

# LTCC Low Pass Filter

Typical Performance Data

## LFHKL-2250+

| FREQUENCY<br>(GHz) | INSERTION LOSS<br>(dB) |        |         | RETURN LOSS<br>(dB) |        |         |
|--------------------|------------------------|--------|---------|---------------------|--------|---------|
|                    | @-55°C                 | @+25°C | @+125°C | @-55°C              | @+25°C | @+125°C |
| 0.01               | 0.10                   | 0.11   | 0.14    | 39.69               | 37.78  | 35.96   |
| 0.05               | 0.08                   | 0.10   | 0.14    | 35.93               | 34.35  | 32.51   |
| 0.10               | 0.12                   | 0.14   | 0.17    | 33.02               | 31.54  | 30.16   |
| 0.20               | 0.16                   | 0.19   | 0.23    | 29.43               | 29.19  | 28.54   |
| 0.30               | 0.20                   | 0.23   | 0.28    | 27.61               | 28.07  | 28.29   |
| 0.40               | 0.24                   | 0.27   | 0.33    | 26.25               | 27.01  | 27.83   |
| 0.50               | 0.27                   | 0.31   | 0.38    | 24.94               | 25.47  | 26.26   |
| 0.60               | 0.30                   | 0.35   | 0.43    | 23.89               | 23.71  | 24.16   |
| 0.70               | 0.34                   | 0.39   | 0.48    | 21.99               | 21.78  | 21.95   |
| 0.80               | 0.39                   | 0.44   | 0.53    | 20.31               | 20.18  | 20.29   |
| 0.90               | 0.44                   | 0.49   | 0.59    | 19.05               | 19.06  | 19.11   |
| 1.00               | 0.49                   | 0.54   | 0.65    | 18.40               | 18.52  | 18.43   |
| 1.10               | 0.52                   | 0.58   | 0.69    | 18.81               | 18.77  | 18.60   |
| 1.20               | 0.54                   | 0.60   | 0.72    | 20.03               | 20.03  | 19.86   |
| 1.30               | 0.55                   | 0.61   | 0.74    | 23.03               | 23.32  | 23.40   |
| 1.40               | 0.57                   | 0.63   | 0.76    | 30.96               | 32.91  | 34.89   |
| 1.50               | 0.60                   | 0.67   | 0.82    | 31.64               | 29.05  | 27.47   |
| 1.60               | 0.68                   | 0.76   | 0.92    | 20.94               | 20.35  | 19.74   |
| 1.70               | 0.80                   | 0.88   | 1.05    | 16.46               | 16.38  | 16.12   |
| 1.80               | 0.93                   | 1.01   | 1.19    | 14.33               | 14.46  | 14.42   |
| 1.90               | 1.03                   | 1.10   | 1.28    | 13.80               | 14.09  | 14.29   |
| 2.00               | 1.04                   | 1.13   | 1.32    | 15.00               | 15.48  | 16.08   |
| 2.10               | 1.03                   | 1.13   | 1.35    | 18.98               | 20.02  | 21.70   |
| 2.20               | 1.07                   | 1.21   | 1.48    | 30.53               | 32.28  | 31.78   |
| 2.30               | 1.24                   | 1.41   | 1.74    | 24.54               | 24.15  | 24.20   |
| 2.50               | 2.42                   | 3.09   | 4.22    | 12.05               | 9.94   | 7.94    |
| 3.00               | 28.37                  | 29.29  | 30.66   | 0.56                | 0.56   | 0.59    |
| 3.50               | 48.74                  | 49.79  | 51.11   | 0.23                | 0.21   | 0.20    |
| 4.00               | 89.32                  | 83.34  | 76.07   | 0.14                | 0.13   | 0.11    |
| 4.50               | 62.79                  | 62.40  | 62.13   | 0.14                | 0.14   | 0.12    |
| 5.00               | 59.96                  | 59.79  | 59.69   | 0.18                | 0.17   | 0.16    |
| 5.50               | 58.50                  | 58.34  | 58.19   | 0.21                | 0.19   | 0.19    |
| 6.00               | 57.38                  | 57.45  | 57.25   | 0.21                | 0.17   | 0.18    |
| 6.50               | 56.92                  | 56.76  | 57.04   | 0.21                | 0.14   | 0.13    |
| 7.00               | 56.52                  | 56.46  | 56.54   | 0.18                | 0.09   | 0.07    |
| 8.00               | 56.11                  | 55.75  | 55.68   | 0.08                | 0.02   | -0.01   |
| 9.00               | 55.58                  | 55.65  | 55.31   | 0.09                | 0.08   | 0.06    |
| 10.00              | 55.46                  | 55.10  | 55.17   | 0.12                | 0.12   | 0.10    |
| 11.00              | 54.08                  | 54.82  | 54.40   | 0.15                | 0.09   | 0.07    |
| 12.00              | 55.20                  | 55.11  | 55.19   | 0.23                | 0.11   | 0.11    |
| 13.00              | 56.39                  | 56.28  | 55.92   | 0.20                | 0.06   | 0.02    |
| 14.00              | 57.25                  | 57.18  | 57.29   | 0.19                | 0.11   | 0.11    |
| 15.00              | 58.09                  | 58.26  | 58.45   | 0.16                | 0.14   | 0.16    |
| 16.00              | 60.83                  | 60.29  | 60.70   | 0.10                | 0.09   | 0.07    |
| 17.00              | 61.61                  | 60.55  | 60.70   | 0.36                | 0.13   | 0.05    |
| 18.00              | 60.71                  | 59.72  | 60.03   | 0.25                | 0.10   | 0.13    |
| 19.00              | 57.97                  | 58.44  | 58.32   | 0.24                | 0.20   | 0.19    |
| 20.00              | 58.40                  | 57.22  | 57.30   | 0.20                | 0.16   | 0.20    |
| 21.00              | 55.72                  | 54.43  | 52.94   | 0.59                | 0.71   | 1.30    |
| 22.00              | 51.81                  | 53.06  | 53.87   | 1.34                | 0.80   | 0.51    |
| 23.00              | 53.62                  | 54.09  | 54.19   | 0.49                | 0.33   | 0.30    |
| 24.00              | 53.08                  | 52.61  | 52.66   | 0.38                | 0.25   | 0.23    |
| 25.00              | 50.74                  | 50.79  | 50.93   | 0.15                | 0.19   | 0.21    |
| 26.00              | 48.89                  | 48.91  | 48.72   | 0.34                | 0.32   | 0.34    |
| 27.00              | 47.92                  | 48.14  | 48.61   | 0.55                | 0.46   | 0.42    |
| 28.00              | 45.83                  | 44.94  | 44.69   | 0.77                | 0.72   | 0.88    |
| 29.00              | 43.36                  | 42.99  | 43.60   | 1.97                | 2.90   | 5.60    |
| 30.00              | 49.24                  | 57.51  | 50.94   | 7.03                | 3.64   | 2.20    |
| 31.00              | 45.16                  | 44.46  | 44.12   | 0.64                | 0.62   | 0.40    |
| 32.00              | 41.36                  | 41.81  | 41.55   | 0.17                | 0.18   | 0.10    |
| 33.00              | 39.98                  | 39.92  | 39.63   | 0.32                | 0.18   | 0.26    |
| 34.00              | 38.89                  | 40.16  | 42.82   | 0.55                | 0.25   | 0.31    |
| 35.00              | 42.02                  | 40.89  | 40.74   | 0.66                | 0.15   | 0.15    |