

MRF158



The Broadband RF TMOS® Line 2W, 500MHz, 28V

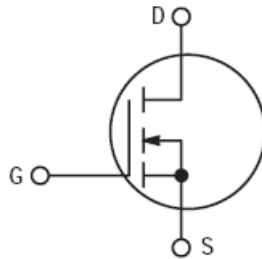
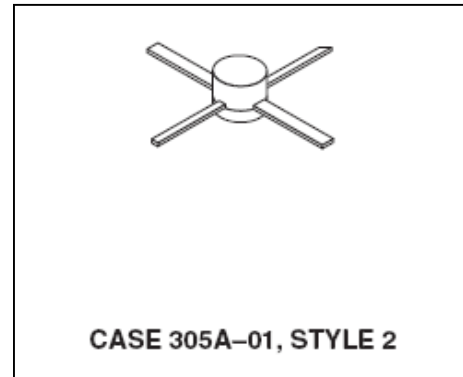
M/A-COM Products
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Designed for wideband large signal amplifier and oscillator applications to 500MHz

N-Channel enhancement mode

- Guaranteed 28 volt, 500 MHz performance
Output power = 2.0 watts
Minimum gain = 16 dB (Min.)
Efficiency = 55% (Typ.)
- Facilitates manual gain control, ALC and modulation techniques
- 100% tested for load mismatch at all phase angles with 30:1 VSWR
- Excellent thermal stability ideally suited for Class A operation

Product Image



MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--|-----------|-------------|-------------------------------------|
| Drain-Source Voltage | V_{DSS} | 65 | Vdc |
| Drain-Gate Voltage ($R_{GS} = 1.0 \text{ M}\Omega$) | V_{DGR} | 65 | Vdc |
| Gate-Source Voltage | V_{GS} | ± 20 | Vdc |
| Drain Current — Continuous | I_D | 0.5 | Adc |
| Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C | P_D | 8.0 45 | Watts $\text{mW}/^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Operating Junction Temperature | T_J | 200 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max | Unit |
|--------------------------------------|-----------------|------|---------------------------|
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 13.2 | $^\circ\text{C}/\text{W}$ |

NOTE — CAUTION — MOS devices are susceptible to damage from electrostatic charge. Reasonable precautions in handling and packaging MOS devices should be observed.

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ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted.)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|----------------|--------|-----|-----|-----|------|
|----------------|--------|-----|-----|-----|------|

OFF CHARACTERISTICS

| | | | | | |
|---|----------------------|----|---|-----|------|
| Drain–Source Breakdown Voltage (V _{GS} = 0, I _D = 1.0 mA) | V _{(BR)DSS} | 65 | — | — | Vdc |
| Zero Gate Voltage Drain Current (V _{DS} = 28 V, V _{GS} = 0) | I _{DSS} | — | — | 0.5 | mAdc |
| Gate–Source Leakage Current (V _{GS} = 20 V, V _{DS} = 0) | I _{GSS} | — | — | 1.0 | μAdc |

ON CHARACTERISTICS

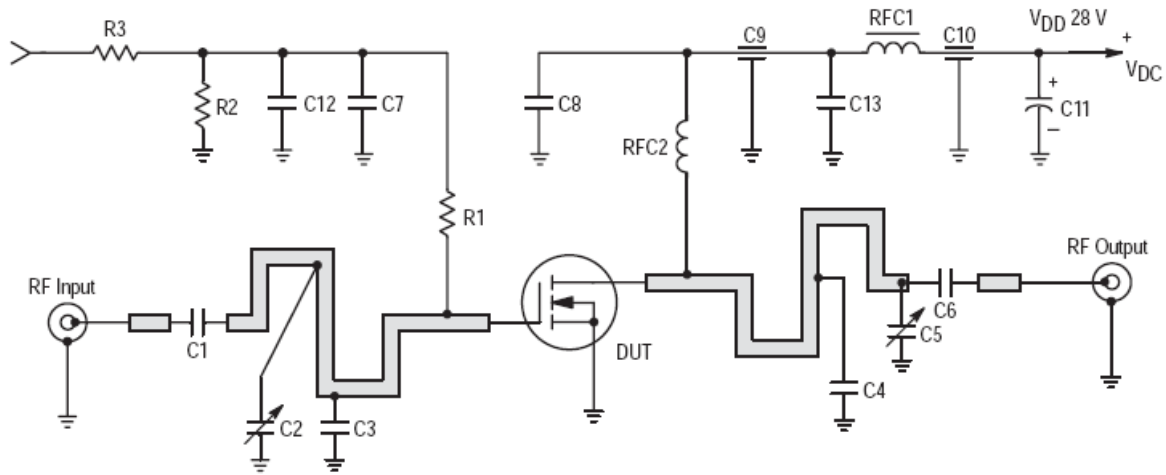
| | | | | | |
|--|---------------------|-----|-----|-----|-------|
| Gate Threshold Voltage (I _D = 10 mA, V _{DS} = 10 V) | V _{GS(th)} | 2.0 | 4.0 | 5.0 | Vdc |
| Forward Transconductance (V _{DS} = 10 V, I _D = 100 mA) | g _{fs} | 80 | 110 | — | mmhos |

DYNAMIC CHARACTERISTICS

| | | | | | |
|---|------------------|---|------|---|----|
| Input Capacitance (V _{DS} = 28 V, V _{GS} = 0, f = 1.0 MHz) | C _{iss} | — | 3.0 | — | pF |
| Output Capacitance (V _{DS} = 28 V, V _{GS} = 0, f = 1.0 MHz) | C _{OSS} | — | 4.0 | — | pF |
| Reverse Transfer Capacitance (V _{DS} = 28 V, V _{GS} = 0, f = 1.0 MHz) | C _{rSS} | — | 0.45 | — | pF |

FUNCTIONAL CHARACTERISTICS (Figure 1)

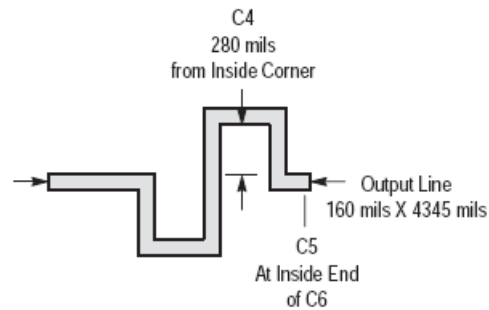
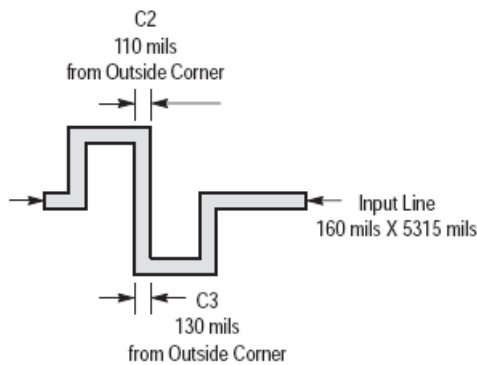
| | | | | | |
|--|------------------|--------------------------------|-------------|---|------|
| Common Source Power Gain (V _{DD} = 28 Vdc, P _{out} = 2.0 W, f = 500 MHz, I _{DQ} = 25 mA) | G _{ps} | 16 | 18 | — | dB |
| Drain Efficiency (Figure 1) (V _{DD} = 28 Vdc, P _{out} = 2.0 W, f = 500 MHz, I _{DQ} = 25 mA) | η | 50 | 55 | — | % |
| Electrical Ruggedness (Figure 1) (V _{DD} = 28 Vdc, P _{out} = 2.0 W, f = 500 MHz, I _{DQ} = 25 mA, VSWR 30:1 at all Phase Angles) | ψ | No Degradation in Output Power | | | |
| Series Equivalent Input Impedance (V _{DD} = 28 V, P _{out} = 2.0 W, f = 500 MHz, I _{DQ} = 25 mA) | Z _{in} | — | 5.9 – j19.4 | — | Ohms |
| Series Equivalent Output Impedance (V _{DD} = 28 V, P _{out} = 2.0 W, f = 500 MHz, I _{DQ} = 25 mA) | Z _{out} | — | 14.5 – j29 | — | Ohms |



- C1, C6, C12 270 pF, Chip Capacitors
- C2, C5 1–10 pF, Johanson Trimmer Capacitors
- C3 30 pF, 100 mil ATC Chip Capacitor
- C4 3.9 pF, 100 mil ATC Chip Capacitor
- C7, C8 0.1 μ F, Blue Capacitors
- C9, C10 680 pF, Feed Through Capacitors
- C11 50 μ F, 50 V Electrolytic Capacitor
- C13 240 pF, 100 mil ATC Chip Capacitor

- R1 150 Ω , 1/2 Watt
- R2 10 k Ω , 1/2 Watt
- R3 1 k Ω , 1/2 Watt
- RFC1 Ferroxcube VK200–19/4B
- RFC2 8 Turns, #20 AWG, Enameled, ID 110 mils

Board Material — 0.062", Teflon® Fiberglass, 1 oz.,
Copper clad both sides, $\epsilon_r = 2.55$



NOTE: Due to variation in Chip Capacitor values and board material, these are approximate positions.

