

BGF108

7 Channel LCD Filter Array with ESD Protection

Small Signal Discretes



Never stop thinking

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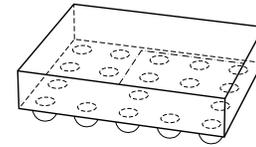
BGF108**Revision History: 2007-12-10, V2.0****Previous Version: 2006-12-14, V1.4**

Page	Subjects (major changes since last revision)
All	Preliminary status removed
5	Table 1 and Table 2 updated
6	Line capacitance, Insertion Loss and Analog Cross Talk curves updated
7	Package and tape drawing updated

7 Channel LCD Filter Array with ESD Protection

Feature

- 7 channel integrated RC filter array
- ESD protection according to IEC61000-4-2 up to 15 kV contact discharge on all IOs
- Wafer Level Package with SnAgCu solder balls
- 400 μm solder ball pitch
- RoHS and WEEE compliant package



WLP-18-1-N-3D

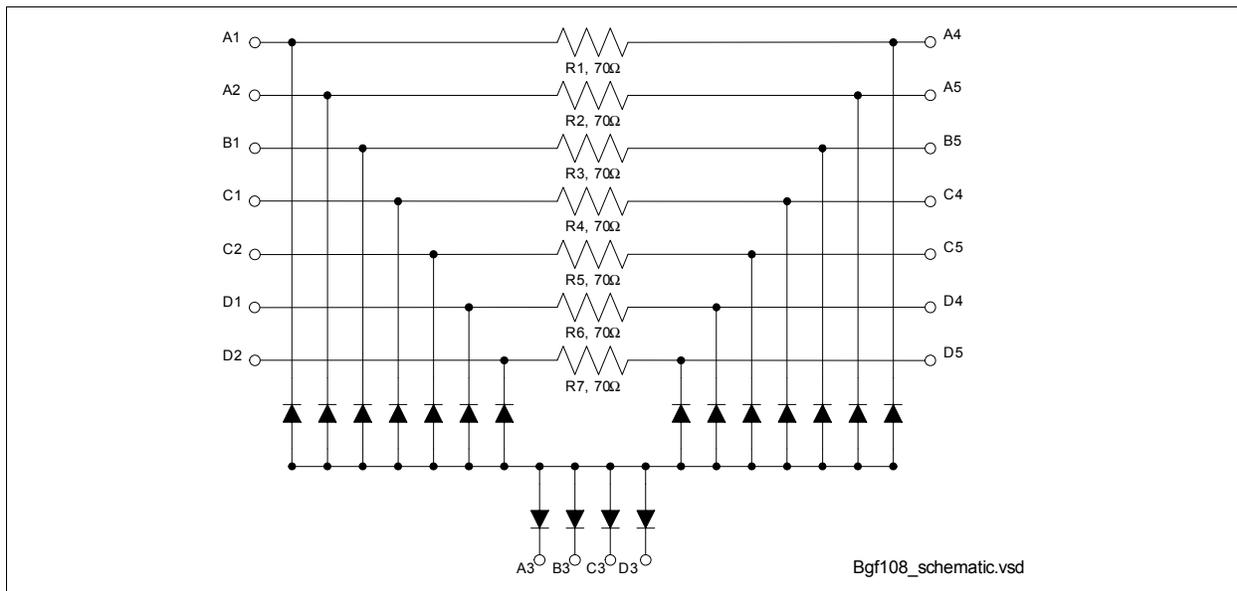


Figure 1 Schematic

Description

The BGF108 is a 7 channel RC filter array to provide EMI attenuation of undesired signals in the 800 - 2000 MHz range. All pins are protected against ESD up to 15 kV according to IEC61000-4-2 (contact discharge). The wafer level package is a green package with a size of only 1.68 mm x 2.02 mm and a total height of 0.60 mm.

Type	Package	Marking	Chip
BGF108	WLP-18-1	BGF108	N0715

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 input power for all pins	P_{IN}			60	mW	$T_S < 70\text{ °C}$
Electrostatic discharge according to IEC61000-4-2 ¹⁾ at all pins	V_E	-15		15	kV	

1) Contact discharge

Table 2 Electrical Characteristics¹⁾

Parameter	Symbol	Values			Unit	Note / Test Condition
		Min.	Typ.	Max.		
Series Resistors $R_1... R_{10}$	R	56	70	84	Ω	
Leakage current of each line to GND	I_R		1 2	100 1000	nA	$V_R = 3\text{ V}$ $V_R = 5\text{ V}$
Breakdown voltage of each line to GND	$V_{(BR)}$	7	8.2		V	$I_{(BR)} = 1\text{ mA}$
Line capacitance of each line to GND	C_T		27 17	30	pF	$V_R = 0\text{ V}$ $V_R = 3\text{ V}$

