

BGF112

AV I/F Device with ESD Protection

Small Signal Discretes



Never stop thinking

Edition 2008-11-19

**Published by
Infineon Technologies AG
81726 München, Germany**

**© Infineon Technologies AG 2008.
All Rights Reserved.**

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenhheitsgarantie"). With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

BGF112

Revision History: 2008-11-19, V3.0

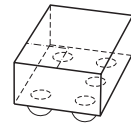
Previous Version: 2008-10-07, V2.0

Page	Subjects (major changes since last revision)
All	Preliminary status removed

BGF112

Features

- ESD protection circuit and filter for AV I/F interface
- Integrated ESD protection at external pins of 15 kV contact discharge according to IEC61000-4-2
- Wafer level package with SnAgCu solder balls
- RoHS and WEEE compliant package
- 400 μm solder ball pitch



WLP-5-1



Description

BGF112 is an ESD protection circuit and EMI filtering device for an AV I/F interface for mobile applications. The external pins are protected against ESD pulses of 15 kV contact discharge according to IEC61000-4-2. The wafer level package is a green leadfree package with a size of only 0.76 mm x 1.16 mm and a total height of 0.6 mm

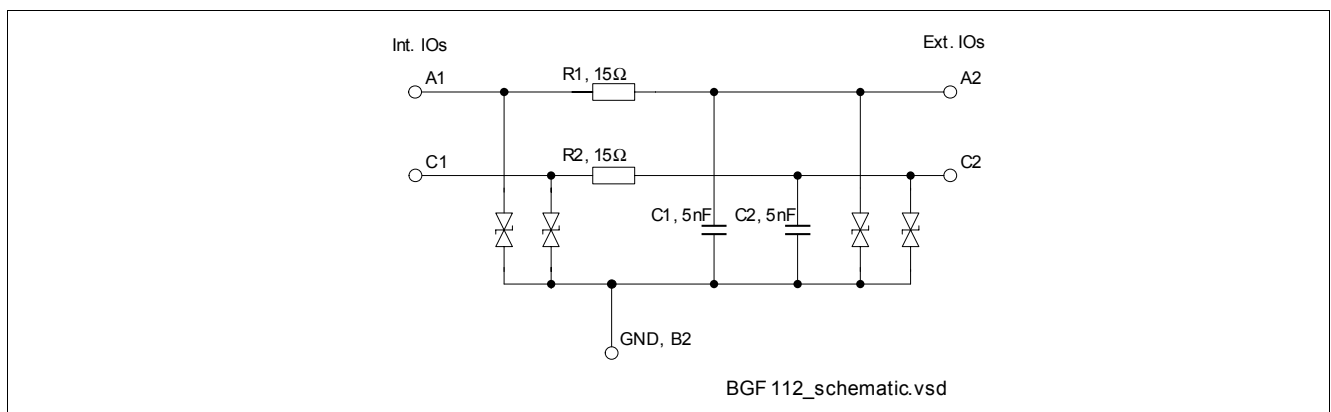


Figure 1 Schematic

Type	Package	Marking	Chip
BGF112	WLP-5-1	112	N0736

Table 1 Maximum Ratings

Parameter	Symbol	Values			Unit	Note / Test Condition
		Min.	Typ.	Max.		
Voltage at all pins to GND	V_P	0	–	4	V	–
Operating temperature range	T_{OP}	-40	–	+85	$^{\circ}\text{C}$	–
Storage temperature range	T_{STG}	-65	–	+150	$^{\circ}\text{C}$	–
Power dissipation each line	P_{in}	–	–	70	mW	$T_S < 70^{\circ}\text{C}$

Electrostatic Discharge According to IEC61000-4-2

Contact discharge from A2 or C2 to GND	V_{ESD}	-15	–	15	kV	–
Contact discharge between all other pins	V_{ESD}	-2	–	2	kV	–