Figure 1. MRF158 500 MHz Test Circuit

MRF158



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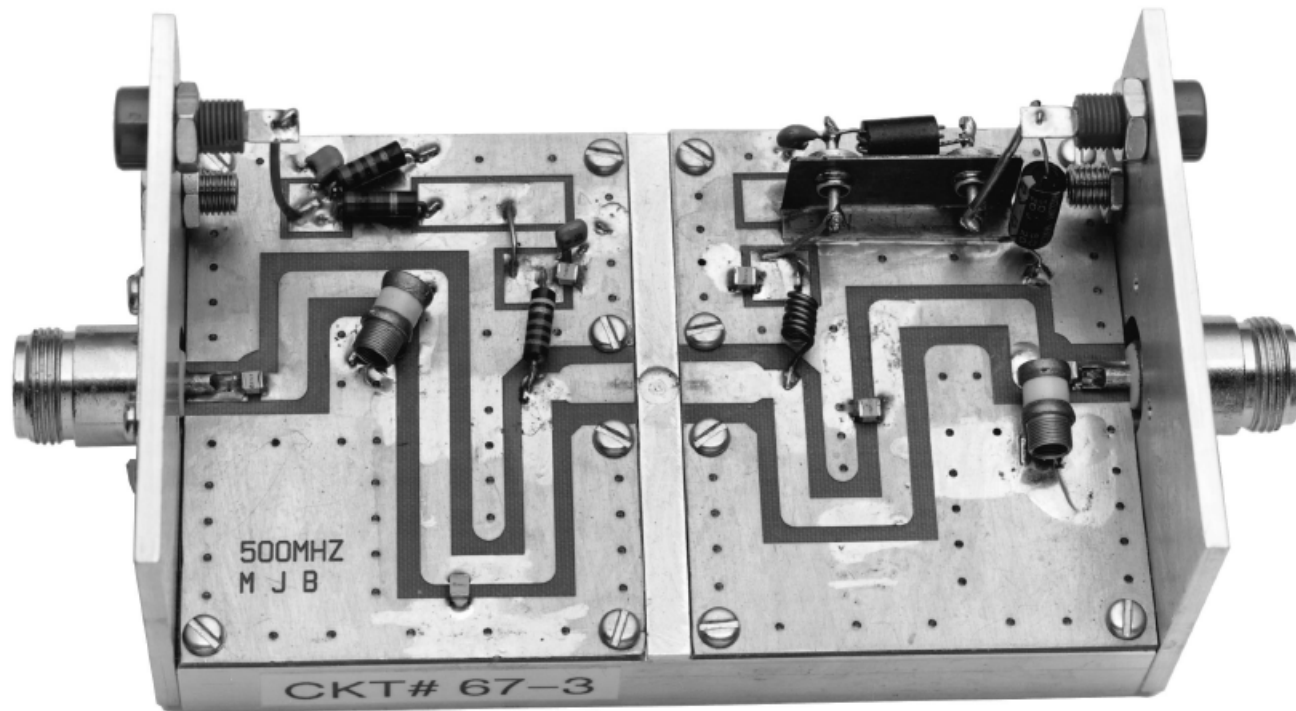


Figure 2. MRF158 Broadband Test Fixture

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TYPICAL CHARACTERISTICS

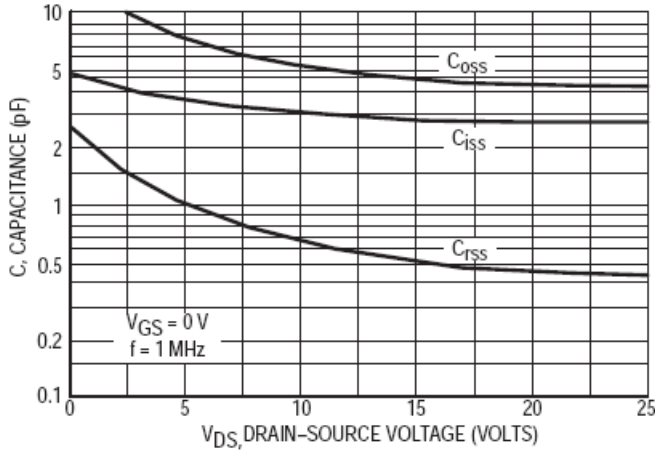


Figure 3. Capacitance versus Drain-Source Voltage

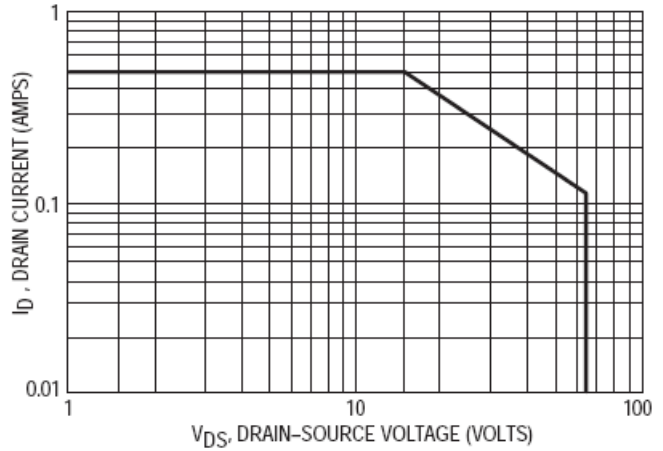


Figure 4. DC Safe Operating Area

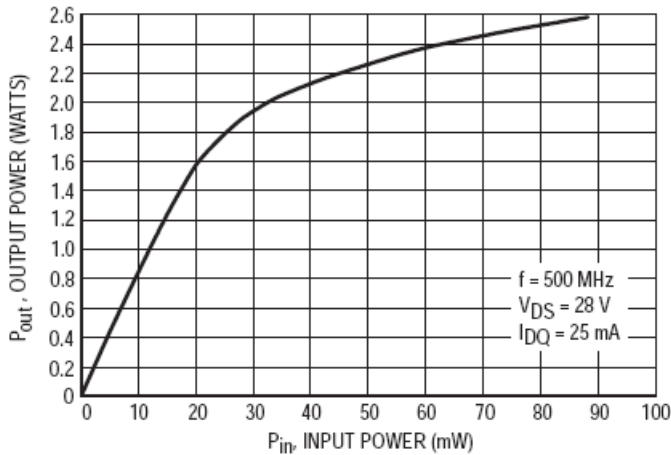


Figure 5. Output Power versus Input Power

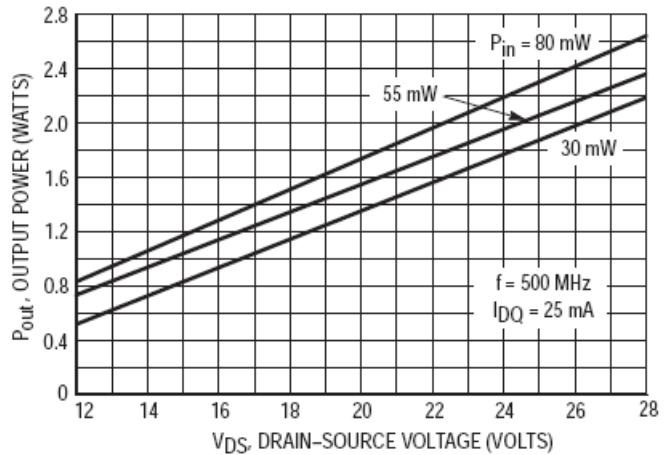


Figure 6. Output Power versus Voltage

Table 1. Common Source S-Parameters ($V_{DS} = 13\text{ V}$, $I_D = 100\text{ mA}$)

| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|-----|-----------------|-----|-----------------|----|-----------------|-----|
| | S ₁₁ | ∠ | S ₂₁ | ∠ | S ₁₂ | ∠ | S ₂₂ | ∠ |
| 5 | 1.000 | -2 | 9.45 | 179 | 0.000 | 89 | 0.965 | -1 |
| 10 | 0.997 | -4 | 9.45 | 177 | 0.005 | 92 | 0.969 | -3 |
| 15 | 0.999 | -5 | 9.50 | 176 | 0.007 | 86 | 0.962 | -5 |
| 20 | 0.997 | -7 | 9.45 | 174 | 0.009 | 91 | 0.958 | -6 |
| 25 | 0.997 | -9 | 9.44 | 173 | 0.012 | 88 | 0.958 | -7 |
| 30 | 0.996 | -10 | 9.40 | 172 | 0.014 | 82 | 0.960 | -8 |
| 35 | 0.994 | -12 | 9.38 | 170 | 0.016 | 78 | 0.956 | -10 |
| 40 | 0.993 | -14 | 9.35 | 169 | 0.016 | 77 | 0.958 | -11 |
| 45 | 0.990 | -15 | 9.34 | 167 | 0.020 | 79 | 0.957 | -12 |
| 50 | 0.988 | -17 | 9.29 | 166 | 0.021 | 76 | 0.957 | -14 |
| 55 | 0.985 | -19 | 9.25 | 165 | 0.023 | 77 | 0.955 | -15 |
| 60 | 0.983 | -21 | 9.26 | 163 | 0.026 | 75 | 0.952 | -17 |
| 65 | 0.980 | -22 | 9.19 | 162 | 0.028 | 74 | 0.947 | -18 |
| 70 | 0.977 | -24 | 9.15 | 160 | 0.029 | 74 | 0.943 | -20 |
| 75 | 0.973 | -25 | 9.11 | 159 | 0.031 | 74 | 0.942 | -21 |
| 80 | 0.970 | -27 | 9.04 | 158 | 0.034 | 70 | 0.935 | -22 |
| 85 | 0.967 | -29 | 8.98 | 157 | 0.035 | 71 | 0.932 | -24 |
| 90 | 0.963 | -30 | 8.91 | 155 | 0.037 | 67 | 0.929 | -25 |
| 95 | 0.961 | -32 | 8.90 | 154 | 0.039 | 68 | 0.924 | -26 |
| 100 | 0.957 | -33 | 8.81 | 153 | 0.040 | 67 | 0.917 | -27 |
| 105 | 0.953 | -35 | 8.77 | 151 | 0.041 | 64 | 0.916 | -28 |
| 109 | 0.950 | -36 | 8.69 | 150 | 0.042 | 65 | 0.914 | -30 |
| 114 | 0.943 | -38 | 8.62 | 149 | 0.045 | 63 | 0.906 | -31 |
| 119 | 0.940 | -40 | 8.56 | 148 | 0.045 | 62 | 0.907 | -32 |
| 124 | 0.933 | -41 | 8.49 | 146 | 0.049 | 61 | 0.901 | -33 |
| 129 | 0.933 | -43 | 8.46 | 145 | 0.049 | 60 | 0.901 | -35 |
| 134 | 0.923 | -44 | 8.37 | 144 | 0.052 | 59 | 0.896 | -36 |
| 139 | 0.921 | -45 | 8.29 | 143 | 0.052 | 58 | 0.890 | -37 |
| 144 | 0.917 | -47 | 8.22 | 142 | 0.055 | 57 | 0.885 | -39 |
| 149 | 0.913 | -48 | 8.16 | 140 | 0.055 | 55 | 0.878 | -40 |

Table 1. Common Source S-Parameters ($V_{DS} = 13\text{ V}$, $I_D = 100\text{ mA}$)

| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|-----|-----------------|-----|-----------------|----|-----------------|-----|
| | S ₁₁ | ∠ | S ₂₁ | ∠ | S ₁₂ | ∠ | S ₂₂ | ∠ |
| 154 | 0.911 | -50 | 8.11 | 140 | 0.057 | 53 | 0.874 | -41 |
| 159 | 0.905 | -51 | 8.02 | 138 | 0.059 | 54 | 0.868 | -42 |
| 164 | 0.902 | -52 | 7.94 | 137 | 0.059 | 53 | 0.863 | -43 |
| 169 | 0.896 | -54 | 7.87 | 136 | 0.062 | 52 | 0.856 | -44 |
| 174 | 0.893 | -55 | 7.79 | 135 | 0.063 | 50 | 0.851 | -45 |
| 179 | 0.890 | -56 | 7.71 | 134 | 0.062 | 50 | 0.846 | -46 |
| 184 | 0.882 | -58 | 7.64 | 133 | 0.065 | 48 | 0.845 | -47 |
| 189 | 0.881 | -59 | 7.59 | 132 | 0.065 | 47 | 0.840 | -48 |
| 194 | 0.874 | -60 | 7.53 | 131 | 0.066 | 47 | 0.834 | -49 |
| 199 | 0.868 | -61 | 7.43 | 130 | 0.067 | 47 | 0.828 | -50 |
| 204 | 0.864 | -62 | 7.36 | 129 | 0.068 | 46 | 0.829 | -51 |
| 209 | 0.861 | -63 | 7.31 | 128 | 0.070 | 45 | 0.824 | -52 |
| 214 | 0.856 | -65 | 7.24 | 127 | 0.070 | 44 | 0.820 | -53 |
| 219 | 0.853 | -66 | 7.17 | 126 | 0.070 | 43 | 0.813 | -54 |
| 224 | 0.848 | -67 | 7.10 | 125 | 0.072 | 41 | 0.806 | -55 |
| 229 | 0.847 | -68 | 7.02 | 124 | 0.074 | 41 | 0.803 | -56 |
| 234 | 0.841 | -69 | 6.94 | 124 | 0.075 | 40 | 0.800 | -57 |
| 239 | 0.839 | -70 | 6.92 | 122 | 0.074 | 39 | 0.789 | -58 |
| 244 | 0.832 | -71 | 6.80 | 122 | 0.076 | 40 | 0.783 | -59 |
| 249 | 0.828 | -72 | 6.73 | 121 | 0.077 | 38 | 0.780 | -60 |
| 254 | 0.825 | -73 | 6.68 | 120 | 0.077 | 39 | 0.778 | -60 |
| 259 | 0.820 | -74 | 6.60 | 119 | 0.078 | 36 | 0.772 | -61 |
| 264 | 0.816 | -75 | 6.54 | 118 | 0.078 | 35 | 0.769 | -62 |
| 269 | 0.813 | -76 | 6.48 | 117 | 0.078 | 36 | 0.765 | -63 |
| 274 | 0.810 | -77 | 6.42 | 117 | 0.079 | 34 | 0.765 | -64 |
| 279 | 0.806 | -78 | 6.34 | 116 | 0.080 | 35 | 0.762 | -64 |
| 284 | 0.799 | -79 | 6.29 | 115 | 0.080 | 34 | 0.757 | -65 |
| 289 | 0.800 | -80 | 6.23 | 114 | 0.081 | 31 | 0.756 | -66 |
| 294 | 0.795 | -81 | 6.18 | 113 | 0.081 | 33 | 0.753 | -67 |
| 299 | 0.789 | -82 | 6.12 | 113 | 0.084 | 31 | 0.750 | -67 |
| 304 | 0.791 | -83 | 6.07 | 112 | 0.082 | 31 | 0.742 | -68 |
| 308 | 0.790 | -84 | 5.99 | 111 | 0.084 | 30 | 0.742 | -69 |
| 313 | 0.787 | -85 | 5.95 | 110 | 0.084 | 29 | 0.737 | -70 |

