

# LTCC Lowpass Filter

Typical Performance Data

## LFCN-3402+

| FREQUENCY<br>(GHz) | INSERTION LOSS<br>(dB) |        |         | RETURN LOSS<br>(dB) |        |         |
|--------------------|------------------------|--------|---------|---------------------|--------|---------|
|                    | @-55°C                 | @+25°C | @+125°C | @-55°C              | @+25°C | @+125°C |
| 0.1                | 0.02                   | 0.03   | 0.05    | 41.41               | 38.74  | 36.78   |
| 1.0                | 0.07                   | 0.09   | 0.10    | 36.77               | 35.22  | 33.52   |
| 2.0                | 0.10                   | 0.12   | 0.13    | 38.85               | 37.61  | 37.16   |
| 3.0                | 0.11                   | 0.13   | 0.15    | 34.68               | 39.73  | 45.68   |
| 4.0                | 0.12                   | 0.16   | 0.19    | 39.16               | 43.17  | 36.30   |
| 5.0                | 0.14                   | 0.19   | 0.23    | 32.42               | 30.80  | 29.98   |
| 6.0                | 0.16                   | 0.22   | 0.26    | 30.94               | 28.98  | 27.08   |
| 7.0                | 0.17                   | 0.24   | 0.29    | 25.77               | 25.10  | 24.62   |
| 8.0                | 0.15                   | 0.24   | 0.28    | 21.81               | 21.60  | 21.43   |
| 9.0                | 0.18                   | 0.26   | 0.33    | 21.15               | 20.48  | 19.96   |
| 10.0               | 0.29                   | 0.38   | 0.44    | 17.66               | 17.73  | 17.97   |
| 11.0               | 0.38                   | 0.46   | 0.52    | 16.14               | 16.48  | 16.55   |
| 12.0               | 0.40                   | 0.50   | 0.54    | 16.49               | 16.30  | 16.30   |
| 13.0               | 0.39                   | 0.49   | 0.56    | 15.03               | 15.58  | 15.85   |
| 14.0               | 0.29                   | 0.41   | 0.49    | 15.15               | 15.67  | 16.04   |
| 15.0               | 0.35                   | 0.47   | 0.54    | 16.24               | 16.53  | 17.16   |
| 16.0               | 0.45                   | 0.57   | 0.63    | 17.25               | 18.66  | 19.86   |
| 17.0               | 0.54                   | 0.64   | 0.68    | 19.47               | 20.64  | 20.92   |
| 18.0               | 0.52                   | 0.63   | 0.69    | 26.26               | 26.61  | 25.95   |
| 19.0               | 0.37                   | 0.53   | 0.65    | 23.59               | 22.21  | 21.81   |
| 20.0               | 0.45                   | 0.62   | 0.75    | 18.81               | 18.08  | 17.96   |
| 21.0               | 0.70                   | 0.85   | 1.02    | 14.16               | 14.39  | 13.39   |
| 22.0               | 0.93                   | 1.11   | 1.19    | 12.71               | 12.31  | 12.34   |
| 23.0               | 1.06                   | 1.28   | 1.36    | 10.56               | 10.48  | 10.40   |
| 24.0               | 1.25                   | 1.40   | 1.59    | 8.86                | 9.36   | 8.92    |
| 25.0               | 1.35                   | 1.52   | 1.69    | 9.13                | 9.24   | 9.74    |
| 26.0               | 1.40                   | 1.62   | 1.74    | 8.82                | 9.02   | 9.15    |
| 27.0               | 1.48                   | 1.60   | 1.67    | 8.22                | 9.05   | 9.00    |
| 28.0               | 1.28                   | 1.46   | 1.48    | 10.58               | 11.04  | 12.09   |
| 29.0               | 1.22                   | 1.43   | 1.54    | 11.86               | 12.37  | 13.00   |
| 30.0               | 1.19                   | 1.41   | 1.60    | 13.83               | 15.29  | 15.26   |
| 31.0               | 1.27                   | 1.57   | 1.80    | 17.33               | 16.98  | 15.72   |
