

# Surface Mount Bandpass Filter

**CBP3-1870CB+**

## Typical Performance Data

| FREQ.<br>(MHz) | INSERTION LOSS<br>(dB) |        |        | INPUT RETURN LOSS<br>(dB) |        |        | OUTPUT RETURN LOSS<br>(dB) |        |        |
|----------------|------------------------|--------|--------|---------------------------|--------|--------|----------------------------|--------|--------|
|                | @-40°C                 | @+25°C | @+85°C | @-40°C                    | @+25°C | @+85°C | @-40°C                     | @+25°C | @+85°C |
|                | 1                      | 107.02 | 97.46  | 97.65                     | 0.06   | 0.06   | 0.06                       | 0.05   | 0.05   |
| 5              | 110.55                 | 100.75 | 97.71  | 0.06                      | 0.06   | 0.06   | 0.06                       | 0.06   | 0.06   |
| 10             | 103.25                 | 103.62 | 99.93  | 0.05                      | 0.05   | 0.05   | 0.05                       | 0.05   | 0.05   |
| 30             | 102.82                 | 95.87  | 100.34 | 0.05                      | 0.05   | 0.05   | 0.04                       | 0.04   | 0.04   |
| 50             | 97.27                  | 100.07 | 99.07  | 0.04                      | 0.04   | 0.04   | 0.04                       | 0.04   | 0.04   |
| 110            | 98.79                  | 102.44 | 102.53 | 0.04                      | 0.03   | 0.03   | 0.02                       | 0.03   | 0.04   |
| 150            | 120.57                 | 103.88 | 96.28  | 0.05                      | 0.03   | 0.02   | 0.01                       | 0.02   | 0.03   |
| 210            | 105.83                 | 100.64 | 98.99  | 0.06                      | 0.02   | 0.02   | 0.01                       | 0.02   | 0.03   |
| 250            | 103.32                 | 98.50  | 105.60 | 0.07                      | 0.01   | 0.01   | 0.00                       | 0.02   | 0.02   |
| 310            | 100.10                 | 96.91  | 101.68 | 0.08                      | 0.01   | 0.00   | 0.00                       | 0.02   | 0.02   |
| 410            | 106.53                 | 96.89  | 97.32  | 0.08                      | 0.01   | 0.00   | 0.01                       | 0.01   | 0.02   |
| 510            | 97.73                  | 104.57 | 103.33 | 0.06                      | 0.01   | 0.01   | 0.01                       | 0.02   | 0.03   |
| 710            | 88.44                  | 86.29  | 84.50  | 0.05                      | 0.02   | 0.02   | 0.01                       | 0.03   | 0.03   |
| 810            | 86.67                  | 87.31  | 86.91  | 0.06                      | 0.02   | 0.02   | 0.01                       | 0.03   | 0.05   |
| 910            | 82.12                  | 82.13  | 82.62  | 0.09                      | 0.03   | 0.03   | 0.00                       | 0.03   | 0.05   |
| 1010           | 81.51                  | 80.33  | 79.60  | 0.12                      | 0.03   | 0.03   | 0.01                       | 0.05   | 0.06   |
| 1210           | 75.04                  | 75.76  | 74.93  | 0.12                      | 0.05   | 0.04   | 0.02                       | 0.07   | 0.08   |
| 1310           | 74.13                  | 74.99  | 74.30  | 0.12                      | 0.06   | 0.05   | 0.04                       | 0.08   | 0.10   |
| 1400           | 74.10                  | 74.90  | 74.50  | 0.15                      | 0.08   | 0.07   | 0.05                       | 0.09   | 0.11   |
| 1510           | 80.07                  | 80.44  | 79.18  | 0.19                      | 0.10   | 0.10   | 0.07                       | 0.11   | 0.14   |
| 1610           | 56.09                  | 56.04  | 55.90  | 0.22                      | 0.14   | 0.14   | 0.11                       | 0.16   | 0.19   |
| 1710           | 32.98                  | 32.74  | 32.54  | 0.37                      | 0.30   | 0.32   | 0.25                       | 0.32   | 0.36   |
| 1724           | 28.94                  | 28.68  | 28.48  | 0.43                      | 0.36   | 0.38   | 0.32                       | 0.39   | 0.44   |
| 1755           | 18.46                  | 18.13  | 17.91  | 0.77                      | 0.74   | 0.78   | 0.65                       | 0.77   | 0.84   |
| 1820           | 1.45                   | 1.50   | 1.56   | 15.25                     | 15.31  | 15.77  | 15.55                      | 15.93  | 16.52  |
| 1830           | 1.32                   | 1.36   | 1.41   | 16.31                     | 16.57  | 17.04  | 17.32                      | 18.12  | 18.93  |
| 1850           | 1.12                   | 1.17   | 1.24   | 21.29                     | 20.73  | 20.58  | 25.63                      | 24.80  | 24.47  |
| 1870           | 1.10                   | 1.15   | 1.21   | 18.15                     | 18.11  | 18.66  | 17.80                      | 17.82  | 18.27  |