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| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|------|-----------------|-----|-----------------|----|-----------------|-----|
| | S ₁₁ | ∠ | S ₂₁ | ∠ | S ₁₂ | ∠ | S ₂₂ | ∠ |
| 318 | 0.784 | -85 | 5.88 | 109 | 0.083 | 30 | 0.729 | -70 |
| 323 | 0.779 | -86 | 5.80 | 109 | 0.084 | 28 | 0.726 | -71 |
| 328 | 0.778 | -87 | 5.77 | 108 | 0.085 | 27 | 0.723 | -72 |
| 333 | 0.773 | -88 | 5.69 | 107 | 0.085 | 28 | 0.720 | -72 |
| 338 | 0.771 | -89 | 5.64 | 107 | 0.084 | 26 | 0.716 | -73 |
| 343 | 0.766 | -89 | 5.60 | 106 | 0.086 | 25 | 0.716 | -74 |
| 348 | 0.766 | -90 | 5.55 | 106 | 0.086 | 25 | 0.712 | -74 |
| 353 | 0.763 | -91 | 5.50 | 105 | 0.086 | 24 | 0.708 | -75 |
| 358 | 0.761 | -92 | 5.43 | 104 | 0.086 | 24 | 0.708 | -75 |
| 363 | 0.761 | -93 | 5.41 | 104 | 0.086 | 24 | 0.706 | -76 |
| 368 | 0.755 | -94 | 5.35 | 103 | 0.086 | 23 | 0.702 | -77 |
| 373 | 0.753 | -94 | 5.29 | 102 | 0.087 | 23 | 0.704 | -77 |
| 378 | 0.752 | -95 | 5.25 | 101 | 0.086 | 23 | 0.700 | -78 |
| 383 | 0.750 | -96 | 5.20 | 101 | 0.087 | 22 | 0.697 | -79 |
| 388 | 0.747 | -96 | 5.15 | 100 | 0.089 | 21 | 0.692 | -79 |
| 393 | 0.742 | -97 | 5.08 | 100 | 0.087 | 21 | 0.693 | -80 |
| 398 | 0.741 | -98 | 5.04 | 99 | 0.088 | 20 | 0.689 | -81 |
| 403 | 0.743 | -98 | 5.01 | 98 | 0.088 | 20 | 0.684 | -81 |
| 408 | 0.740 | -99 | 4.97 | 98 | 0.088 | 19 | 0.682 | -81 |
| 413 | 0.734 | -100 | 4.90 | 97 | 0.089 | 19 | 0.682 | -82 |
| 418 | 0.738 | -100 | 4.87 | 97 | 0.088 | 18 | 0.677 | -83 |
| 423 | 0.733 | -101 | 4.82 | 96 | 0.089 | 18 | 0.676 | -83 |
| 428 | 0.735 | -102 | 4.80 | 96 | 0.089 | 17 | 0.674 | -84 |
| 433 | 0.731 | -102 | 4.74 | 95 | 0.088 | 16 | 0.672 | -84 |
| 438 | 0.732 | -103 | 4.70 | 94 | 0.088 | 17 | 0.673 | -85 |
| 443 | 0.728 | -104 | 4.67 | 94 | 0.089 | 16 | 0.670 | -85 |
| 448 | 0.729 | -105 | 4.64 | 93 | 0.090 | 16 | 0.671 | -86 |
| 453 | 0.727 | -105 | 4.59 | 93 | 0.088 | 16 | 0.668 | -86 |
| 458 | 0.723 | -105 | 4.56 | 92 | 0.089 | 15 | 0.668 | -87 |
| 463 | 0.721 | -106 | 4.50 | 91 | 0.088 | 15 | 0.668 | -87 |
| 468 | 0.720 | -107 | 4.46 | 91 | 0.088 | 15 | 0.665 | -87 |
| 473 | 0.719 | -107 | 4.42 | 90 | 0.089 | 13 | 0.662 | -88 |
| 478 | 0.717 | -107 | 4.38 | 90 | 0.089 | 13 | 0.662 | -89 |
| 483 | 0.717 | -108 | 4.35 | 89 | 0.088 | 13 | 0.658 | -89 |

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| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|------|-----------------|----|-----------------|----|-----------------|------|
| | S ₁₁ | ∠ | S ₂₁ | ∠ | S ₁₂ | ∠ | S ₂₂ | ∠ |
| 488 | 0.715 | -109 | 4.32 | 89 | 0.088 | 13 | 0.660 | -89 |
| 493 | 0.714 | -109 | 4.28 | 88 | 0.090 | 13 | 0.655 | -90 |
| 498 | 0.714 | -110 | 4.25 | 88 | 0.090 | 12 | 0.655 | -91 |
| 503 | 0.713 | -110 | 4.22 | 87 | 0.089 | 12 | 0.652 | -91 |
| 507 | 0.712 | -111 | 4.17 | 87 | 0.090 | 11 | 0.650 | -91 |
| 512 | 0.711 | -111 | 4.15 | 86 | 0.089 | 11 | 0.649 | -92 |
| 517 | 0.706 | -112 | 4.11 | 86 | 0.090 | 11 | 0.650 | -92 |
| 522 | 0.705 | -112 | 4.07 | 85 | 0.089 | 10 | 0.650 | -93 |
| 527 | 0.706 | -113 | 4.07 | 85 | 0.089 | 10 | 0.648 | -93 |
| 532 | 0.705 | -113 | 4.02 | 84 | 0.088 | 10 | 0.649 | -93 |
| 537 | 0.704 | -114 | 4.00 | 84 | 0.088 | 9 | 0.645 | -94 |
| 542 | 0.704 | -114 | 3.95 | 83 | 0.089 | 9 | 0.646 | -94 |
| 547 | 0.704 | -115 | 3.93 | 82 | 0.087 | 10 | 0.646 | -95 |
| 552 | 0.704 | -116 | 3.90 | 82 | 0.090 | 8 | 0.645 | -95 |
| 557 | 0.702 | -116 | 3.87 | 82 | 0.089 | 8 | 0.646 | -96 |
| 562 | 0.699 | -117 | 3.83 | 81 | 0.088 | 8 | 0.646 | -96 |
| 567 | 0.699 | -117 | 3.80 | 81 | 0.089 | 8 | 0.641 | -96 |
| 572 | 0.700 | -117 | 3.76 | 80 | 0.088 | 7 | 0.640 | -97 |
| 577 | 0.699 | -118 | 3.74 | 80 | 0.087 | 7 | 0.640 | -97 |
| 582 | 0.698 | -118 | 3.70 | 80 | 0.088 | 7 | 0.641 | -98 |
| 587 | 0.699 | -118 | 3.69 | 79 | 0.087 | 7 | 0.637 | -98 |
| 592 | 0.697 | -119 | 3.67 | 79 | 0.088 | 6 | 0.638 | -98 |
| 597 | 0.698 | -119 | 3.64 | 78 | 0.088 | 6 | 0.633 | -99 |
| 602 | 0.698 | -119 | 3.62 | 78 | 0.087 | 6 | 0.638 | -99 |
| 607 | 0.695 | -120 | 3.58 | 77 | 0.087 | 6 | 0.637 | -99 |
| 612 | 0.696 | -120 | 3.57 | 77 | 0.087 | 6 | 0.637 | -100 |
| 617 | 0.694 | -121 | 3.54 | 76 | 0.086 | 5 | 0.636 | -100 |
| 622 | 0.695 | -121 | 3.52 | 76 | 0.087 | 5 | 0.635 | -100 |
| 627 | 0.692 | -121 | 3.48 | 75 | 0.088 | 5 | 0.637 | -101 |
| 632 | 0.691 | -122 | 3.46 | 75 | 0.085 | 4 | 0.634 | -101 |
| 637 | 0.691 | -122 | 3.44 | 74 | 0.087 | 4 | 0.641 | -102 |
| 642 | 0.689 | -123 | 3.41 | 74 | 0.087 | 3 | 0.637 | -102 |
| 647 | 0.687 | -123 | 3.38 | 74 | 0.087 | 3 | 0.634 | -103 |
| 652 | 0.689 | -124 | 3.36 | 73 | 0.085 | 3 | 0.636 | -103 |

