BGF100

Microphone Filter and ESD Protection Evaluation Kit

RF & Protection Devices

Never stop thinking

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Microphone Filter and ESD Protection Evaluation Kit

Revision History: 2007-02-21, Rev. 1.2

Previous Version: 2006-02.13, Rev. 1.1

Page	Subjects (major changes since last revision)
1	Titel change

1 BGF100 Microphone Filter and ESD Protection Evaluation Kit

1.1 Description

The BGF100 is a microphone filter with low pass characteristic offering a very high stop band attenuation up to 6 GHz. It also provides an ESD protection at the input pins up to 15 kV contact discharge. The wafer level package is a green lead free package with a size of only 1.6 mm x 2.1 mm and a total height of 0.65 mm.

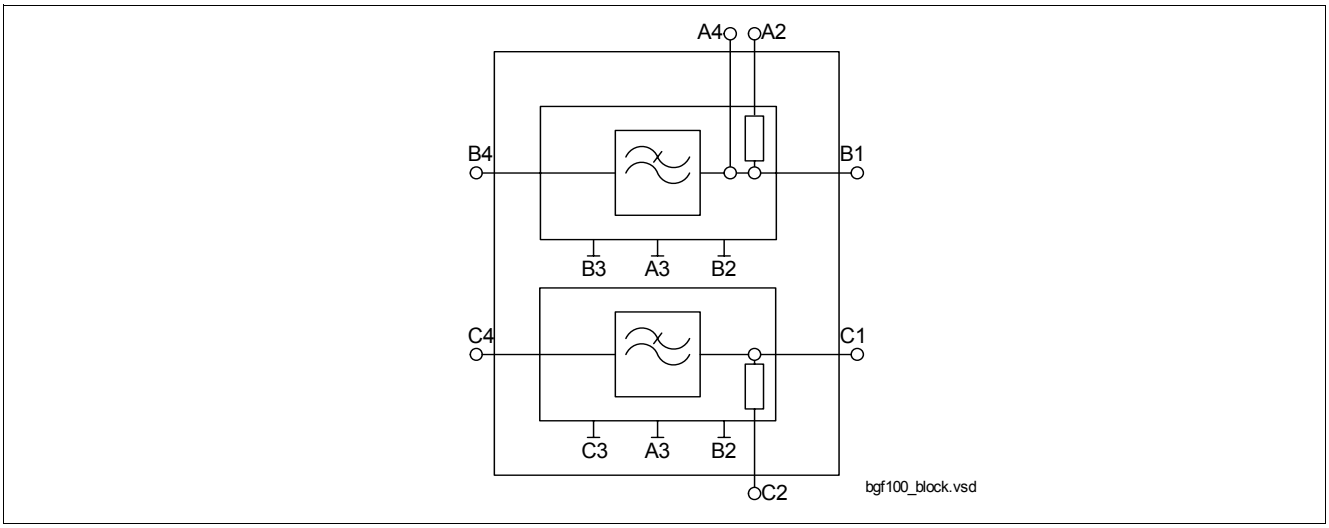

Figure 1 Block Diagram

The evaluation kit for the BGF100 microphone filter and ESD protection IC consists of two printed circuit boards:

- DC board
- RF board

1.2 DC Board

Figure 2 DC evaluation board

Figure 2 shows the DC evaluation board used in this evaluation kit. This PCB was designed to be mounted with two BGF100. On the left hand side the HiPAC IC is soldered to the board while the right hand side of the board was left open to show the footprint required for BGF100.

The size of the board is 15 mm by 38 mm. The pitch size of the pads is 2.54 mm.

This board was designed to perform pin-to-pin DC tests, like measuring the values of the integrated resistors, as well as checking the ESD performance of the IC. It can also be used for qualification purposes.

