2.08 | 0.23 | 34.24 | 18.90 | 7.88 |
| 3620 | 8.85 | 21.23 | 21.51 | 15.96 | 2.12 | 0.23 | 34.14 | 18.82 | 7.90 |
| 3820 | 8.76 | 21.27 | 22.19 | 15.97 | 2.15 | 0.22 | 33.98 | 18.87 | 7.93 |
| 4000 | 8.67 | 21.35 | 22.87 | 15.99 | 2.19 | 0.22 | 33.82 | 18.77 | 7.96 |
| 4220 | 8.59 | 21.36 | 23.28 | 15.99 | 2.22 | 0.22 | 33.60 | 18.41 | 8.00 |
| 4420 | 8.49 | 21.40 | 22.71 | 15.79 | 2.25 | 0.22 | 33.17 | 18.47 | 8.05 |
| 4620 | 8.39 | 21.45 | 21.37 | 15.65 | 2.28 | 0.22 | 32.96 | 18.41 | 8.12 |
| 4820 | 8.27 | 21.51 | 19.37 | 15.18 | 2.31 | 0.22 | 32.52 | 18.29 | 8.20 |
| 5000 | 8.14 | 21.57 | 17.60 | 14.62 | 2.34 | 0.22 | 32.35 | 18.12 | 8.28 |
| 5220 | 7.95 | 21.68 | 15.44 | 13.61 | 2.37 | 0.22 | 31.97 | 17.92 | 8.38 |
| 5420 | 7.75 | 21.75 | 13.68 | 12.62 | 2.39 | 0.23 | 31.68 | 17.83 | 8.41 |
| 5620 | 7.53 | 21.90 | 12.28 | 11.74 | 2.42 | 0.23 | 31.45 | 17.40 | 8.50 |
| 5820 | 7.26 | 22.01 | 11.07 | 10.98 | 2.45 | 0.23 | 31.20 | 17.21 | 8.63 |
| 6000 | 7.01 | 22.18 | 10.03 | 10.30 | 2.48 | 0.24 | 30.83 | 16.84 | 8.73 |
| 6220 | 6.65 | 22.29 | 9.04 | 9.64 | 2.50 | 0.24 | 30.57 | 16.35 | 8.85 |
| 6420 | 6.30 | 22.49 | 8.14 | 9.13 | 2.53 | 0.25 | 30.36 | 15.99 | 8.96 |
| 6620 | 5.92 | 22.63 | 7.48 | 8.71 | 2.57 | 0.25 | 29.90 | 15.96 | 9.08 |
| 7000 | 5.12 | 23.02 | 6.48 | 8.16 | 2.69 | 0.25 | 29.40 | 15.67 | 9.46 |