1) at $T_A = 25\text{ °C}$

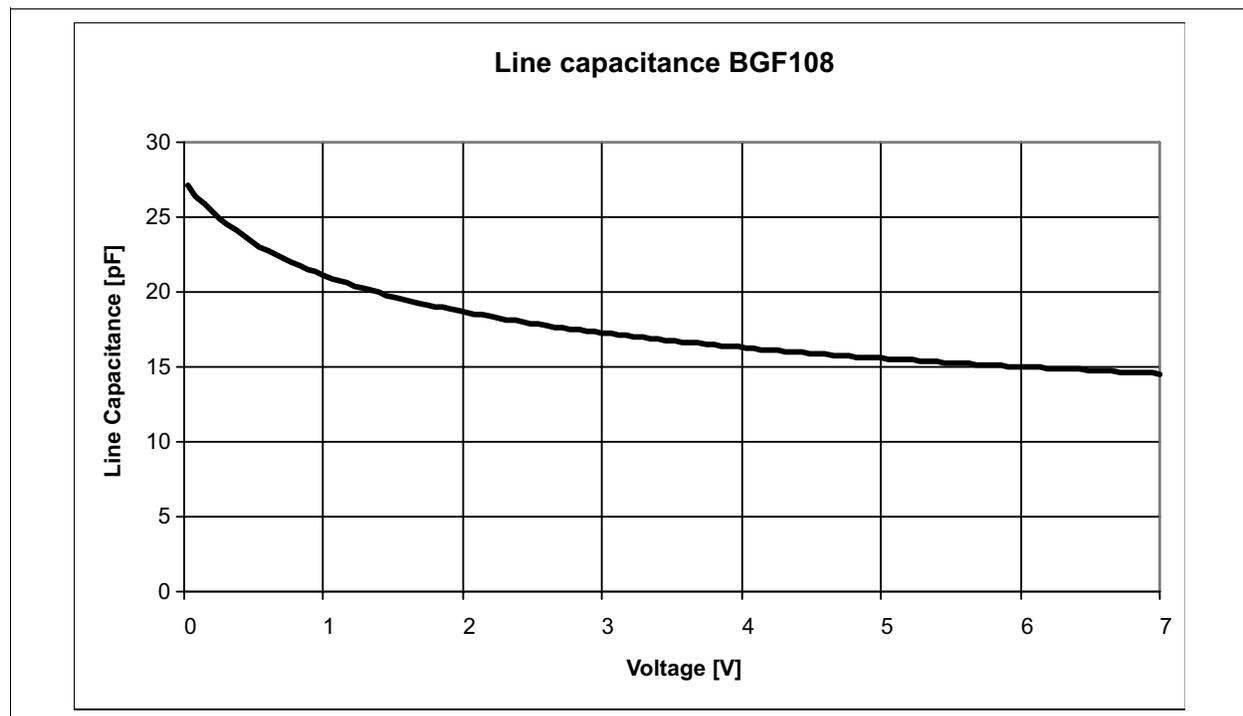


Figure 2 Capacitance of one line to GND versus DC voltage

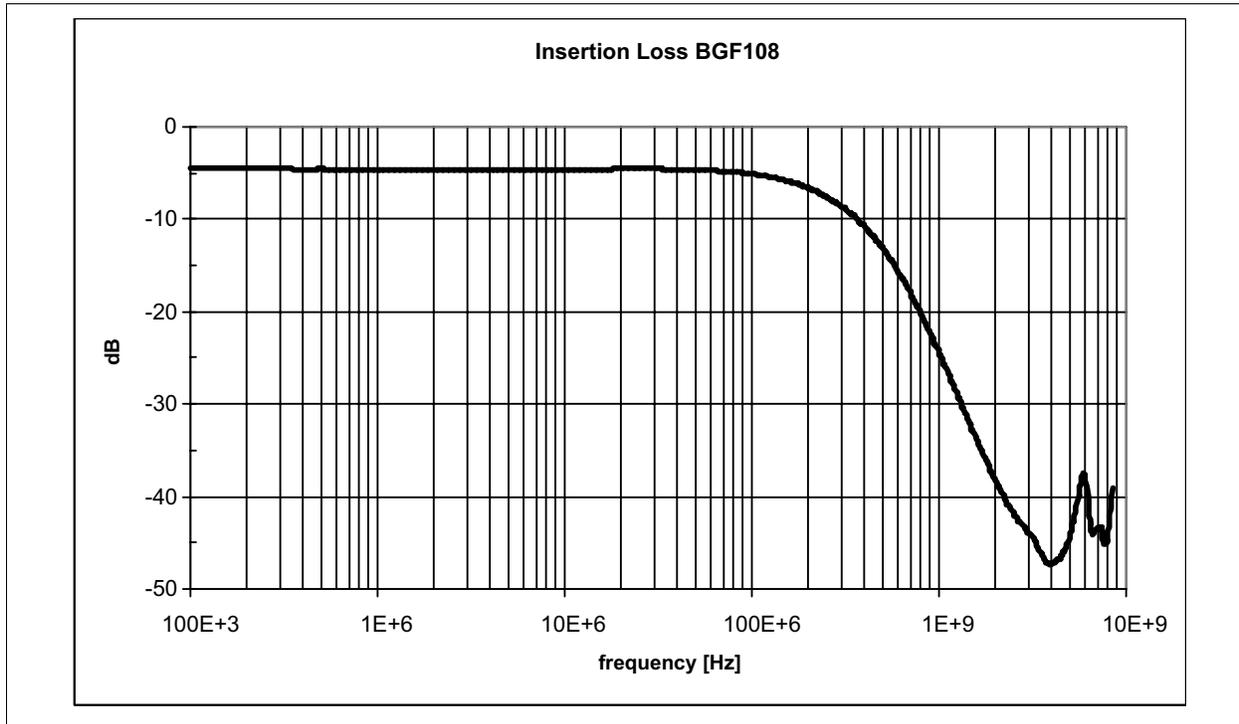


