

BGF106

SIM Card Interface Filter and ESD Protection

Small Signal Discretes



Never stop thinking

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BGF106

Revision History: 2008-02-19, V2.2

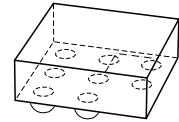
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| Page | Subjects (major changes since last revision) |
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| 5 | Figure 2 updated |
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BGF106

Features

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



WLP-8-8-N-3D



Description

The BGF106 is an ESD protection circuit and filtering interface for SIM cards. The external pins are protected against ESD up to 15 kV contact discharge according to IEC61000-4-2. The wafer level package is a green leadfree package with a size of only 1.2 mm x 1.2 mm and a total height of 0.6 mm

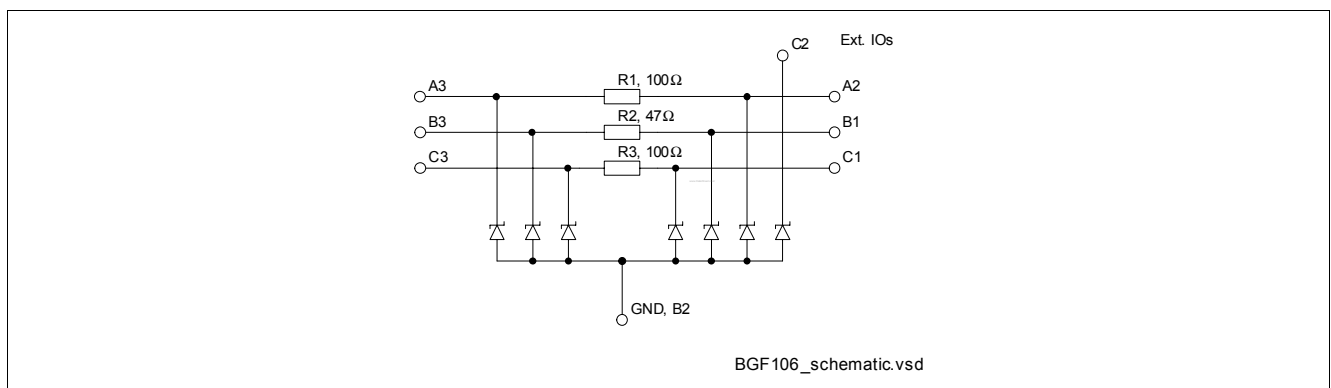


Figure 1 Schematic

| Type | Package | Marking | Chip |
|--------|---------|---------|-------|
| BGF106 | WLP-8-8 | GF106 | N0727 |

Table 1 Maximum Ratings

| Parameter | Symbol | Values | | | Unit | Note / Test Condition |
|-----------------------------------|-----------|--------|------|------|------|-----------------------|
| | | Min. | Typ. | Max. | | |
| Voltage at all pins to GND | V_P | 0 | – | 5 | V | – |
| Operating temperature range | T_{OP} | -40 | – | +85 | °C | – |
| Storage temperature range | T_{STG} | -65 | – | +150 | °C | – |
| Summed up into power for all pins | P_{in} | – | – | 60 | mW | $T_S < 70\text{ °C}$ |

Electrostatic Discharge According to IEC61000-4-2

| | | | | | | |
|---|-----------|-----|---|----|----|---|
| Contact discharge at internal pins A3, B3, C3 | V_{ESD} | -2 | – | 2 | kV | – |
| Contact discharge at external pins A2, B1, C1, C2 | V_{ESD} | -15 | – | 15 | kV | – |