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The Broadband RF TMOS® Line

2W, 500MHz, 28V

M/A-COM Products
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Table 1. Common Source S-Parameters ($V_{DS} = 13\text{ V}$, $I_D = 100\text{ mA}$) (continued)

| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|------|-----------------|----|-----------------|----|-----------------|------|
| | S ₁₁ | φ | S ₂₁ | φ | S ₁₂ | φ | S ₂₂ | φ |
| 657 | 0.686 | -124 | 3.34 | 73 | 0.086 | 1 | 0.635 | -103 |
| 662 | 0.688 | -125 | 3.30 | 72 | 0.086 | 3 | 0.634 | -104 |
| 667 | 0.689 | -125 | 3.28 | 72 | 0.086 | 2 | 0.634 | -104 |
| 672 | 0.693 | -125 | 3.27 | 72 | 0.086 | 2 | 0.631 | -104 |
| 677 | 0.687 | -126 | 3.24 | 71 | 0.086 | 1 | 0.632 | -104 |
| 682 | 0.689 | -126 | 3.22 | 71 | 0.083 | 1 | 0.629 | -105 |
| 687 | 0.687 | -126 | 3.20 | 70 | 0.083 | 1 | 0.630 | -105 |
| 692 | 0.686 | -127 | 3.17 | 70 | 0.083 | 1 | 0.630 | -105 |
| 697 | 0.690 | -127 | 3.16 | 70 | 0.083 | 0 | 0.630 | -106 |
| 702 | 0.687 | -127 | 3.14 | 69 | 0.084 | 0 | 0.627 | -106 |
| 706 | 0.688 | -128 | 3.12 | 69 | 0.083 | 1 | 0.630 | -106 |
| 711 | 0.685 | -128 | 3.10 | 68 | 0.083 | 0 | 0.632 | -107 |
| 716 | 0.686 | -128 | 3.08 | 68 | 0.085 | 0 | 0.636 | -107 |
| 721 | 0.688 | -128 | 3.08 | 68 | 0.084 | -1 | 0.634 | -107 |
| 726 | 0.685 | -129 | 3.05 | 67 | 0.083 | 0 | 0.634 | -108 |
| 731 | 0.685 | -130 | 3.02 | 67 | 0.083 | -1 | 0.634 | -108 |
| 736 | 0.684 | -130 | 3.01 | 66 | 0.083 | -1 | 0.635 | -108 |
| 741 | 0.680 | -130 | 2.98 | 66 | 0.082 | -1 | 0.631 | -109 |
| 746 | 0.681 | -130 | 2.97 | 65 | 0.083 | -2 | 0.636 | -109 |
| 751 | 0.682 | -131 | 2.96 | 65 | 0.082 | -2 | 0.631 | -110 |
| 756 | 0.683 | -131 | 2.93 | 65 | 0.082 | -2 | 0.632 | -109 |
| 761 | 0.681 | -132 | 2.90 | 64 | 0.082 | -1 | 0.630 | -110 |
| 766 | 0.683 | -132 | 2.89 | 64 | 0.083 | -3 | 0.632 | -110 |
| 771 | 0.684 | -132 | 2.87 | 64 | 0.082 | -3 | 0.631 | -110 |
| 776 | 0.682 | -133 | 2.85 | 63 | 0.081 | -4 | 0.628 | -111 |
| 781 | 0.684 | -133 | 2.85 | 63 | 0.080 | -3 | 0.630 | -111 |
| 786 | 0.686 | -133 | 2.83 | 63 | 0.079 | -4 | 0.629 | -111 |
| 791 | 0.684 | -134 | 2.81 | 62 | 0.080 | -3 | 0.632 | -112 |
| 796 | 0.685 | -134 | 2.79 | 62 | 0.080 | -4 | 0.631 | -112 |
| 801 | 0.683 | -134 | 2.77 | 62 | 0.079 | -4 | 0.634 | -112 |
| 806 | 0.685 | -134 | 2.75 | 61 | 0.079 | -2 | 0.632 | -112 |
| 811 | 0.683 | -135 | 2.75 | 61 | 0.078 | -4 | 0.635 | -113 |
| 816 | 0.684 | -135 | 2.73 | 60 | 0.079 | -4 | 0.637 | -113 |
| 821 | 0.683 | -135 | 2.70 | 60 | 0.077 | -3 | 0.633 | -113 |
| 826 | 0.682 | -135 | 2.69 | 60 | 0.078 | -5 | 0.637 | -114 |

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The Broadband RF TMOS® Line 2W, 500MHz, 28V

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Table 1. Common Source S-Parameters ($V_{DS} = 13\text{ V}$, $I_D = 100\text{ mA}$) (continued)

| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|------|-----------------|----|-----------------|----|-----------------|------|
| | S ₁₁ | ∠ | S ₂₁ | ∠ | S ₁₂ | ∠ | S ₂₂ | ∠ |
| 831 | 0.682 | -136 | 2.67 | 59 | 0.077 | -4 | 0.635 | -114 |
| 836 | 0.681 | -136 | 2.66 | 59 | 0.077 | -5 | 0.638 | -114 |
| 841 | 0.681 | -136 | 2.64 | 58 | 0.079 | -4 | 0.635 | -115 |
| 846 | 0.679 | -137 | 2.63 | 58 | 0.078 | -4 | 0.637 | -115 |
| 851 | 0.678 | -137 | 2.61 | 58 | 0.077 | -5 | 0.634 | -115 |
| 856 | 0.682 | -137 | 2.59 | 57 | 0.077 | -5 | 0.635 | -115 |
| 861 | 0.680 | -137 | 2.59 | 57 | 0.077 | -4 | 0.634 | -115 |
| 866 | 0.681 | -138 | 2.57 | 57 | 0.077 | -6 | 0.635 | -116 |
| 871 | 0.682 | -138 | 2.55 | 56 | 0.075 | -6 | 0.633 | -116 |
| 876 | 0.684 | -139 | 2.54 | 56 | 0.075 | -5 | 0.631 | -116 |
| 881 | 0.683 | -139 | 2.53 | 56 | 0.075 | -5 | 0.635 | -117 |
| 886 | 0.681 | -139 | 2.52 | 55 | 0.074 | -6 | 0.633 | -117 |
| 891 | 0.685 | -140 | 2.50 | 55 | 0.074 | -6 | 0.633 | -117 |
| 896 | 0.683 | -140 | 2.49 | 55 | 0.075 | -6 | 0.638 | -117 |
| 901 | 0.680 | -140 | 2.47 | 54 | 0.073 | -5 | 0.640 | -118 |
| 905 | 0.681 | -140 | 2.46 | 54 | 0.074 | -7 | 0.637 | -118 |
| 910 | 0.684 | -140 | 2.44 | 54 | 0.074 | -8 | 0.639 | -118 |
| 915 | 0.683 | -141 | 2.43 | 53 | 0.073 | -6 | 0.639 | -119 |
| 920 | 0.686 | -141 | 2.42 | 53 | 0.074 | -6 | 0.643 | -119 |
| 925 | 0.683 | -141 | 2.40 | 53 | 0.073 | -7 | 0.641 | -119 |
| 930 | 0.684 | -141 | 2.39 | 52 | 0.072 | -7 | 0.640 | -120 |
| 935 | 0.682 | -142 | 2.38 | 52 | 0.073 | -6 | 0.638 | -120 |
| 940 | 0.685 | -142 | 2.37 | 52 | 0.072 | -6 | 0.639 | -120 |
| 945 | 0.683 | -142 | 2.36 | 51 | 0.072 | -7 | 0.638 | -120 |
| 950 | 0.683 | -143 | 2.34 | 51 | 0.071 | -7 | 0.639 | -120 |
| 955 | 0.683 | -143 | 2.33 | 51 | 0.070 | -7 | 0.638 | -120 |
| 960 | 0.683 | -143 | 2.32 | 51 | 0.073 | -8 | 0.640 | -121 |
| 965 | 0.683 | -143 | 2.31 | 50 | 0.070 | -8 | 0.640 | -121 |
| 970 | 0.684 | -144 | 2.30 | 50 | 0.071 | -7 | 0.643 | -121 |
| 975 | 0.684 | -144 | 2.28 | 50 | 0.069 | -8 | 0.640 | -121 |
| 980 | 0.682 | -144 | 2.27 | 49 | 0.068 | -6 | 0.641 | -122 |
| 985 | 0.685 | -144 | 2.26 | 49 | 0.069 | -9 | 0.643 | -122 |
| 990 | 0.684 | -145 | 2.25 | 48 | 0.067 | -8 | 0.644 | -122 |
| 995 | 0.683 | -145 | 2.24 | 48 | 0.069 | -8 | 0.644 | -123 |
| 1000 | 0.684 | -145 | 2.23 | 48 | 0.068 | -8 | 0.643 | -123 |

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The Broadband RF TMOS® Line 2W, 500MHz, 28V