Figure 3 Typical filter characteristics of on channel ($Z_S = Z_L = 50 \Omega$, $V_R = 0 V$)

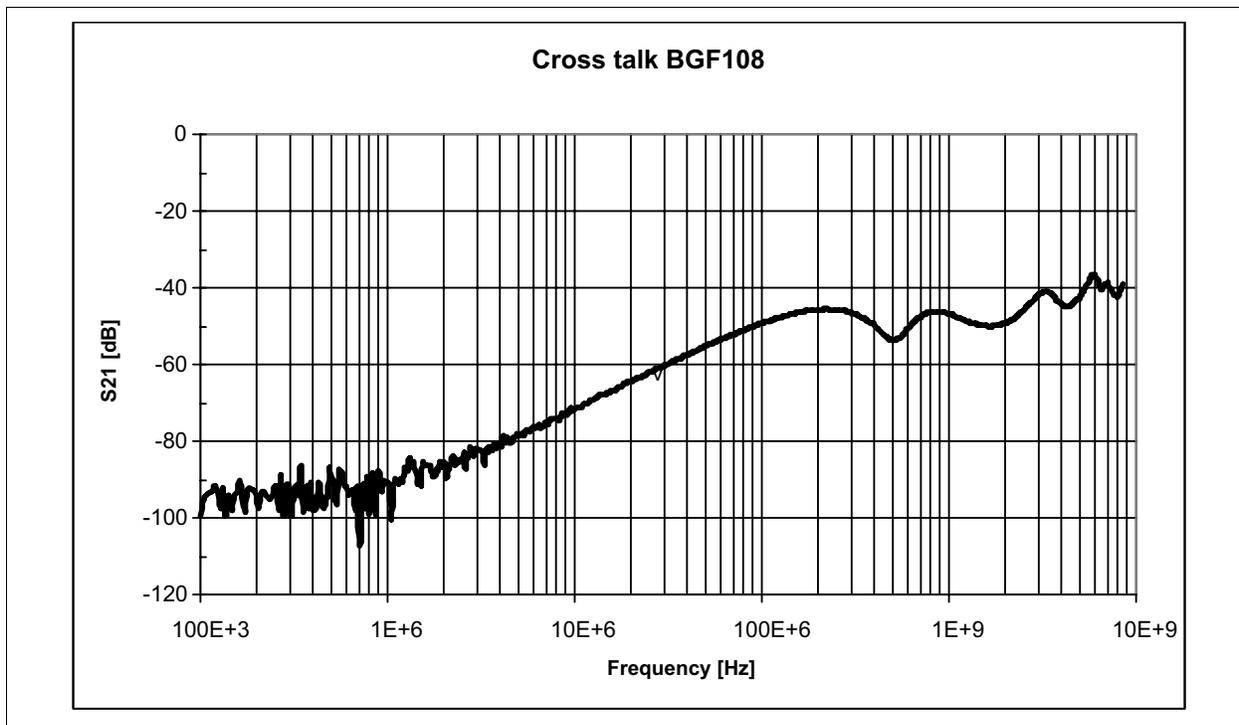


Figure 4 Typical cross talk between two channels ($Z_S = Z_L = 50 \Omega$, $V_R = 0 V$)

