

# BGF108C

7 Channel LCD Filter Array with ESD Protection

Small Signal Discretes



Never stop thinking

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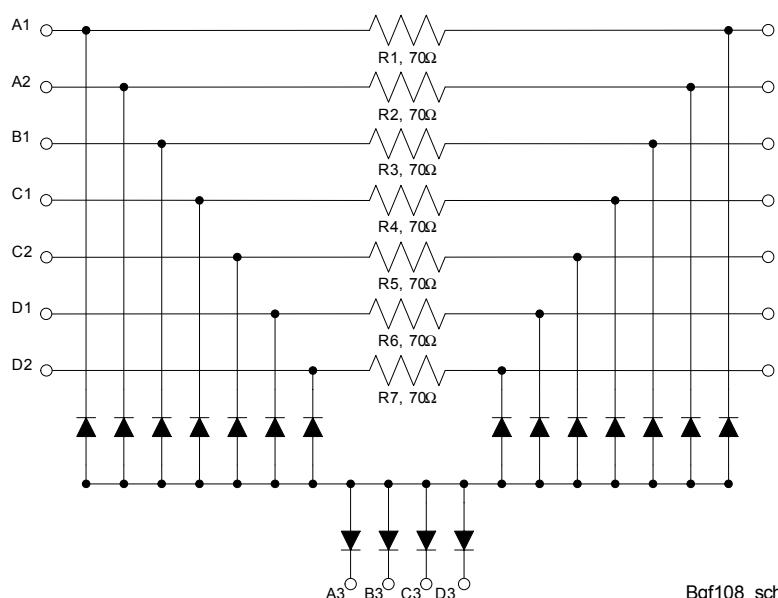
**BGF108C****Revision History: 2008-12-12, V2.0****Previous Version: 2008-10-14, V1.0**

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

## 7 Channel LCD Filter Array with ESD Protection

### Feature

- 7 channel integrated RC filter array
- ESD protection according to IEC61000-4-2 of 15 kV contact discharge on all IOs
- Wafer Level Package with SnAgCu solder balls
- 400  $\mu$ m solder ball pitch
- RoHS and WEEE compliant package
- Improved package for increased drop test reliability



**Figure 1 Schematic**

### Description

BGF108C is a 7 channel RC filter array to provide attenuation of undesired signals in the 800 - 2000 MHz range. All pins are protected against ESD of 15 kV according to IEC61000-4-2 (contact discharge). The wafer level package is a green package with a size of only 1.95 mm x 2.07 mm and a total height of 0.60 mm. The package has been improved for increased drop test reliability.

