

## Typical Performance Data

| FREQ. | INSERTION LOSS |        |        | INPUT RETURN LOSS |        |        | OUTPUT RETURN LOSS |        |        |
|-------|----------------|--------|--------|-------------------|--------|--------|--------------------|--------|--------|
| (MHz) | (dB)           |        |        | (dB)              |        |        | (dB)               |        |        |
|       | @-40°C         | @+25°C | @+85°C | @-40°C            | @+25°C | @+85°C | @-40°C             | @+25°C | @+85°C |
| 0.5   | 0.04           | 0.05   | 0.06   | 47.06             | 44.36  | 42.76  | 47.17              | 44.44  | 42.85  |
| 1     | 0.04           | 0.05   | 0.06   | 46.89             | 44.28  | 42.66  | 46.95              | 44.34  | 42.69  |
| 10    | 0.05           | 0.07   | 0.07   | 41.72             | 39.59  | 38.50  | 42.08              | 39.74  | 38.61  |
| 50    | 0.12           | 0.14   | 0.16   | 34.31             | 33.22  | 32.41  | 36.03              | 33.79  | 32.65  |
| 100   | 0.18           | 0.22   | 0.24   | 35.59             | 35.04  | 33.48  | 38.93              | 37.09  | 34.96  |
| 120   | 0.21           | 0.25   | 0.28   | 35.58             | 30.69  | 28.32  | 36.64              | 31.49  | 29.04  |
| 140   | 0.24           | 0.30   | 0.33   | 30.32             | 26.43  | 24.51  | 30.27              | 26.78  | 24.92  |
| 160   | 0.28           | 0.34   | 0.38   | 25.62             | 23.53  | 22.21  | 25.60              | 23.74  | 22.48  |
| 180   | 0.31           | 0.39   | 0.43   | 22.59             | 21.92  | 21.23  | 22.65              | 22.06  | 21.40  |
| 200   | 0.36           | 0.43   | 0.47   | 21.15             | 21.66  | 21.69  | 21.26              | 21.80  | 21.83  |
| 220   | 0.40           | 0.47   | 0.51   | 21.52             | 23.31  | 24.42  | 21.70              | 23.46  | 24.61  |
| 240   | 0.43           | 0.51   | 0.56   | 24.86             | 29.07  | 33.54  | 25.15              | 29.56  | 34.95  |
| 260   | 0.47           | 0.58   | 0.65   | 34.27             | 32.10  | 27.94  | 35.84              | 33.14  | 28.48  |
| 280   | 0.55           | 0.68   | 0.77   | 23.92             | 22.31  | 20.85  | 24.09              | 22.50  | 21.03  |
| 300   | 0.69           | 0.83   | 0.93   | 20.18             | 20.22  | 19.85  | 20.36              | 20.45  | 20.08  |
| 310   | 0.76           | 0.91   | 1.02   | 21.39             | 22.28  | 22.46  | 21.83              | 22.88  | 23.12  |
| 311   | 0.76           | 0.91   | 1.02   | 21.69             | 22.65  | 22.91  | 22.22              | 23.40  | 23.74  |
| 312   | 0.77           | 0.93   | 1.03   | 22.03             | 23.12  | 23.42  | 22.66              | 23.96  | 24.42  |
| 313   | 0.78           | 0.93   | 1.05   | 22.44             | 23.61  | 23.94  | 23.15              | 24.66  | 25.12  |
| 314   | 0.78           | 0.94   | 1.06   | 22.88             | 24.16  | 24.50  | 23.77              | 25.47  | 25.99  |
| 315   | 0.80           | 0.96   | 1.07   | 23.39             | 24.69  | 24.98  | 24.47              | 26.32  | 26.90  |
| 316   | 0.80           | 0.97   | 1.08   | 23.94             | 25.26  | 25.45  | 25.29              | 27.39  | 27.86  |
| 317   | 0.81           | 0.98   | 1.09   | 24.53             | 25.76  | 25.78  | 26.27              | 28.46  | 28.69  |
| 318   | 0.82           | 0.99   | 1.12   | 25.10             | 26.20  | 25.91  | 27.42              | 29.65  | 29.26  |
| 319   | 0.83           | 1.01   | 1.13   | 25.70             | 26.41  | 25.75  | 28.84              | 30.55  | 29.25  |
| 320   | 0.84           | 1.02   | 1.15   | 26.21             | 26.37  | 25.30  | 30.41              | 30.96  | 28.60  |