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Table 2. Common Source S-Parameters ($V_{DS} = 28\text{ V}$, $I_D = 100\text{ mA}$)

| f MHz | S11 | | S21 | | S12 | | S22 | |
|----------|-------|--------|------|--------|-------|--------|-------|--------|
| | S11 | ϕ | S21 | ϕ | S12 | ϕ | S22 | ϕ |
| 5 | 1.002 | -1 | 7.98 | 179 | 0.001 | 80 | 0.966 | -1 |
| 10 | 0.999 | -3 | 7.99 | 178 | 0.003 | 105 | 0.969 | -2 |
| 15 | 0.999 | -4 | 8.03 | 176 | 0.005 | 87 | 0.962 | -3 |
| 20 | 0.998 | -6 | 7.99 | 175 | 0.007 | 72 | 0.959 | -4 |
| 25 | 0.999 | -7 | 8.00 | 174 | 0.008 | 82 | 0.959 | -5 |
| 30 | 0.997 | -9 | 7.97 | 173 | 0.010 | 89 | 0.962 | -6 |
| 35 | 0.999 | -10 | 7.95 | 172 | 0.012 | 85 | 0.961 | -7 |
| 40 | 0.996 | -12 | 7.94 | 170 | 0.014 | 74 | 0.962 | -8 |
| 45 | 0.994 | -13 | 7.95 | 169 | 0.015 | 77 | 0.960 | -9 |
| 50 | 0.991 | -15 | 7.91 | 168 | 0.017 | 79 | 0.959 | -10 |
| 55 | 0.990 | -16 | 7.88 | 167 | 0.017 | 83 | 0.959 | -11 |
| 60 | 0.988 | -18 | 7.91 | 165 | 0.021 | 77 | 0.957 | -12 |
| 65 | 0.989 | -19 | 7.85 | 164 | 0.020 | 76 | 0.957 | -13 |
| 70 | 0.983 | -20 | 7.83 | 163 | 0.022 | 74 | 0.954 | -15 |
| 75 | 0.981 | -22 | 7.80 | 162 | 0.025 | 78 | 0.952 | -16 |
| 80 | 0.980 | -23 | 7.76 | 161 | 0.026 | 73 | 0.948 | -17 |
| 85 | 0.979 | -25 | 7.72 | 160 | 0.026 | 72 | 0.946 | -18 |
| 90 | 0.977 | -26 | 7.67 | 158 | 0.029 | 72 | 0.944 | -19 |
| 95 | 0.973 | -28 | 7.68 | 157 | 0.030 | 68 | 0.939 | -19 |
| 100 | 0.970 | -29 | 7.62 | 156 | 0.031 | 68 | 0.934 | -20 |
| 105 | 0.970 | -30 | 7.60 | 155 | 0.031 | 68 | 0.932 | -21 |
| 109 | 0.967 | -32 | 7.54 | 154 | 0.034 | 66 | 0.931 | -22 |
| 114 | 0.961 | -33 | 7.49 | 153 | 0.034 | 67 | 0.926 | -23 |
| 119 | 0.960 | -34 | 7.46 | 152 | 0.036 | 66 | 0.925 | -24 |
| 124 | 0.956 | -36 | 7.42 | 150 | 0.038 | 65 | 0.923 | -25 |
| 129 | 0.954 | -37 | 7.41 | 149 | 0.039 | 65 | 0.923 | -26 |
| 134 | 0.948 | -38 | 7.35 | 148 | 0.041 | 63 | 0.920 | -27 |
| 139 | 0.946 | -40 | 7.29 | 147 | 0.042 | 61 | 0.916 | -28 |
| 144 | 0.944 | -41 | 7.25 | 146 | 0.044 | 61 | 0.913 | -29 |
| 149 | 0.939 | -42 | 7.20 | 145 | 0.044 | 60 | 0.909 | -30 |
| 154 | 0.939 | -43 | 7.17 | 144 | 0.046 | 60 | 0.904 | -31 |
| 159 | 0.935 | -45 | 7.11 | 143 | 0.046 | 58 | 0.900 | -32 |
| 164 | 0.932 | -46 | 7.06 | 142 | 0.048 | 57 | 0.897 | -33 |
| 169 | 0.928 | -47 | 7.01 | 141 | 0.049 | 59 | 0.891 | -34 |
| 174 | 0.927 | -48 | 6.94 | 140 | 0.049 | 55 | 0.885 | -34 |

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| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|-----|-----------------|-----|-----------------|----|-----------------|-----|
| | S ₁₁ | ∠ | S ₂₁ | ∠ | S ₁₂ | ∠ | S ₂₂ | ∠ |
| 179 | 0.922 | -49 | 6.89 | 139 | 0.051 | 55 | 0.882 | -35 |
| 184 | 0.918 | -51 | 6.85 | 138 | 0.052 | 54 | 0.883 | -36 |
| 189 | 0.915 | -52 | 6.82 | 137 | 0.053 | 53 | 0.878 | -36 |
| 194 | 0.912 | -53 | 6.78 | 136 | 0.053 | 50 | 0.874 | -37 |
| 199 | 0.904 | -54 | 6.71 | 135 | 0.054 | 52 | 0.867 | -38 |
| 204 | 0.902 | -55 | 6.65 | 134 | 0.054 | 51 | 0.868 | -39 |
| 209 | 0.902 | -56 | 6.62 | 133 | 0.056 | 50 | 0.866 | -39 |
| 214 | 0.898 | -58 | 6.57 | 132 | 0.058 | 50 | 0.863 | -40 |
| 219 | 0.896 | -59 | 6.52 | 132 | 0.059 | 49 | 0.858 | -41 |
| 224 | 0.888 | -60 | 6.47 | 131 | 0.059 | 48 | 0.850 | -42 |
| 229 | 0.887 | -61 | 6.42 | 130 | 0.060 | 46 | 0.847 | -43 |
| 234 | 0.885 | -62 | 6.36 | 129 | 0.061 | 46 | 0.846 | -44 |
| 239 | 0.882 | -63 | 6.35 | 128 | 0.062 | 46 | 0.837 | -45 |
| 244 | 0.876 | -64 | 6.25 | 127 | 0.062 | 45 | 0.833 | -45 |
| 249 | 0.872 | -65 | 6.19 | 126 | 0.063 | 43 | 0.829 | -46 |
| 254 | 0.869 | -66 | 6.15 | 125 | 0.064 | 43 | 0.828 | -47 |
| 259 | 0.867 | -67 | 6.09 | 125 | 0.065 | 43 | 0.823 | -47 |
| 264 | 0.863 | -68 | 6.06 | 124 | 0.065 | 42 | 0.818 | -48 |
| 269 | 0.860 | -69 | 6.01 | 123 | 0.065 | 42 | 0.816 | -48 |
| 274 | 0.856 | -70 | 5.95 | 122 | 0.067 | 41 | 0.815 | -49 |
| 279 | 0.854 | -71 | 5.91 | 121 | 0.068 | 40 | 0.812 | -50 |
| 284 | 0.848 | -72 | 5.87 | 120 | 0.068 | 39 | 0.809 | -50 |
| 289 | 0.849 | -73 | 5.84 | 120 | 0.068 | 38 | 0.807 | -51 |
| 294 | 0.845 | -74 | 5.78 | 119 | 0.069 | 38 | 0.805 | -52 |
| 299 | 0.840 | -75 | 5.73 | 118 | 0.070 | 36 | 0.800 | -53 |
| 304 | 0.839 | -75 | 5.68 | 117 | 0.068 | 37 | 0.795 | -53 |
| 308 | 0.840 | -76 | 5.63 | 117 | 0.069 | 35 | 0.793 | -54 |
| 313 | 0.835 | -77 | 5.59 | 116 | 0.071 | 35 | 0.790 | -55 |
| 318 | 0.832 | -78 | 5.54 | 115 | 0.071 | 35 | 0.784 | -55 |
| 323 | 0.829 | -79 | 5.48 | 114 | 0.070 | 34 | 0.783 | -56 |
| 328 | 0.829 | -80 | 5.45 | 114 | 0.072 | 33 | 0.778 | -56 |
| 333 | 0.825 | -81 | 5.39 | 113 | 0.071 | 33 | 0.776 | -57 |
| 338 | 0.821 | -82 | 5.35 | 112 | 0.073 | 32 | 0.771 | -58 |