Type	Package	Marking	Chip
BGF108C	WLP-18-4	GF108C	N0715

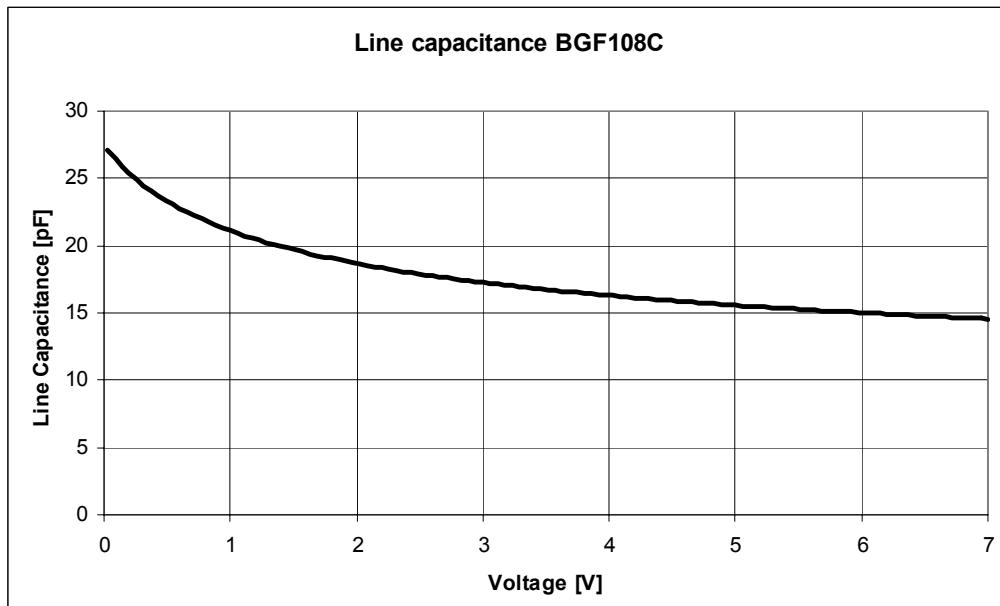
**Table 1 Maximum Ratings**

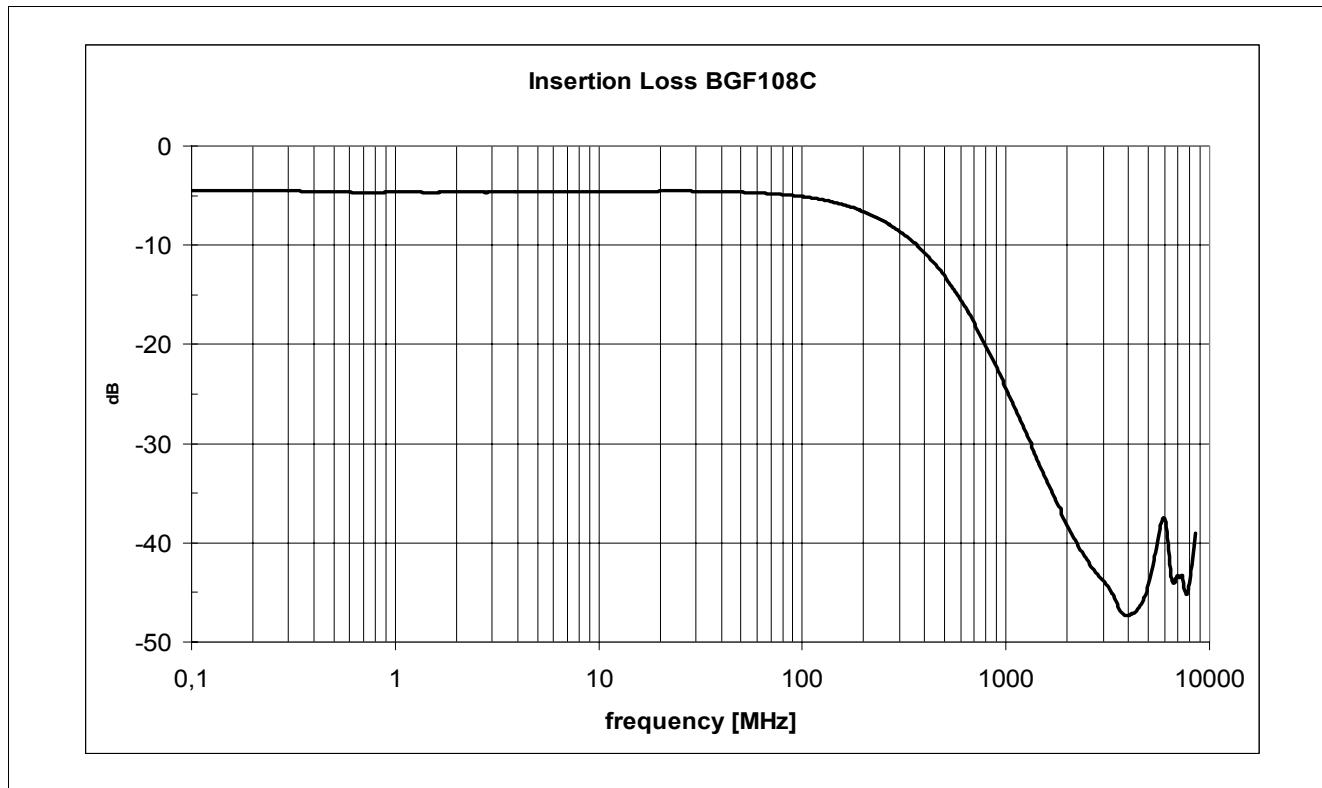
Parameter	Symbol	Values			Unit	Note / Test Condition
		Min.	Typ.	Max.		
Voltage at all pins to GND	$V_P$	0		5	V	
Operating temperature range	$T_{OP}$	-40		+85	°C	
Storage temperature range	$T_{STG}$	-65		+150	°C	
Summed up input power for all pins	$P_{IN}$			60	mW	$T_S < 70 \text{ } ^\circ\text{C}$
Electrostatic discharge according to IEC61000-4-2 <sup>1)</sup> at all pins	$V_E$	-15		15	kV	