| 1890           | 1.06                   | 1.11   | 1.17   | 24.97                     | 26.19  | 28.90  | 21.47                      | 21.89  | 22.64  |
| 1900           | 1.06                   | 1.11   | 1.19   | 34.20                     | 32.37  | 29.48  | 24.03                      | 23.67  | 23.12  |
| 1910           | 1.10                   | 1.17   | 1.25   | 23.28                     | 22.55  | 21.61  | 21.63                      | 21.09  | 20.41  |
| 1920           | 1.17                   | 1.24   | 1.32   | 21.98                     | 21.87  | 21.50  | 21.85                      | 21.62  | 21.24  |
| 1930           | 1.29                   | 1.38   | 1.48   | 26.05                     | 25.68  | 25.34  | 28.98                      | 26.83  | 25.68  |
| 1940           | 1.76                   | 1.93   | 2.08   | 13.51                     | 12.72  | 12.36  | 13.50                      | 12.73  | 12.33  |
| 1950           | 3.25                   | 3.56   | 3.77   | 6.30                      | 5.88   | 5.74   | 6.18                       | 5.86   | 5.74   |
| 1960           | 6.08                   | 6.49   | 6.72   | 2.92                      | 2.72   | 2.69   | 2.79                       | 2.71   | 2.71   |
| 1970           | 9.63                   | 10.04  | 10.25  | 1.50                      | 1.40   | 1.40   | 1.37                       | 1.39   | 1.42   |
| 1980           | 13.23                  | 13.61  | 13.78  | 0.90                      | 0.82   | 0.83   | 0.76                       | 0.82   | 0.87   |
| 1990           | 16.61                  | 16.96  | 17.10  | 0.61                      | 0.54   | 0.55   | 0.48                       | 0.54   | 0.59   |
| 2002           | 20.31                  | 20.62  | 20.72  | 0.44                      | 0.37   | 0.37   | 0.31                       | 0.37   | 0.42   |
| 2010           | 22.57                  | 22.86  | 22.94  | 0.37                      | 0.30   | 0.30   | 0.24                       | 0.31   | 0.35   |
| 2030           | 27.69                  | 27.92  | 27.97  | 0.30                      | 0.22   | 0.21   | 0.14                       | 0.21   | 0.25   |
| 2036           | 29.10                  | 29.31  | 29.36  | 0.28                      | 0.20   | 0.20   | 0.13                       | 0.20   | 0.23   |
| 2040           | 30.02                  | 30.22  | 30.27  | 0.28                      | 0.20   | 0.19   | 0.12                       | 0.19   | 0.22   |
| 2060           | 34.36                  | 34.53  | 34.55  | 0.25                      | 0.17   | 0.16   | 0.09                       | 0.15   | 0.18   |
| 2070           | 36.39                  | 36.54  | 36.56  | 0.23                      | 0.15   | 0.14   | 0.08                       | 0.14   | 0.17   |
| 2080           | 38.33                  | 38.50  | 38.48  | 0.21                      | 0.13   | 0.12   | 0.07                       | 0.13   | 0.16   |
| 2090           | 40.23                  | 40.40  | 40.40  | 0.20                      | 0.12   | 0.10   | 0.06                       | 0.12   | 0.15   |
| 2100           | 42.10                  | 42.23  | 42.24  | 0.19                      | 0.11   | 0.10   | 0.05                       | 0.12   | 0.14   |
| 2150           | 51.33                  | 51.62  | 51.53  | 0.17                      | 0.10   | 0.08   | 0.05                       | 0.11   | 0.14   |
| 2200           | 62.77                  | 62.92  | 63.09  | 0.16                      | 0.09   | 0.08   | 0.03                       | 0.08   | 0.11   |
| 2250           | 75.69                  | 74.19  | 73.87  | 0.15                      | 0.08   | 0.07   | 0.03                       | 0.09   | 0.12   |
| 2280           | 67.11                  | 66.27  | 66.47  | 0.15                      | 0.08   | 0.07   | 0.02                       | 0.08   | 0.11   |
| 2400           | 60.62                  | 60.56  | 60.43  | 0.17                      | 0.07   | 0.08   | 0.02                       | 0.08   | 0.11   |
| 2500           | 58.01                  | 57.89  | 58.09  | 0.20                      | 0.09   | 0.10   | 0.03                       | 0.10   | 0.13   |
| 2600           | 56.38                  | 56.33  | 56.47  | 0.20                      | 0.10   | 0.11   | 0.04                       | 0.12   | 0.16   |
| 2700           | 55.43                  | 55.26  | 55.33  | 0.20                      | 0.14   | 0.15   | 0.04                       | 0.12   | 0.17   |
| 2800           | 54.07                  | 53.84  | 54.13  | 0.23                      | 0.17   | 0.19   | 0.07                       | 0.17   | 0.23   |
| 2850           | 53.46                  | 53.31  | 53.46  | 0.22                      | 0.16   | 0.19   | 0.07                       | 0.16   | 0.23   |
| 2900           | 52.65                  | 52.65  | 52.63  | 0.26                      | 0.20   | 0.23   | 0.09                       | 0.20   | 0.27   |