Table 2 Electrical Characteristics¹⁾

Parameter	Symbol	Values			Unit	Note / Test Condition
		Min.	Typ.	Max.		
Resistors R_1, R_2	$R_{1,2}$	13.5	15	16.5	Ω	–
Capacitors C_1, C_2	$C_{1,2}$	4	5	6	nF	–
Total ESD junction capacitance of each line to GND	C_T	–	18	30	pF	$V = 0 \text{ V}$
Leakage currents ESD diodes to GND	I_R	–	0.1	100	nA	$V = \pm 3 \text{ V}$
			0.1	100	μA	$V = \pm 14 \text{ V}$

1) at $T_A = 25 \text{ }^\circ\text{C}$

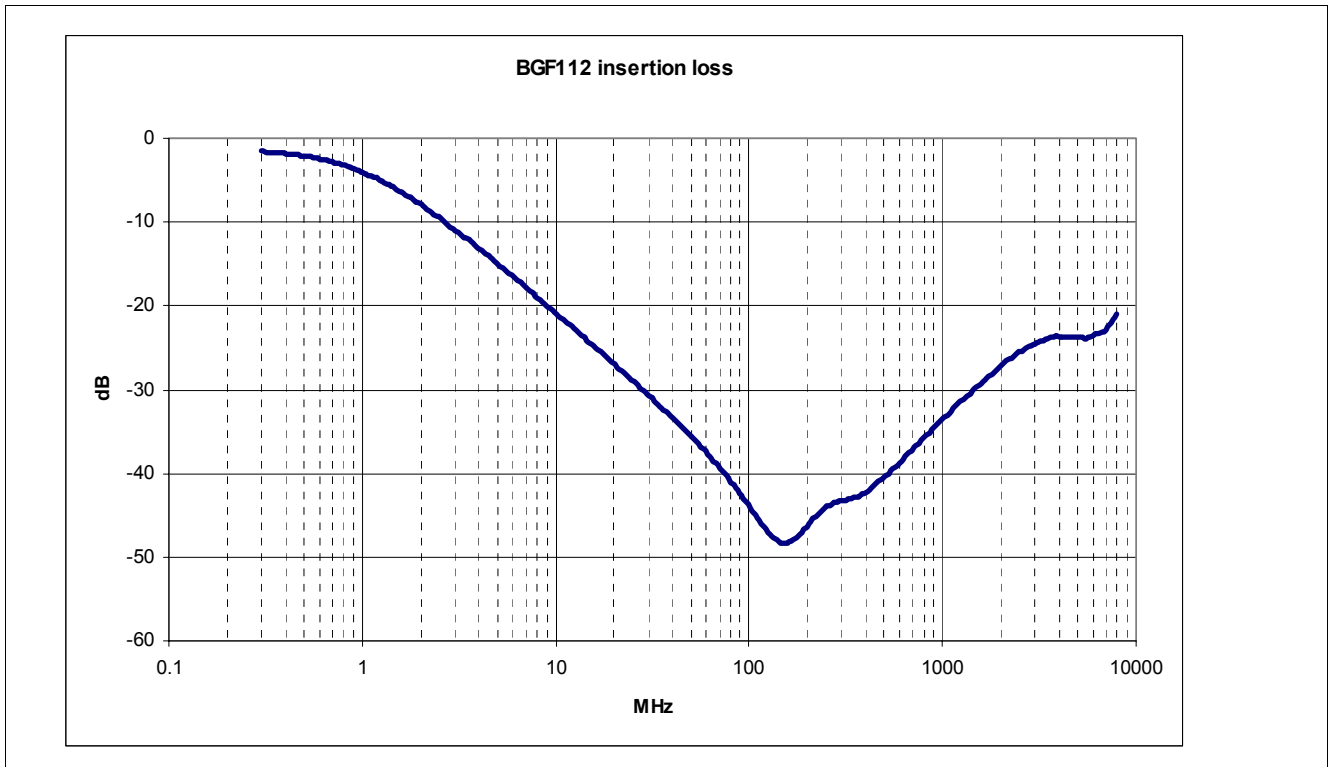


Figure 2 Insertion loss of path A1-A2 or C1-C2 ($Z_S = Z_L = 50 \Omega$)