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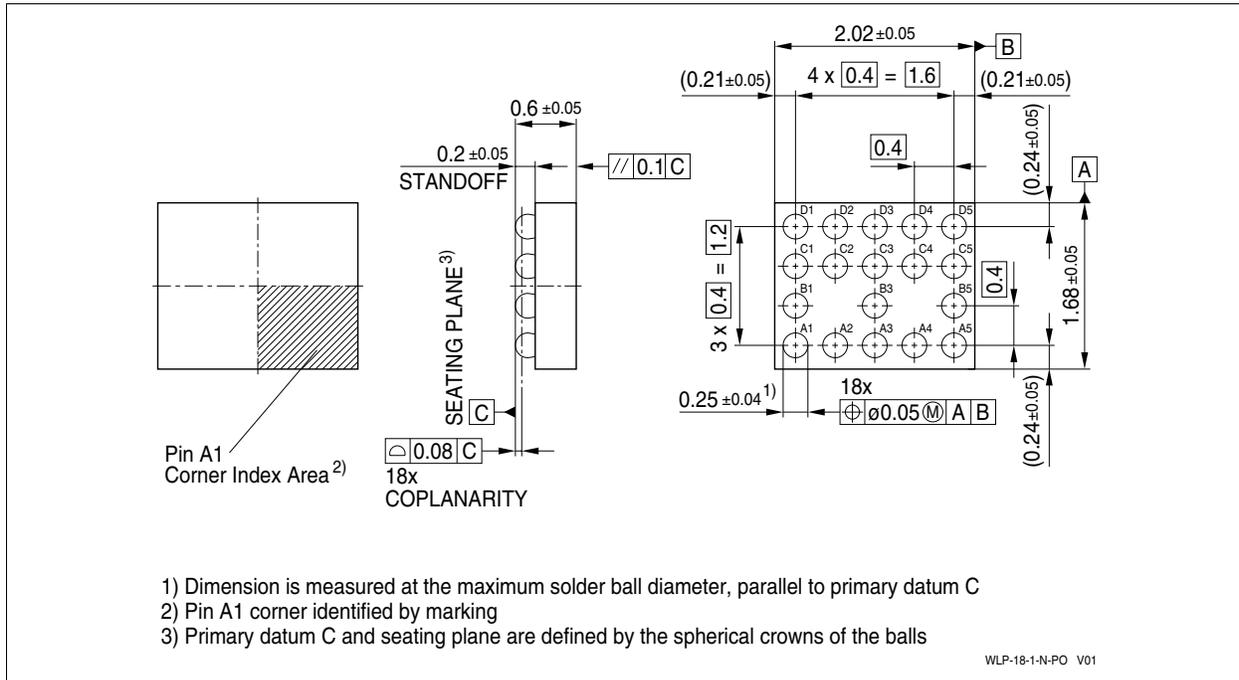


Figure 5 Package WLP-18-1

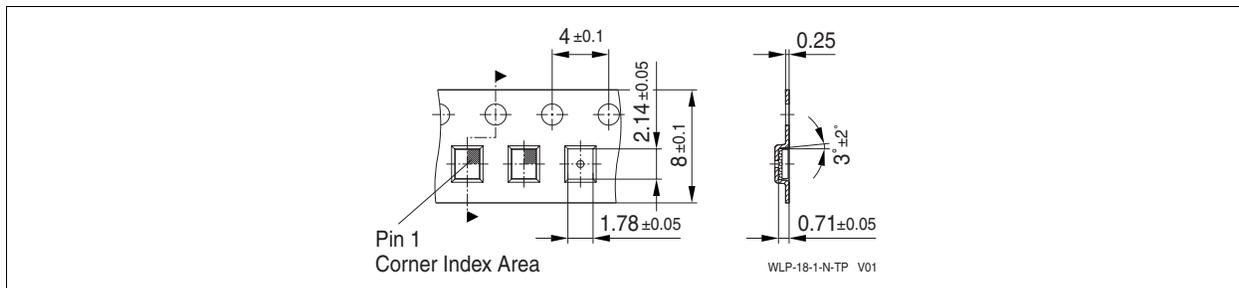


Figure 6 Tape of WLP-18-1