1) Contact discharge

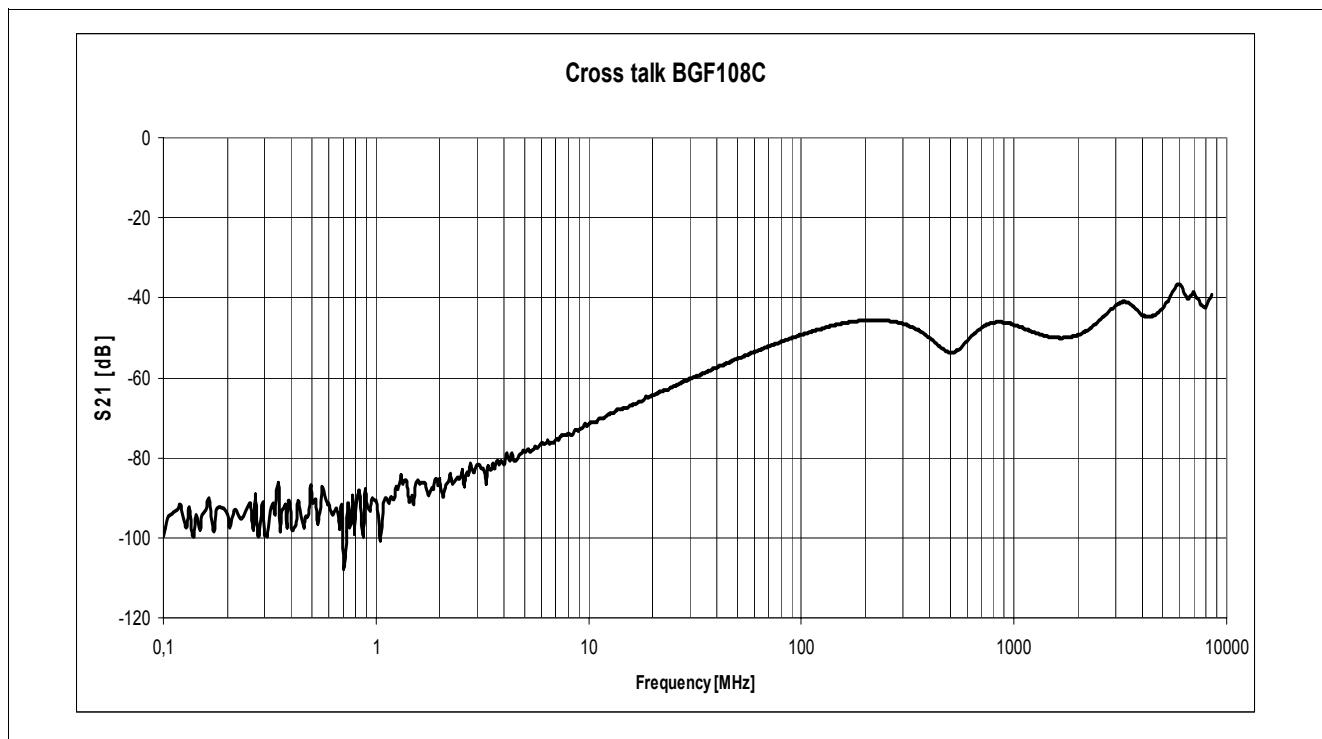
**Table 2 Electrical Characteristics<sup>1)</sup>**

Parameter	Symbol	Values			Unit	Note / Test Condition
		Min.	Typ.	Max.		
Series Resistors $R_1 \dots R_{10}$	$R$	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	$V_R = 0 \text{ V}$ $V_R = 3 \text{ V}$