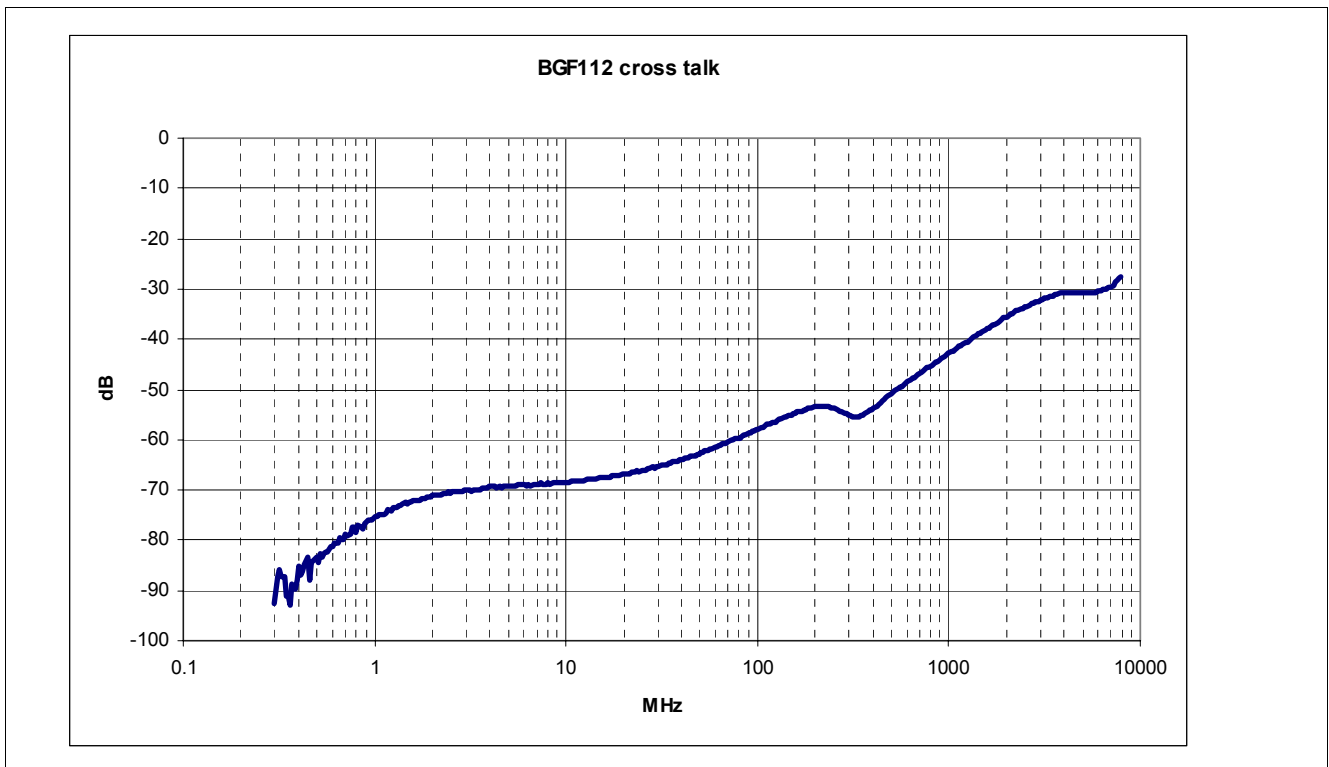


Figure 3 Cross talk of path A1-C2 or C1-A2 ($Z_S = Z_L = 50 \Omega$)