| 330   | 1.06           | 1.30   | 1.48   | 18.86             | 17.12  | 15.88  | 20.16              | 17.89  | 16.44  |
| 335   | 1.29           | 1.58   | 1.81   | 14.18             | 13.03  | 12.15  | 14.78              | 13.45  | 12.48  |
| 340   | 1.66           | 2.02   | 2.29   | 10.59             | 9.86   | 9.23   | 10.96              | 10.13  | 9.45   |
| 345   | 2.26           | 2.67   | 3.00   | 7.75              | 7.32   | 6.89   | 8.03               | 7.54   | 7.07   |
| 350   | 3.10           | 3.55   | 3.93   | 5.65              | 5.42   | 5.15   | 5.87               | 5.59   | 5.29   |
| 360   | 5.48           | 5.96   | 6.38   | 2.97              | 2.98   | 2.91   | 3.11               | 3.10   | 3.01   |
| 370   | 8.55           | 8.99   | 9.38   | 1.65              | 1.75   | 1.77   | 1.75               | 1.83   | 1.83   |
| 380   | 11.86          | 12.23  | 12.57  | 1.03              | 1.14   | 1.19   | 1.10               | 1.20   | 1.24   |
| 400   | 18.40          | 18.67  | 18.94  | 0.55              | 0.66   | 0.73   | 0.60               | 0.72   | 0.76   |
| 420   | 24.51          | 24.74  | 24.94  | 0.40              | 0.50   | 0.57   | 0.43               | 0.54   | 0.58   |
| 440   | 30.28          | 30.47  | 30.64  | 0.33              | 0.42   | 0.49   | 0.36               | 0.45   | 0.50   |
| 445   | 31.67          | 31.85  | 32.03  | 0.33              | 0.41   | 0.47   | 0.35               | 0.44   | 0.49   |
| 450   | 33.04          | 33.25  | 33.40  | 0.32              | 0.40   | 0.46   | 0.33               | 0.42   | 0.47   |
| 500   | 46.42          | 46.62  | 46.82  | 0.25              | 0.33   | 0.39   | 0.26               | 0.34   | 0.39   |
| 550   | 59.19          | 59.60  | 60.00  | 0.20              | 0.28   | 0.34   | 0.21               | 0.29   | 0.34   |
| 600   | 72.38          | 74.05  | 71.53  | 0.18              | 0.26   | 0.32   | 0.18               | 0.27   | 0.31   |
| 650   | 79.89          | 75.58  | 81.25  | 0.16              | 0.25   | 0.31   | 0.17               | 0.25   | 0.30   |
| 700   | 78.61          | 74.53  | 76.43  | 0.13              | 0.23   | 0.29   | 0.15               | 0.23   | 0.28   |
| 750   | 77.60          | 77.16  | 77.07  | 0.12              | 0.22   | 0.28   | 0.13               | 0.22   | 0.27   |
| 800   | 75.84          | 77.24  | 79.36  | 0.11              | 0.22   | 0.28   | 0.12               | 0.21   | 0.27   |
| 850   | 76.70          | 75.77  | 75.69  | 0.10              | 0.21   | 0.28   | 0.12               | 0.21   | 0.27   |
| 900   | 78.07          | 75.32  | 75.86  | 0.08              | 0.20   | 0.28   | 0.11               | 0.21   | 0.27   |
| 950   | 75.80          | 75.42  | 75.20  | 0.07              | 0.20   | 0.27   | 0.10               | 0.21   | 0.27   |
| 1000  | 72.98          | 74.04  | 74.26  | 0.07              | 0.20   | 0.28   | 0.10               | 0.22   | 0.28   |
| 1200  | 71.75          | 69.62  | 71.13  | 0.06              | 0.20   | 0.29   | 0.10               | 0.23   | 0.30   |
| 1400  | 68.45          | 68.30  | 67.55  | 0.06              | 0.22   | 0.31   | 0.11               | 0.26   | 0.34   |
| 1450  | 66.77          | 68.14  | 68.13  | 0.07              | 0.22   | 0.31   | 0.11               | 0.26   | 0.34   |
| 1500  | 68.02          | 68.33  | 68.20  | 0.08              | 0.23   | 0.32   | 0.12               | 0.27   | 0.35   |
| 1550  | 70.16          | 71.29  | 70.28  | 0.07              | 0.21   | 0.32   | 0.12               | 0.28   | 0.36   |
| 1600  | 74.06          | 77.62  | 75.31  | 0.09              | 0.24   | 0.34   | 0.12               | 0.29   | 0.37   |