| 32.0               | 1.47                   | 1.78   | 2.01    | 15.19               | 14.51  | 13.48   |
| 33.0               | 1.58                   | 1.98   | 2.28    | 11.41               | 10.90  | 10.45   |
| 34.0               | 1.84                   | 2.11   | 2.39    | 10.18               | 11.65  | 12.89   |
| 35.0               | 2.05                   | 2.54   | 3.09    | 15.46               | 18.89  | 31.67   |
| 36.0               | 3.04                   | 4.01   | 5.32    | 19.81               | 13.68  | 9.62    |
| 37.0               | 6.40                   | 8.17   | 10.03   | 5.79                | 4.88   | 3.95    |
| 38.0               | 11.29                  | 13.15  | 15.14   | 2.21                | 2.34   | 2.09    |
| 39.0               | 16.93                  | 19.02  | 21.16   | 1.41                | 1.51   | 1.55    |
| 40.0               | 23.05                  | 25.25  | 27.89   | 1.16                | 1.44   | 1.63    |
| 41.0               | 30.19                  | 32.82  | 35.39   | 1.13                | 1.45   | 1.42    |
| 41.5               | 34.02                  | 36.04  | 37.14   | 1.18                | 1.42   | 1.30    |
| 42.0               | 36.83                  | 37.26  | 37.07   | 1.23                | 1.36   | 1.31    |
| 43.0               | 36.55                  | 36.43  | 35.56   | 1.04                | 1.24   | 1.34    |
| 44.0               | 35.83                  | 35.10  | 34.89   | 1.06                | 1.30   | 1.37    |
| 45.0               | 34.42                  | 34.30  | 33.94   | 1.16                | 1.33   | 1.43    |
| 46.0               | 33.51                  | 33.67  | 33.62   | 0.93                | 1.21   | 1.38    |
| 47.0               | 33.22                  | 33.38  | 33.31   | 0.93                | 1.22   | 1.14    |
| 48.0               | 33.51                  | 33.49  | 32.84   | 1.39                | 1.47   | 1.41    |
| 49.0               | 33.06                  | 33.98  | 34.04   | 1.13                | 1.35   | 1.50    |
| 50.0               | 34.19                  | 34.32  | 34.61   | 0.83                | 1.18   | 1.25    |
| 51.0               | 34.12                  | 34.73  | 34.69   | 1.32                | 1.52   | 1.58    |
| 52.0               | 34.86                  | 35.20  | 35.27   | 1.22                | 1.42   | 1.35    |
| 53.0               | 34.97                  | 35.35  | 35.77   | 0.90                | 1.23   | 1.09    |
| 54.0               | 34.09                  | 35.04  | 35.54   | 1.11                | 1.39   | 1.54    |
| 55.0               | 35.11                  | 35.74  | 36.13   | 1.03                | 1.35   | 1.42    |
| 56.0               | 36.90                  | 37.65  | 39.12   | 1.52                | 1.70   | 1.64    |
| 57.0               | 38.79                  | 40.03  | 40.54   | 1.72                | 2.19   | 2.29    |
| 58.0               | 41.80                  | 43.42  | 47.38   | 1.09                | 1.93   | 2.40    |
| 59.0               | 45.63                  | 47.30  | 43.41   | 2.90                | 4.93   | 10.01   |
| 60.0               | 40.59                  | 39.38  | 39.56   | 17.02               | 11.25  | 6.24    |
| 61.0               | 38.78                  | 40.11  | 40.99   | 4.95                | 4.57   | 3.64    |
| 62.0               | 41.04                  | 41.90  | 40.15   | 3.77                | 5.39   | 6.27    |
| 63.0               | 40.44                  | 38.32  | 37.98   | 11.38               | 7.39   | 5.16    |
| 64.0               | 37.83                  | 38.54  | 39.04   | 4.16                | 4.20   | 3.40    |
| 65.0               | 38.60                  | 38.13  | 36.59   | 3.52                | 4.06   | 3.13    |
| 67.0               | 39.42                  | 36.66  | 32.52   | 1.38                | 2.15   | 2.83    |