Table 2 Electrical Characteristics¹⁾

| Parameter | Symbol | Values | | | Unit | Note / Test Condition |
|---|------------|--------|------|------|----------|--------------------------|
| | | Min. | Typ. | Max. | | |
| Resistors R_1, R_3 | $R_{1,3}$ | 80 | 100 | 120 | Ω | – |
| Resistor R_2 | R_2 | 37.6 | 47 | 56.4 | Ω | – |
| Reverse current of ESD protection diodes | I_R | – | 1 | 100 | nA | $V = 3\text{ V}$ |
| | | – | 2 | 1000 | nA | $V = 5\text{ V}$ |
| Breakdown voltage of ESD diodes | $V_{(BR)}$ | 6.5 | 7.8 | – | V | $I_{(BR)} = 1\text{ mA}$ |
| Line capacitance Capacitance of all lines to GND | C_T | – | 16.5 | 20 | pF | $V = 0\text{ V}$ |

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

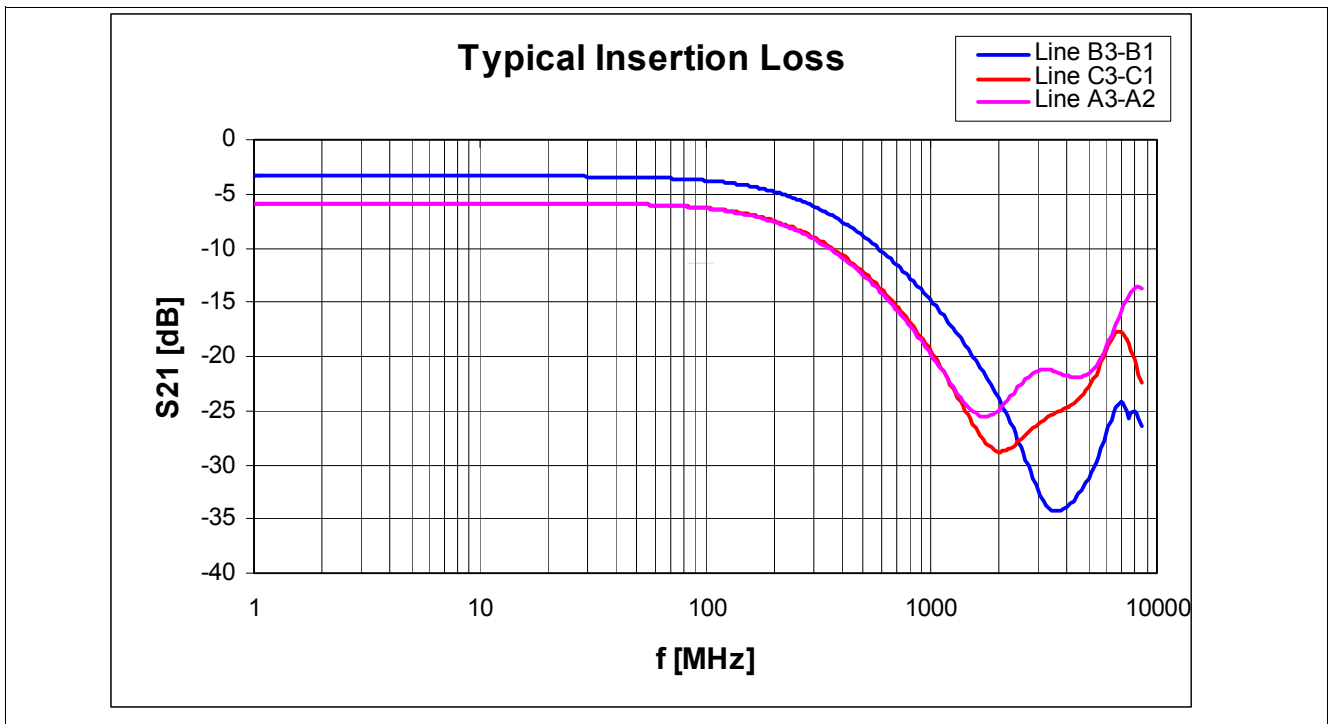


Figure 2 Insertion Loss