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Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: I = 69mA, Vd = 5V @Temperature = -40degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP3 Output | 1dB Comp. Output | Noise Figure |
|-------|-------|-----------|-------------------|--------------------|-----------|-------|------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 20 | 10.42 | 20.65 | 22.52 | 17.66 | 1.75 | 0.32 | 39.20 | 17.84 | 7.12 |
| 100 | 10.52 | 20.49 | 27.99 | 26.53 | 1.73 | 0.32 | 39.77 | 18.74 | 6.89 |
| 220 | 10.54 | 20.45 | 29.48 | 25.81 | 1.72 | 0.32 | 40.28 | 18.69 | 6.86 |
| 300 | 10.52 | 20.48 | 28.25 | 27.47 | 1.73 | 0.32 | 40.24 | 18.76 | 6.88 |
| 420 | 10.45 | 20.52 | 27.00 | 30.31 | 1.74 | 0.31 | 39.87 | 18.81 | 6.91 |
| 620 | 10.45 | 20.49 | 25.04 | 27.41 | 1.74 | 0.31 | 39.12 | 18.79 | 6.94 |
| 820 | 10.36 | 20.53 | 25.16 | 25.18 | 1.75 | 0.31 | 38.64 | 18.79 | 6.96 |
| 1000 | 10.32 | 20.54 | 24.21 | 24.12 | 1.76 | 0.30 | 38.29 | 18.67 | 6.99 |
| 1220 | 10.23 | 20.56 | 23.49 | 22.89 | 1.77 | 0.30 | 37.97 | 18.63 | 6.99 |
| 1420 | 10.14 | 20.58 | 22.36 | 22.58 | 1.79 | 0.29 | 37.75 | 18.69 | 6.98 |
| 1500 | 10.09 | 20.61 | 22.05 | 22.18 | 1.80 | 0.29 | 37.75 | 17.63 | 6.97 |
| 1620 | 10.03 | 20.63 | 21.51 | 21.47 | 1.81 | 0.29 | 37.92 | 18.90 | 6.98 |
| 1820 | 9.92 | 20.68 | 21.25 | 20.61 | 1.83 | 0.28 | 37.22 | 19.09 | 6.98 |
| 2000 | 9.84 | 20.67 | 21.24 | 20.02 | 1.84 | 0.28 | 36.95 | 18.76 | 6.98 |
| 2220 | 9.70 | 20.77 | 21.25 | 18.73 | 1.88 | 0.27 | 36.75 | 19.22 | 7.00 |
| 2420 | 9.58 | 20.79 | 20.75 | 17.86 | 1.90 | 0.26 | 36.38 | 19.11 | 7.01 |
| 2620 | 9.46 | 20.89 | 20.64 | 16.90 | 1.93 | 0.26 | 36.16 | 19.27 | 7.04 |
| 2820 | 9.35 | 20.90 | 20.55 | 16.50 | 1.95 | 0.25 | 36.06 | 19.10 | 7.05 |
| 3000 | 9.26 | 20.95 | 20.86 | 16.22 | 1.97 | 0.25 | 35.85 | 19.05 | 6.99 |
| 3220 | 9.15 | 21.01 | 21.18 | 16.01 | 2.01 | 0.24 | 35.40 | 19.34 | 6.92 |
| 3420 | 9.07 | 21.03 | 21.37 | 16.12 | 2.03 | 0.24 | 35.11 | 18.98 | 6.93 |
| 3620 | 8.98 | 21.09 | 21.50 | 16.28 | 2.07 | 0.24 | 35.01 | 18.92 | 6.94 |
| 3820 | 8.90 | 21.12 | 21.62 | 16.89 | 2.10 | 0.23 | 34.90 | 19.05 | 6.96 |
| 4000 | 8.83 | 21.14 | 22.47 | 16.64 | 2.12 | 0.23 | 34.72 | 19.01 | 6.99 |
| 4220 | 8.74 | 21.19 | 23.73 | 16.58 | 2.15 | 0.23 | 34.55 | 18.64 | 7.05 |
| 4420 | 8.65 | 21.22 | 23.42 | 16.07 | 2.18 | 0.23 | 34.13 | 18.66 | 7.12 |
| 4620 | 8.55 | 21.26 | 22.03 | 15.85 | 2.20 | 0.23 | 33.97 | 18.60 | 7.20 |
| 4820 | 8.43 | 21.33 | 19.67 | 15.19 | 2.24 | 0.23 | 33.45 | 18.47 | 7.23 |
| 5000 | 8.29 | 21.42 | 17.75 | 14.16 | 2.26 | 0.23 | 33.29 | 18.29 | 7.29 |
| 5220 | 8.10 | 21.51 | 14.90 | 13.24 | 2.29 | 0.24 | 32.84 | 18.24 | 7.40 |
| 5420 | 7.91 | 21.64 | 13.26 | 12.30 | 2.31 | 0.24 | 32.53 | 18.06 | 7.48 |
| 5620 | 7.71 | 21.70 | 11.87 | 11.85 | 2.32 | 0.24 | 32.38 | 17.72 | 7.56 |
| 5820 | 7.50 | 21.84 | 11.43 | 10.97 | 2.36 | 0.24 | 32.04 | 17.66 | 7.65 |
| 6000 | 7.25 | 21.95 | 10.49 | 10.13 | 2.38 | 0.25 | 31.71 | 17.22 | 7.78 |
| 6220 | 6.99 | 22.03 | 9.22 | 9.60 | 2.36 | 0.26 | 31.36 | 16.72 | 7.89 |
| 6420 | 6.71 | 22.16 | 8.62 | 9.30 | 2.40 | 0.25 | 31.14 | 16.55 | 7.94 |
| 6620 | 6.42 | 22.27 | 8.05 | 8.62 | 2.40 | 0.26 | 30.60 | 16.58 | 8.09 |
| 6820 | 6.05 | 22.47 | 7.17 | 8.07 | 2.41 | 0.27 | 30.45 | 15.95 | 8.29 |
| 7000 | 5.67 | 22.67 | 6.53 | 7.73 | 2.44 | 0.28 | 30.15 | 15.94 | 8.43 |



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Typical Performance Data

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: I = 73mA, Vd = 5V @Temperature = +85degC