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| f MHz | S11 | | S21 | | S12 | | S22 | |
|----------|-----------------|------|-----------------|-----|-----------------|----|-----------------|-----|
| | S ₁₁ | φ | S ₂₁ | φ | S ₁₂ | φ | S ₂₂ | φ |
| 343 | 0.818 | -82 | 5.31 | 111 | 0.072 | 32 | 0.770 | -58 |
| 348 | 0.816 | -83 | 5.25 | 111 | 0.074 | 30 | 0.765 | -59 |
| 353 | 0.814 | -84 | 5.23 | 110 | 0.074 | 31 | 0.764 | -59 |
| 358 | 0.810 | -85 | 5.18 | 110 | 0.073 | 30 | 0.764 | -59 |
| 363 | 0.810 | -85 | 5.16 | 109 | 0.074 | 30 | 0.761 | -60 |
| 368 | 0.807 | -86 | 5.11 | 108 | 0.074 | 29 | 0.756 | -61 |
| 373 | 0.805 | -87 | 5.07 | 107 | 0.075 | 29 | 0.760 | -61 |
| 378 | 0.801 | -88 | 5.03 | 107 | 0.075 | 27 | 0.753 | -62 |
| 383 | 0.799 | -88 | 4.98 | 106 | 0.075 | 27 | 0.752 | -62 |
| 388 | 0.796 | -89 | 4.94 | 105 | 0.074 | 27 | 0.748 | -63 |
| 393 | 0.796 | -90 | 4.88 | 105 | 0.077 | 26 | 0.748 | -63 |
| 398 | 0.790 | -91 | 4.85 | 104 | 0.075 | 26 | 0.743 | -64 |
| 403 | 0.794 | -91 | 4.82 | 103 | 0.076 | 25 | 0.739 | -64 |
| 408 | 0.789 | -92 | 4.78 | 103 | 0.077 | 26 | 0.738 | -65 |
| 413 | 0.785 | -92 | 4.73 | 102 | 0.076 | 25 | 0.736 | -66 |
| 418 | 0.788 | -93 | 4.70 | 102 | 0.076 | 24 | 0.732 | -66 |
| 423 | 0.783 | -94 | 4.66 | 101 | 0.077 | 24 | 0.730 | -66 |
| 428 | 0.784 | -95 | 4.64 | 101 | 0.079 | 23 | 0.728 | -67 |
| 433 | 0.779 | -95 | 4.60 | 100 | 0.078 | 23 | 0.727 | -67 |
| 438 | 0.779 | -96 | 4.55 | 99 | 0.078 | 22 | 0.727 | -68 |
| 443 | 0.775 | -97 | 4.52 | 99 | 0.077 | 21 | 0.725 | -68 |
| 448 | 0.778 | -98 | 4.51 | 98 | 0.078 | 21 | 0.725 | -69 |
| 453 | 0.776 | -98 | 4.46 | 98 | 0.078 | 21 | 0.719 | -69 |
| 458 | 0.771 | -99 | 4.43 | 97 | 0.078 | 21 | 0.720 | -70 |
| 463 | 0.771 | -99 | 4.39 | 96 | 0.079 | 20 | 0.723 | -70 |
| 468 | 0.769 | -100 | 4.36 | 95 | 0.079 | 19 | 0.716 | -71 |
| 473 | 0.767 | -100 | 4.31 | 95 | 0.079 | 18 | 0.716 | -71 |
| 478 | 0.765 | -101 | 4.28 | 95 | 0.078 | 20 | 0.716 | -72 |
| 483 | 0.764 | -101 | 4.24 | 94 | 0.079 | 19 | 0.710 | -72 |
| 488 | 0.763 | -102 | 4.22 | 94 | 0.079 | 19 | 0.711 | -72 |
| 493 | 0.762 | -103 | 4.18 | 93 | 0.079 | 18 | 0.709 | -73 |
| 498 | 0.760 | -103 | 4.15 | 93 | 0.080 | 17 | 0.706 | -73 |
| 503 | 0.760 | -104 | 4.12 | 92 | 0.079 | 16 | 0.705 | -74 |
| 507 | 0.758 | -104 | 4.10 | 91 | 0.079 | 17 | 0.701 | -74 |

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Table 2. Common Source S-Parameters ($V_{DS} = 28\text{ V}$, $I_D = 100\text{ mA}$) (continued)

| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|------|-----------------|----|-----------------|----|-----------------|-----|
| | S ₁₁ | ∠ | S ₂₁ | ∠ | S ₁₂ | ∠ | S ₂₂ | ∠ |
| 512 | 0.758 | -105 | 4.08 | 91 | 0.079 | 16 | 0.700 | -74 |
| 517 | 0.751 | -105 | 4.03 | 90 | 0.078 | 16 | 0.700 | -75 |
| 522 | 0.750 | -106 | 4.00 | 90 | 0.080 | 15 | 0.700 | -75 |
| 527 | 0.753 | -106 | 4.00 | 89 | 0.079 | 16 | 0.698 | -76 |
| 532 | 0.750 | -107 | 3.96 | 89 | 0.079 | 14 | 0.699 | -76 |
| 537 | 0.749 | -107 | 3.94 | 88 | 0.079 | 15 | 0.696 | -76 |
| 542 | 0.748 | -108 | 3.90 | 87 | 0.080 | 13 | 0.696 | -77 |
| 547 | 0.749 | -109 | 3.88 | 87 | 0.080 | 13 | 0.697 | -77 |
| 552 | 0.750 | -109 | 3.85 | 87 | 0.079 | 14 | 0.693 | -78 |
| 557 | 0.747 | -110 | 3.82 | 86 | 0.078 | 13 | 0.697 | -78 |
| 562 | 0.743 | -110 | 3.78 | 86 | 0.079 | 12 | 0.695 | -79 |
| 567 | 0.744 | -111 | 3.75 | 85 | 0.079 | 12 | 0.689 | -79 |
| 572 | 0.742 | -111 | 3.73 | 85 | 0.078 | 11 | 0.690 | -79 |
| 577 | 0.743 | -112 | 3.70 | 84 | 0.080 | 12 | 0.689 | -80 |
| 582 | 0.743 | -112 | 3.67 | 84 | 0.080 | 11 | 0.691 | -80 |
| 587 | 0.742 | -112 | 3.64 | 83 | 0.078 | 11 | 0.688 | -80 |
| 592 | 0.740 | -113 | 3.62 | 83 | 0.080 | 10 | 0.685 | -81 |
| 597 | 0.741 | -113 | 3.61 | 82 | 0.078 | 10 | 0.682 | -81 |
| 602 | 0.739 | -114 | 3.59 | 82 | 0.078 | 10 | 0.685 | -82 |
| 607 | 0.736 | -114 | 3.56 | 82 | 0.079 | 9 | 0.682 | -82 |
| 612 | 0.737 | -115 | 3.53 | 81 | 0.077 | 9 | 0.684 | -82 |
| 617 | 0.735 | -115 | 3.52 | 81 | 0.078 | 10 | 0.682 | -82 |
| 622 | 0.736 | -115 | 3.50 | 80 | 0.078 | 9 | 0.680 | -83 |
| 627 | 0.732 | -116 | 3.47 | 80 | 0.078 | 8 | 0.681 | -83 |
| 632 | 0.733 | -117 | 3.45 | 79 | 0.077 | 8 | 0.682 | -84 |
| 637 | 0.730 | -117 | 3.41 | 79 | 0.078 | 8 | 0.684 | -84 |
| 642 | 0.731 | -117 | 3.40 | 78 | 0.077 | 8 | 0.683 | -85 |
| 647 | 0.728 | -118 | 3.37 | 78 | 0.077 | 7 | 0.679 | -85 |
| 652 | 0.730 | -118 | 3.35 | 77 | 0.077 | 8 | 0.679 | -85 |
| 657 | 0.725 | -119 | 3.32 | 77 | 0.077 | 7 | 0.679 | -85 |
| 662 | 0.725 | -119 | 3.29 | 76 | 0.079 | 6 | 0.679 | -86 |
| 667 | 0.727 | -120 | 3.27 | 76 | 0.078 | 5 | 0.677 | -86 |
| 672 | 0.731 | -120 | 3.26 | 75 | 0.077 | 6 | 0.676 | -86 |
| 677 | 0.727 | -120 | 3.24 | 75 | 0.077 | 5 | 0.675 | -87 |