Package Outlines

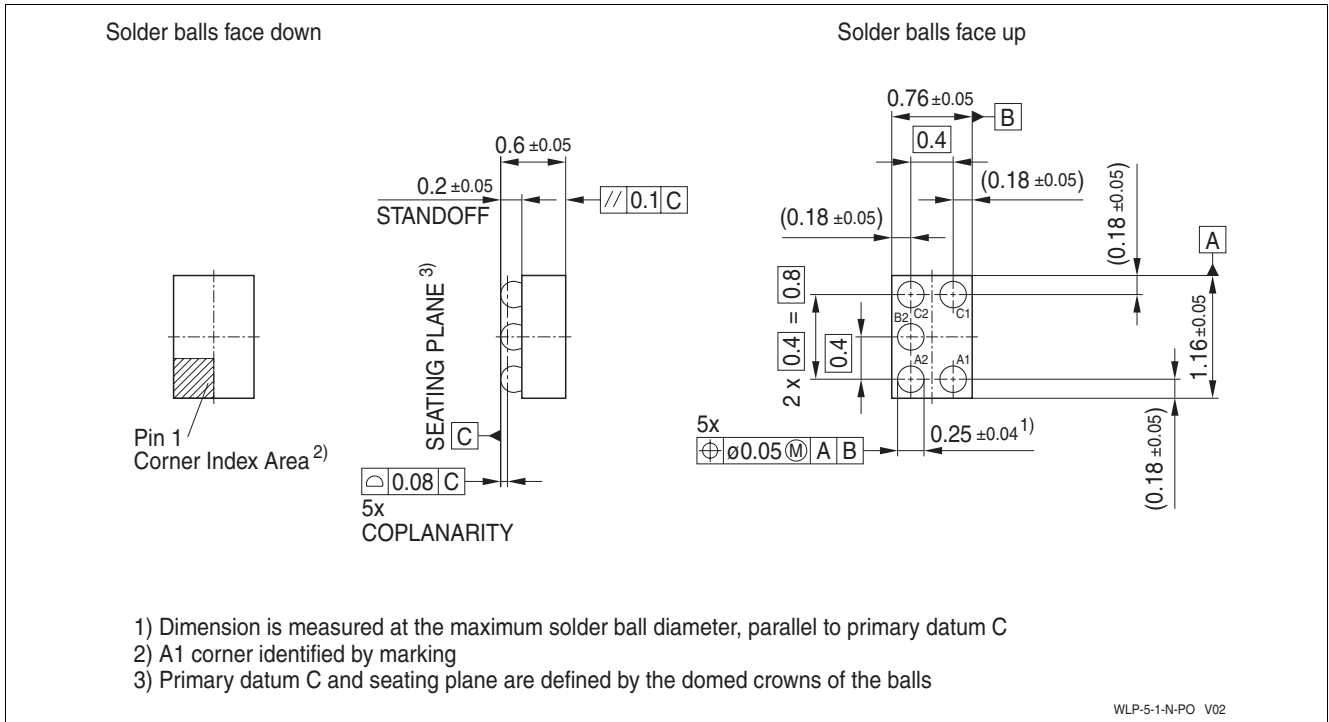


Figure 4 WLP-5-1 (dimensions in mm)

Tape and reel specification

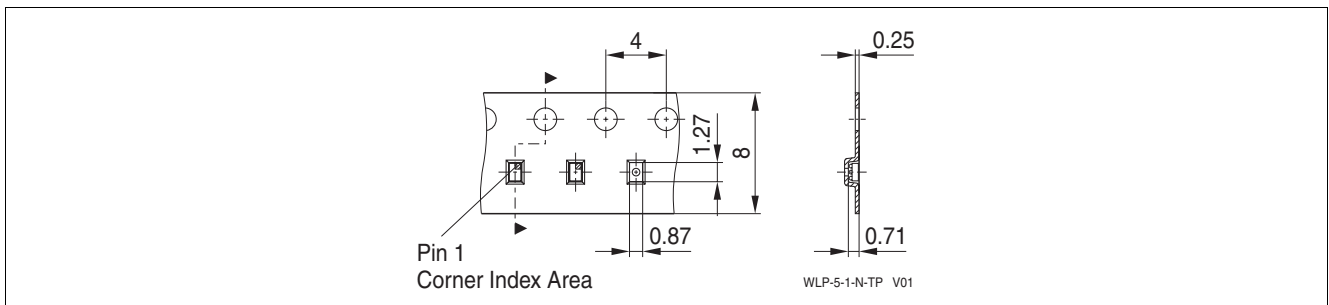


Figure 5 Tape for WLP-5-1 (dimensions in mm)

You can find all of our packages, sorts of packing and others in our Infineon Internet Page "Products":
<http://www.infineon.com/products>