| FREQ | Gain | Isolation | Input Return Loss | Output Return Loss | Stability | | IP3 Output | 1dB Comp. Output | Noise Figure |
|-------|-------|-----------|-------------------|--------------------|-----------|-------|------------|------------------|--------------|
| | | | | | K | Delta | | | |
| (MHz) | (dB) | (dB) | (dB) | (dB) | K | Delta | (dBm) | (dBm) | (dB) |
| 20 | 10.04 | 20.90 | 22.37 | 15.91 | 1.85 | 0.30 | 37.55 | 17.81 | 8.52 |
| 100 | 10.40 | 20.46 | 25.45 | 27.42 | 1.74 | 0.31 | 39.81 | 18.85 | 8.31 |
| 220 | 10.43 | 20.45 | 24.27 | 32.02 | 1.73 | 0.31 | 39.26 | 18.80 | 8.31 |
| 300 | 10.41 | 20.47 | 24.68 | 33.08 | 1.74 | 0.31 | 39.26 | 18.92 | 8.35 |
| 420 | 10.33 | 20.52 | 26.03 | 29.77 | 1.76 | 0.31 | 38.82 | 18.96 | 8.39 |
| 620 | 10.32 | 20.49 | 24.71 | 26.66 | 1.76 | 0.31 | 38.10 | 18.95 | 8.42 |
| 820 | 10.22 | 20.57 | 24.40 | 25.06 | 1.78 | 0.30 | 37.60 | 18.90 | 8.45 |
| 1000 | 10.17 | 20.58 | 23.63 | 24.09 | 1.79 | 0.30 | 37.20 | 18.57 | 8.47 |
| 1220 | 10.07 | 20.64 | 22.82 | 22.73 | 1.81 | 0.29 | 36.78 | 18.56 | 8.48 |
| 1420 | 9.98 | 20.67 | 22.57 | 21.72 | 1.83 | 0.29 | 36.53 | 18.53 | 8.48 |
| 1500 | 9.93 | 20.70 | 22.26 | 21.15 | 1.84 | 0.28 | 36.42 | 17.44 | 8.49 |
| 1620 | 9.87 | 20.72 | 21.96 | 20.58 | 1.85 | 0.28 | 36.41 | 18.47 | 8.49 |
| 1820 | 9.76 | 20.77 | 21.43 | 19.79 | 1.88 | 0.27 | 35.78 | 18.84 | 8.51 |
| 2000 | 9.67 | 20.82 | 20.82 | 19.16 | 1.90 | 0.27 | 35.44 | 18.63 | 8.52 |
| 2220 | 9.53 | 20.90 | 20.42 | 18.33 | 1.93 | 0.26 | 35.13 | 19.25 | 8.55 |
| 2420 | 9.41 | 20.93 | 20.18 | 17.57 | 1.95 | 0.25 | 34.77 | 19.06 | 8.57 |
| 2620 | 9.29 | 21.01 | 19.82 | 17.15 | 1.98 | 0.25 | 34.47 | 19.23 | 8.60 |
| 2820 | 9.18 | 21.04 | 19.42 | 16.88 | 2.01 | 0.24 | 34.30 | 18.98 | 8.63 |
| 3000 | 9.08 | 21.15 | 19.46 | 16.45 | 2.05 | 0.23 | 34.02 | 18.92 | 8.59 |
| 3220 | 8.95 | 21.20 | 19.61 | 16.05 | 2.08 | 0.23 | 33.64 | 19.03 | 8.55 |
| 3420 | 8.85 | 21.28 | 19.97 | 15.71 | 2.12 | 0.22 | 33.29 | 18.71 | 8.55 |
| 3620 | 8.76 | 21.31 | 20.51 | 15.68 | 2.15 | 0.22 | 33.15 | 18.65 | 8.57 |
| 3820 | 8.66 | 21.35 | 21.40 | 15.79 | 2.18 | 0.22 | 33.00 | 18.70 | 8.61 |
| 4000 | 8.57 | 21.39 | 22.16 | 15.50 | 2.21 | 0.22 | 32.82 | 18.54 | 8.66 |
| 4220 | 8.46 | 21.43 | 22.15 | 15.56 | 2.25 | 0.21 | 32.66 | 18.13 | 8.72 |
| 4420 | 8.37 | 21.48 | 21.90 | 15.32 | 2.28 | 0.21 | 32.24 | 18.21 | 8.77 |
| 4620 | 8.26 | 21.51 | 20.60 | 15.37 | 2.31 | 0.21 | 31.97 | 18.05 | 8.84 |
| 4820 | 8.11 | 21.58 | 18.57 | 14.83 | 2.35 | 0.21 | 31.60 | 18.01 | 8.90 |
| 5000 | 7.96 | 21.65 | 16.73 | 14.36 | 2.38 | 0.21 | 31.45 | 17.84 | 8.97 |
| 5220 | 7.77 | 21.73 | 15.02 | 13.58 | 2.42 | 0.21 | 31.08 | 17.51 | 9.06 |
| 5420 | 7.58 | 21.82 | 13.64 | 12.79 | 2.45 | 0.21 | 30.83 | 17.59 | 9.13 |
| 5620 | 7.35 | 21.90 | 12.33 | 12.09 | 2.47 | 0.22 | 30.59 | 17.05 | 9.25 |
| 5820 | 7.06 | 22.05 | 10.81 | 11.01 | 2.49 | 0.22 | 30.45 | 16.81 | 9.40 |
| 6000 | 6.77 | 22.19 | 9.74 | 10.31 | 2.52 | 0.23 | 30.02 | 16.38 | 9.53 |
| 6220 | 6.40 | 22.36 | 8.83 | 9.48 | 2.55 | 0.24 | 29.78 | 16.09 | 9.68 |
| 6420 | 6.01 | 22.55 | 7.95 | 8.98 | 2.59 | 0.24 | 29.59 | 15.62 | 9.81 |
| 6620 | 5.57 | 22.76 | 7.15 | 8.31 | 2.61 | 0.25 | 29.18 | 15.38 | 10.01 |
| 6820 | 5.11 | 22.94 | 6.48 | 7.98 | 2.65 | 0.25 | 29.12 | 15.30 | 10.21 |
| 7000 | 4.71 | 23.06 | 6.23 | 7.93 | 2.74 | 0.25 | 28.84 | 15.04 | 10.34 |



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