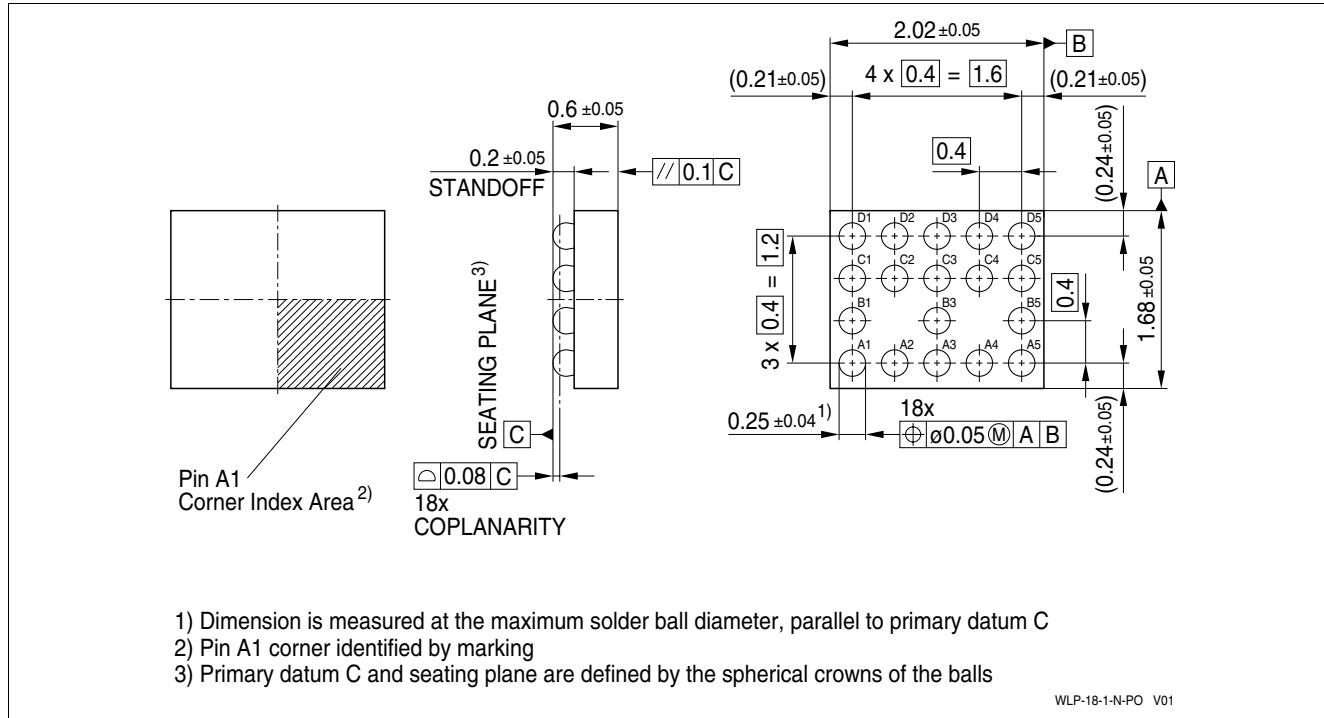
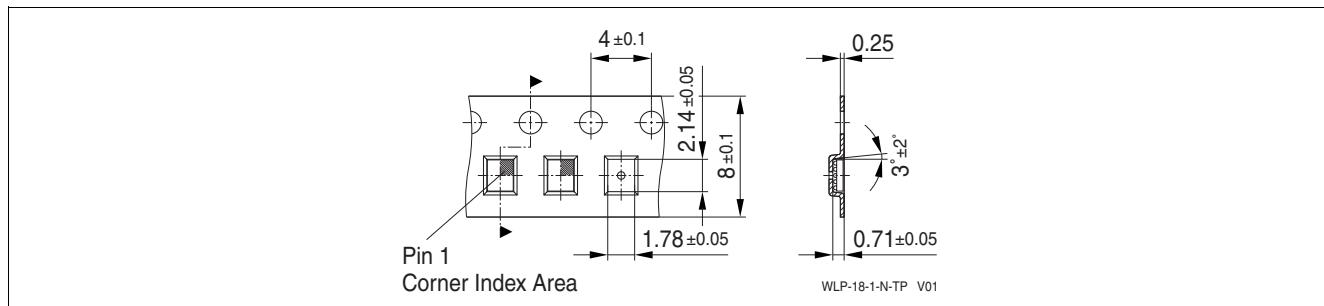
1) at  $T_A = 25 \text{ } ^\circ\text{C}$ 

**Figure 2 Capacitance of one line to GND versus DC voltage**



**Figure 3** Typical filter characteristics of one filter channel ( $Z_S = Z_L = 50 \Omega$ ,  $V_R = 0 \text{ V}$ )



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

**Package Outline**

**Figure 5 Package WLP-18-4 (dimensions in mm)**
**Tape and reel specification**

**Figure 6 Tape for WLP-18-4 (dimensions in mm)**

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