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The Broadband RF TMOS® Line 2W, 500MHz, 28V

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Table 2. Common Source S-Parameters ($V_{DS} = 28\text{ V}$, $I_D = 100\text{ mA}$) (continued)

| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|------|-----------------|----|-----------------|----|-----------------|-----|
| | S ₁₁ | ∠ | S ₂₁ | ∠ | S ₁₂ | ∠ | S ₂₂ | ∠ |
| 682 | 0.725 | -121 | 3.21 | 75 | 0.077 | 4 | 0.673 | -87 |
| 687 | 0.726 | -121 | 3.19 | 74 | 0.078 | 6 | 0.672 | -87 |
| 692 | 0.724 | -121 | 3.17 | 74 | 0.076 | 6 | 0.672 | -88 |
| 697 | 0.728 | -122 | 3.17 | 74 | 0.075 | 6 | 0.672 | -88 |
| 702 | 0.724 | -122 | 3.13 | 73 | 0.075 | 5 | 0.672 | -88 |
| 706 | 0.724 | -122 | 3.12 | 73 | 0.077 | 5 | 0.670 | -89 |
| 711 | 0.722 | -123 | 3.10 | 72 | 0.077 | 5 | 0.674 | -89 |
| 716 | 0.722 | -123 | 3.09 | 72 | 0.076 | 4 | 0.676 | -89 |
| 721 | 0.723 | -124 | 3.08 | 71 | 0.075 | 2 | 0.674 | -90 |
| 726 | 0.720 | -124 | 3.05 | 71 | 0.075 | 4 | 0.672 | -90 |
| 731 | 0.719 | -124 | 3.03 | 70 | 0.075 | 4 | 0.676 | -90 |
| 736 | 0.720 | -125 | 3.02 | 70 | 0.076 | 3 | 0.675 | -91 |
| 741 | 0.716 | -125 | 2.99 | 70 | 0.075 | 2 | 0.672 | -91 |
| 746 | 0.718 | -126 | 2.98 | 69 | 0.075 | 3 | 0.677 | -91 |
| 751 | 0.715 | -126 | 2.97 | 69 | 0.075 | 3 | 0.670 | -92 |
| 756 | 0.717 | -126 | 2.94 | 68 | 0.075 | 3 | 0.673 | -92 |
| 761 | 0.716 | -127 | 2.92 | 68 | 0.075 | 2 | 0.668 | -92 |
| 766 | 0.717 | -127 | 2.90 | 67 | 0.075 | 2 | 0.673 | -93 |
| 771 | 0.717 | -128 | 2.88 | 67 | 0.073 | 2 | 0.669 | -93 |
| 776 | 0.714 | -128 | 2.86 | 67 | 0.076 | 1 | 0.668 | -93 |
| 781 | 0.718 | -128 | 2.86 | 66 | 0.074 | 1 | 0.668 | -93 |
| 786 | 0.718 | -129 | 2.85 | 66 | 0.073 | 1 | 0.670 | -94 |
| 791 | 0.718 | -129 | 2.82 | 66 | 0.073 | 1 | 0.670 | -94 |
| 796 | 0.716 | -129 | 2.81 | 65 | 0.072 | 0 | 0.668 | -94 |
| 801 | 0.715 | -130 | 2.79 | 65 | 0.073 | -1 | 0.671 | -95 |
| 806 | 0.718 | -130 | 2.77 | 65 | 0.071 | 1 | 0.669 | -95 |
| 811 | 0.714 | -130 | 2.77 | 64 | 0.072 | 0 | 0.672 | -95 |
| 816 | 0.714 | -130 | 2.74 | 64 | 0.072 | 0 | 0.673 | -96 |
| 821 | 0.714 | -131 | 2.72 | 63 | 0.070 | 0 | 0.671 | -96 |
| 826 | 0.715 | -131 | 2.71 | 63 | 0.073 | 0 | 0.675 | -96 |
| 831 | 0.713 | -131 | 2.69 | 63 | 0.071 | 0 | 0.672 | -96 |
| 836 | 0.713 | -131 | 2.68 | 62 | 0.072 | -1 | 0.672 | -97 |
| 841 | 0.712 | -132 | 2.67 | 62 | 0.069 | 0 | 0.671 | -97 |
| 846 | 0.710 | -132 | 2.65 | 61 | 0.071 | -1 | 0.672 | -97 |
| 851 | 0.708 | -132 | 2.63 | 61 | 0.071 | -1 | 0.670 | -97 |

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The Broadband RF TMOS® Line 2W, 500MHz, 28V

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Table 2. Common Source S-Parameters ($V_{DS} = 28\text{ V}$, $I_D = 100\text{ mA}$) (continued)

| f MHz | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|----------|-----------------|------|-----------------|----|-----------------|----|-----------------|------|
| | S ₁₁ | ∠ | S ₂₁ | ∠ | S ₁₂ | ∠ | S ₂₂ | ∠ |
| 856 | 0.712 | -133 | 2.62 | 61 | 0.071 | -2 | 0.669 | -98 |
| 861 | 0.710 | -133 | 2.61 | 61 | 0.071 | -2 | 0.669 | -98 |
| 866 | 0.710 | -134 | 2.59 | 60 | 0.071 | -2 | 0.669 | -98 |
| 871 | 0.710 | -134 | 2.58 | 60 | 0.071 | -2 | 0.669 | -98 |
| 876 | 0.713 | -134 | 2.57 | 59 | 0.069 | -3 | 0.666 | -99 |
| 881 | 0.711 | -135 | 2.56 | 59 | 0.068 | -3 | 0.667 | -99 |
| 886 | 0.710 | -135 | 2.54 | 59 | 0.069 | -3 | 0.666 | -99 |
| 891 | 0.711 | -135 | 2.52 | 58 | 0.067 | -3 | 0.668 | -100 |
| 896 | 0.711 | -136 | 2.52 | 58 | 0.070 | -2 | 0.670 | -100 |
| 901 | 0.709 | -136 | 2.50 | 57 | 0.069 | -5 | 0.669 | -101 |
| 905 | 0.711 | -136 | 2.49 | 57 | 0.069 | -3 | 0.671 | -101 |
| 910 | 0.711 | -136 | 2.47 | 57 | 0.068 | -4 | 0.674 | -101 |
| 915 | 0.710 | -137 | 2.46 | 56 | 0.068 | -2 | 0.673 | -101 |
| 920 | 0.712 | -137 | 2.45 | 56 | 0.066 | -4 | 0.673 | -102 |
| 925 | 0.708 | -137 | 2.42 | 56 | 0.067 | -4 | 0.673 | -102 |
| 930 | 0.709 | -137 | 2.42 | 55 | 0.068 | -3 | 0.673 | -102 |
| 935 | 0.709 | -138 | 2.41 | 55 | 0.066 | -4 | 0.670 | -102 |
| 940 | 0.709 | -138 | 2.40 | 55 | 0.066 | -2 | 0.672 | -102 |
| 945 | 0.709 | -138 | 2.39 | 54 | 0.065 | -3 | 0.672 | -103 |
| 950 | 0.708 | -139 | 2.38 | 54 | 0.066 | -4 | 0.671 | -103 |
| 955 | 0.711 | -139 | 2.36 | 54 | 0.065 | -5 | 0.669 | -103 |
| 960 | 0.709 | -139 | 2.35 | 54 | 0.064 | -4 | 0.672 | -103 |
| 965 | 0.708 | -140 | 2.34 | 53 | 0.064 | -3 | 0.671 | -104 |
| 970 | 0.707 | -140 | 2.33 | 53 | 0.065 | -5 | 0.673 | -104 |
| 975 | 0.706 | -140 | 2.32 | 52 | 0.065 | -4 | 0.671 | -104 |
| 980 | 0.707 | -140 | 2.30 | 52 | 0.065 | -4 | 0.669 | -104 |
| 985 | 0.707 | -140 | 2.29 | 51 | 0.064 | -6 | 0.674 | -105 |
| 990 | 0.708 | -141 | 2.28 | 51 | 0.063 | -4 | 0.674 | -105 |
| 995 | 0.708 | -141 | 2.28 | 51 | 0.063 | -5 | 0.674 | -105 |
| 1000 | 0.710 | -141 | 2.26 | 50 | 0.063 | -5 | 0.676 | -106 |

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