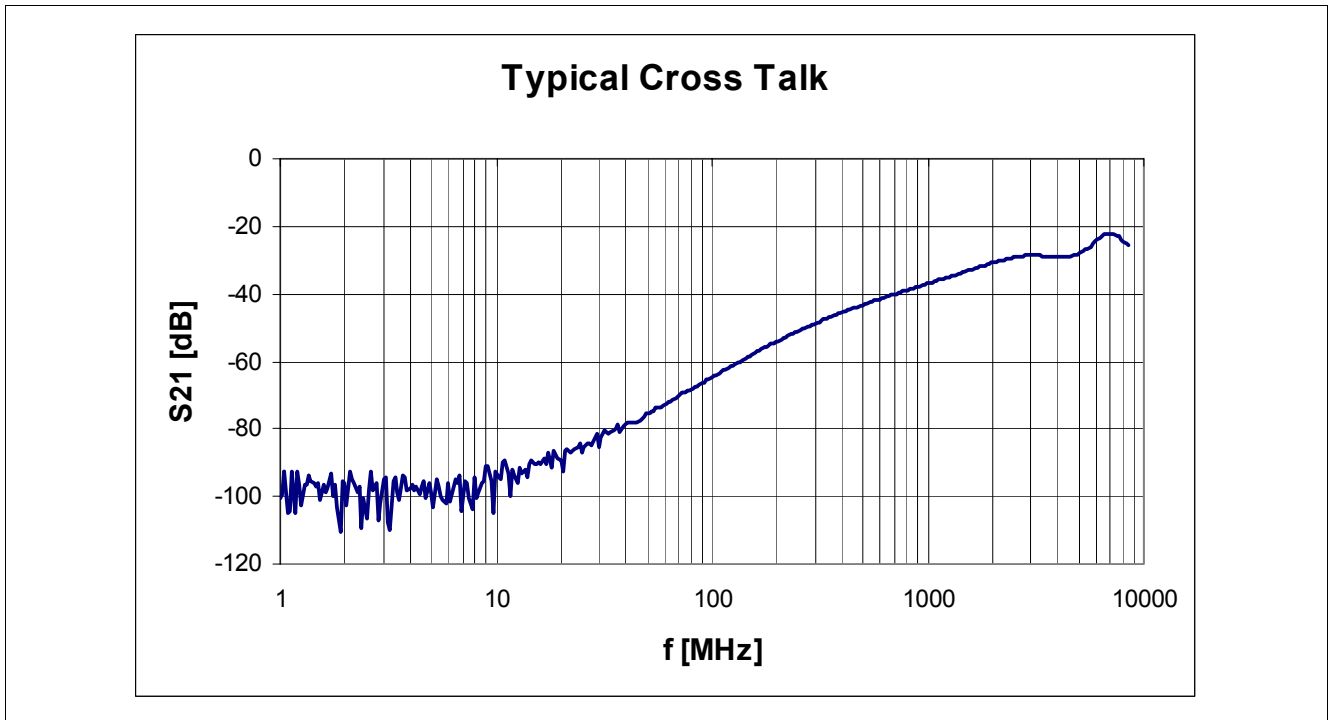


Figure 3 Cross Talk

Package Outlines

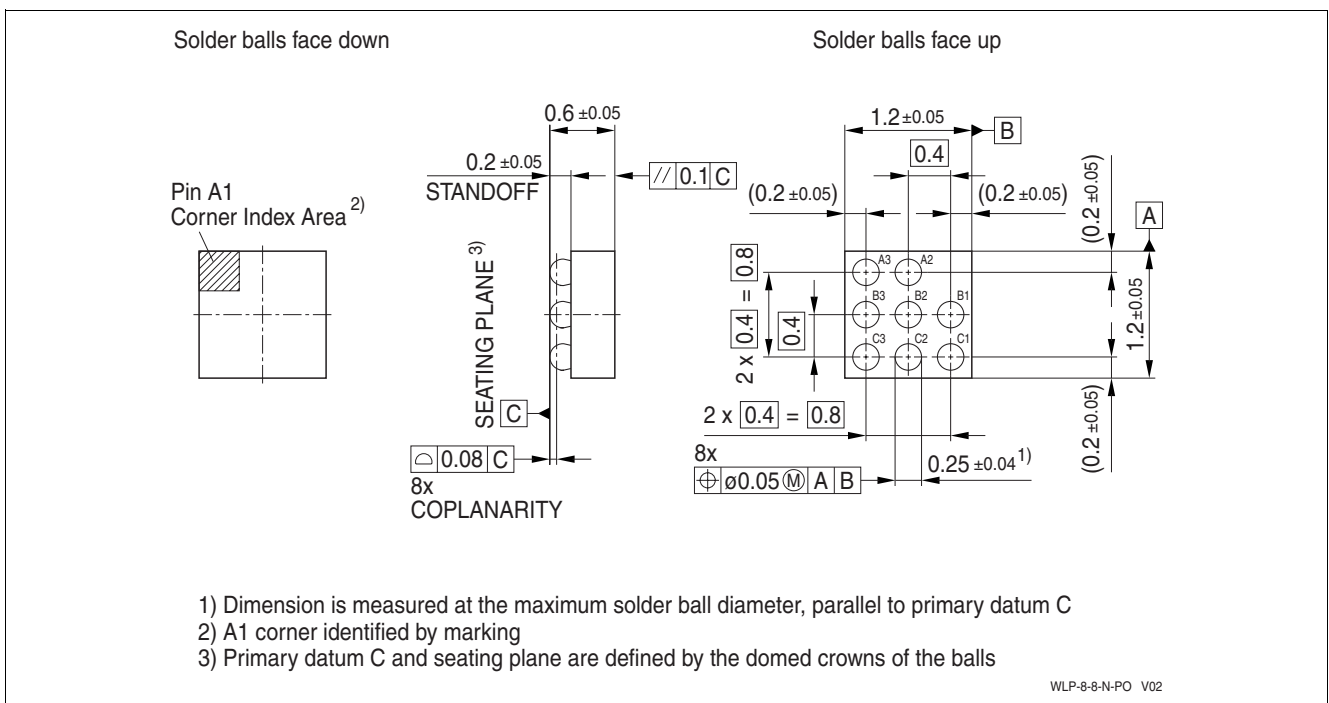


Figure 4 WLP-8-8 (Wafer Level Package)

Tape for BGF106

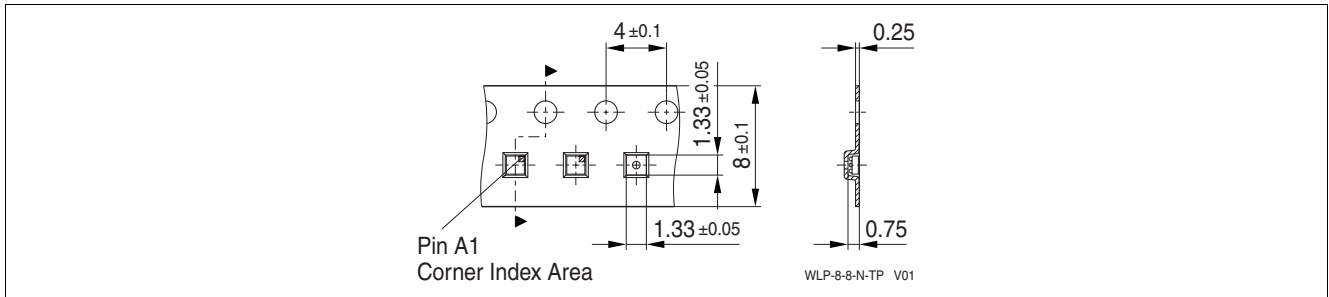


Figure 5 Tape for BGF106 / WLP-8-8

You can find all of our packages, sorts of packing and others in our Infineon Internet Page "Products":
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