1.3 RF Board

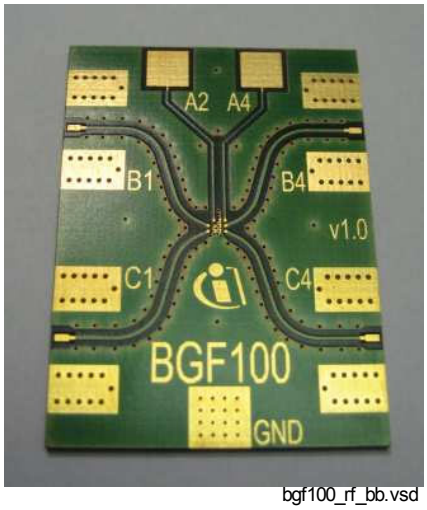

Figure 3 Bare RF Board

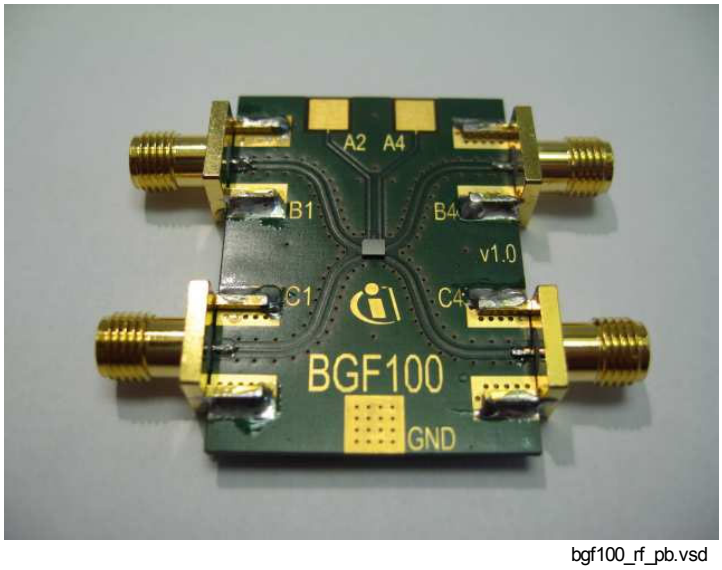

Figure 4 Populated RF Board

Figure 3 shows an unpopulated RF board for testing BGF100. It offers the possibility to measure the RF performance of the two signal lines B4-B1 and C4-C1. Additional DC pads on the board give access to pins A1 and A4 as well as to the GND pins. Please note that pin C2 is grounded.

Figure 4 shows a fully assembled RF board. The size of this board is 28 mm by 38 mm, not including the SMA connectors.

1.3.1 RF Measurement Curves

Figure 5 shows the RF performance of the BGF100, it was measured in a 50 Ω system. The typical transmission characteristics of both signal lines are displayed, B1-B4 in blue and C4-C1 in magenta.

Please note that the difference between the two curves is due to the fact that the resistor between C1 and C2 on signal line C4-C1 is connected to ground while its equivalent on line B4-B1 is left open.

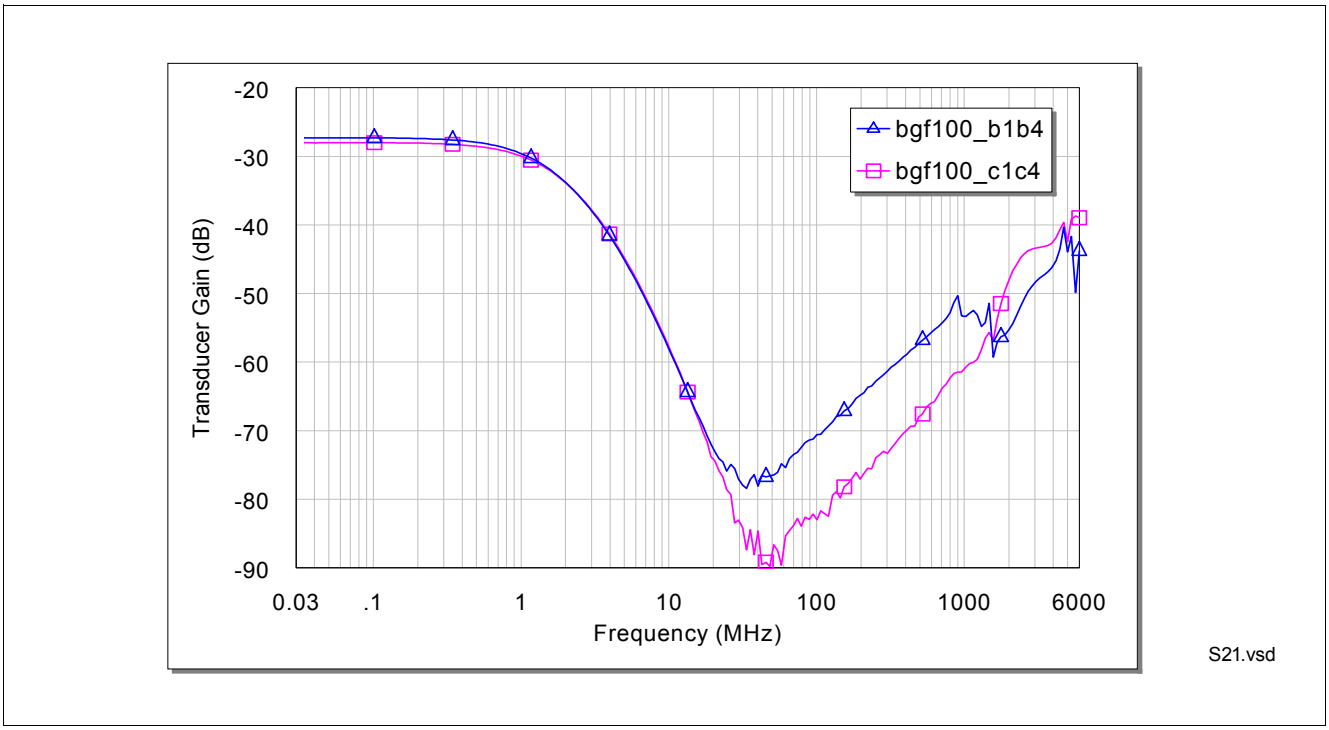

Figure 5 RF Performance of the BGF100