| 1650  | 77.54          | 75.16  | 79.51  | 0.07              | 0.22   | 0.33   | 0.13               | 0.30   | 0.38   |
| 1700  | 66.80          | 64.45  | 66.09  | 0.09              | 0.24   | 0.35   | 0.14               | 0.31   | 0.40   |
| 1750  | 57.53          | 56.40  | 57.27  | 0.06              | 0.22   | 0.34   | 0.14               | 0.32   | 0.40   |
| 1800  | 49.86          | 48.35  | 49.57  | 0.08              | 0.25   | 0.37   | 0.18               | 0.36   | 0.44   |

## Typical Performance Data

| FREQ.<br><br>(MHz) | GROUP DELAY |        |        |
|--------------------|-------------|--------|--------|
|                    | (ns)        |        |        |
|                    | @-40°C      | @+25°C | @+85°C |
| 0.5                | 2.33        | 2.31   | 2.43   |
| 1                  | 2.31        | 2.31   | 2.40   |
| 10                 | 2.24        | 2.24   | 2.27   |
| 11                 | 2.24        | 2.26   | 2.27   |
| 12                 | 2.24        | 2.25   | 2.26   |
| 13                 | 2.24        | 2.23   | 2.25   |
| 14                 | 2.24        | 2.24   | 2.24   |
| 15                 | 2.20        | 2.23   | 2.25   |
| 16                 | 2.21        | 2.22   | 2.21   |
| 17                 | 2.21        | 2.24   | 2.23   |
| 18                 | 2.21        | 2.24   | 2.23   |
| 19                 | 2.23        | 2.25   | 2.24   |
| 20                 | 2.22        | 2.23   | 2.23   |
| 21                 | 2.23        | 2.24   | 2.25   |
| 22                 | 2.22        | 2.24   | 2.23   |
| 23                 | 2.22        | 2.23   | 2.24   |
| 24                 | 2.23        | 2.24   | 2.24   |
| 25                 | 2.22        | 2.23   | 2.24   |
| 30                 | 2.23        | 2.23   | 2.22   |
| 35                 | 2.24        | 2.23   | 2.23   |
| 40                 | 2.25        | 2.25   | 2.26   |
| 45                 | 2.24        | 2.24   | 2.23   |
| 50                 | 2.23        | 2.23   | 2.22   |
| 55                 | 2.24        | 2.24   | 2.25   |
| 60                 | 2.24        | 2.26   | 2.25   |
| 65                 | 2.26        | 2.26   | 2.27   |
| 70                 | 2.25        | 2.27   | 2.28   |
| 75                 | 2.28        | 2.29   | 2.29   |
| 80                 | 2.29        | 2.29   | 2.31   |
| 85                 | 2.29        | 2.28   | 2.30   |
| 90                 | 2.31        | 2.30   | 2.32   |
| 95                 | 2.32        | 2.32   | 2.33   |
| 100                | 2.32        | 2.32   | 2.33   |
| 110                | 2.35        | 2.33   | 2.33   |
| 120                | 2.37        | 2.37   | 2.37   |
| 130                | 2.41        | 2.41   | 2.42   |
| 140                | 2.45        | 2.44   | 2.45   |
| 150                | 2.50        | 2.49   | 2.50   |
| 160                | 2.55        | 2.52   | 2.54   |
| 170                | 2.58        | 2.58   | 2.59   |
| 180                | 2.64        | 2.63   | 2.63   |
| 190                | 2.69        | 2.68   | 2.70   |
| 200                | 2.76        | 2.76   | 2.76   |
| 210                | 2.85        | 2.86   | 2.84   |
| 220                | 2.92        | 2.94   | 2.96   |
| 230                | 3.03        | 3.06   | 3.07   |
| 240                | 3.17        | 3.19   | 3.19   |
| 250                | 3.30        | 3.31   | 3.33   |
| 260                | 3.47        | 3.47   | 3.48   |
| 270                | 3.62        | 3.62   | 3.64   |
| 280                | 3.81        | 3.81   | 3.82   |
| 290                | 4.05        | 4.05   | 4.08   |
| 300                | 4.34        | 4.38   | 4.40   |
| 310                | 4.77        | 4.81   | 4.86   |
| 320                | 5.41        | 5.47   | 5.55   |