BGF104

HSMMC Interface Filter and ESD Protection

Small Signal Discretes



Edition 2006-10-17

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BGF104	
Revisio	n History: 2006-10-17, V2.1
Previou	s Version: 2006-03-03
Page	Subjects (major changes since last revision)
All	Layout conformation

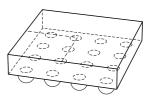


HSMMC Interface Filter and ESD Protection

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Feature

- ESD protection and filter for High Speed Multi Media Card interface
- · ESD protection up to 15 kV at the external IOs
- 16 pin green wafer level package with SnAgCu solder halls
- 500 μm solder ball pitch
- 300 μm solder ball diameter



WLP-16-1

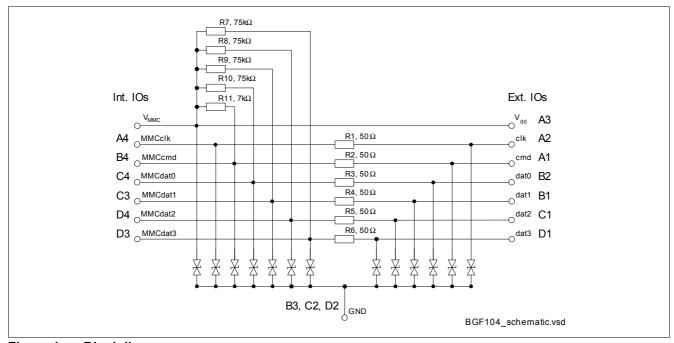


Figure 1 Blockdiagram

Description

The BGF104 is an ESD protection and filter circuit for a high speed multi media card interface. External pins are protected up to 15 kV contact discharge according to IEC61000-4-2. The wafer level package is a green package with a size of only 1.96 mm x 1.96 mm and a total height of 0.65 mm.

Type	Package	Marking	Chip
BGF104	WLP-16-1	BGF104	N0708



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Table 1 Maximum Ratings

Parameter	Symbol	Values			Unit	Note /
		Min.	Тур.	Max.		Test Condition
Voltage at all pins to GND	V_{P}	-14		14	V	
Operating temperature range	T_{OP}	-40		+85	°C	
Storage temperature range	T_{STG}	-65		+150	°C	
Electrostatic Discharge According to IEC6	1000-4-2			*		
Ext.IOs: A1, A2, A3, B1, B2, C1, D1	V_{E}	-15		15	kV	
Int. IOs: A4, B4; C3, C4, D3, D4	V_1	-2		2	kV	
Int. IOS: A4, B4; C3, C4, D3, D4	ν_1	-2		2	KV	

Table 2 Electrical Characteristics¹⁾

Parameter	Symbol	Values			Unit	Note /
		Min.	Тур.	Max.		Test Condition
Resistors R_1R_6	R ₁₆	40	50	60	Ω	
Resistors R_7R_{10}	R ₇₁₀	52.5	75	97.5	kΩ	
Resistor R ₁₁	R ₁₁	4.9	7	9.1	kΩ	
Reverse current of ESD protection diodes	I_{R}		5 0.1	100 10	nA μA	$V_{\rm R}$ = 3 V $V_{\rm R}$ = 14V
Line capacitance Capacitance of each line to GND	C_{T}		16	20	pF	<i>V</i> _R = 0 V

¹⁾ at $T_{A} = 25 \, ^{\circ}\text{C}$

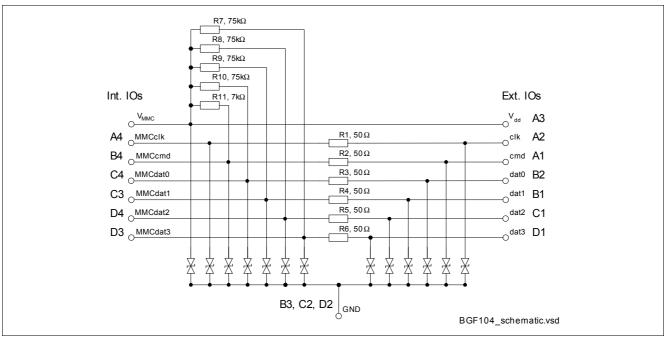


Figure 2 Schematic



HSMMC Interface Filter and ESD Protection

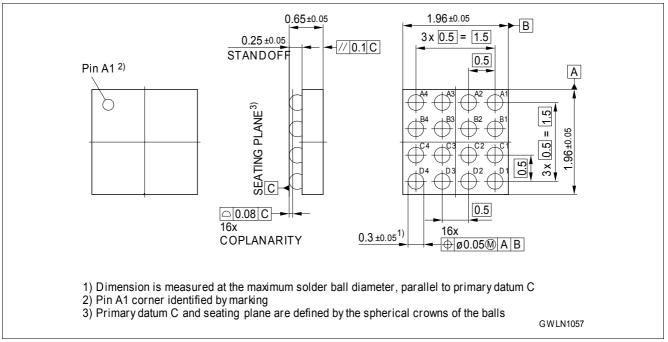


Figure 3 Package Outline WLP-16-1

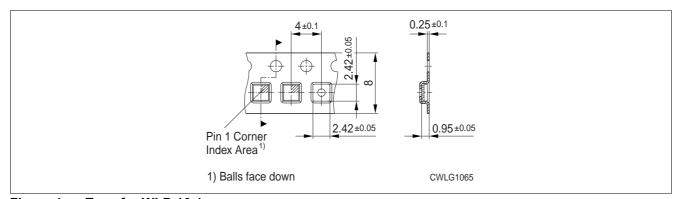


Figure 4 Tape for WLP-16-1