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*Typical Performance Data*

| FREQ.<br>(MHz) | GROUP DELAY<br>(nsec) |        |        |
|----------------|-----------------------|--------|--------|
|                | @-40°C                | @+25°C | @+85°C |
| 1820           | 7.14                  | 7.06   | 7.02   |
| 1824           | 6.83                  | 6.78   | 6.74   |
| 1826           | 6.71                  | 6.67   | 6.63   |
| 1830           | 6.53                  | 6.50   | 6.47   |
| 1832           | 6.46                  | 6.43   | 6.40   |
| 1834           | 6.40                  | 6.37   | 6.33   |
| 1840           | 6.24                  | 6.21   | 6.17   |
| 1842           | 6.19                  | 6.16   | 6.12   |
| 1844           | 6.14                  | 6.11   | 6.07   |
| 1846           | 6.09                  | 6.06   | 6.02   |
| 1848           | 6.05                  | 6.01   | 5.97   |
| 1850           | 6.00                  | 5.97   | 5.93   |
| 1852           | 5.96                  | 5.92   | 5.88   |
| 1854           | 5.91                  | 5.88   | 5.84   |
| 1856           | 5.87                  | 5.83   | 5.80   |
| 1858           | 5.83                  | 5.80   | 5.77   |
| 1860           | 5.79                  | 5.76   | 5.73   |
| 1864           | 5.73                  | 5.70   | 5.68   |
| 1870           | 5.66                  | 5.65   | 5.63   |
| 1874           | 5.65                  | 5.64   | 5.63   |
| 1878           | 5.65                  | 5.65   | 5.64   |
| 1880           | 5.66                  | 5.66   | 5.65   |
| 1882           | 5.67                  | 5.67   | 5.67   |
| 1884           | 5.70                  | 5.70   | 5.69   |
| 1890           | 5.77                  | 5.77   | 5.76   |
| 1894           | 5.82                  | 5.83   | 5.82   |
| 1898           | 5.89                  | 5.90   | 5.88   |
| 1900           | 5.92                  | 5.93   | 5.92   |
| 1920           | 6.59                  | 6.64   | 6.64   |