

BGF108L

7 Channel LCD Filter Array with ESD Protection

Small Signal Discretes



Never stop thinking

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BGF108L**Revision History: 2008-10-23, V3.0****Previous Version: 2008-06-13, V2.0**

Page	Subjects (major changes since last revision)
All	Preliminary status removed
4	Feature, Description
5	Total dissipated power, Stopband attenuation, Cross talk
6	Figure 2

7 Channel LCD Filter Array with ESD Protection

Feature

- 7 channel integrated 5th order LC filter array
- Enhanced filtering of mobile phone frequencies by LC filter
- ESD protection of ± 15 kV contact discharge on all IOs according to IEC61000-4-2
- Wafer Level Package with SnAgCu solder balls
- 400 μm solder ball pitch
- RoHS and WEEE compliant package

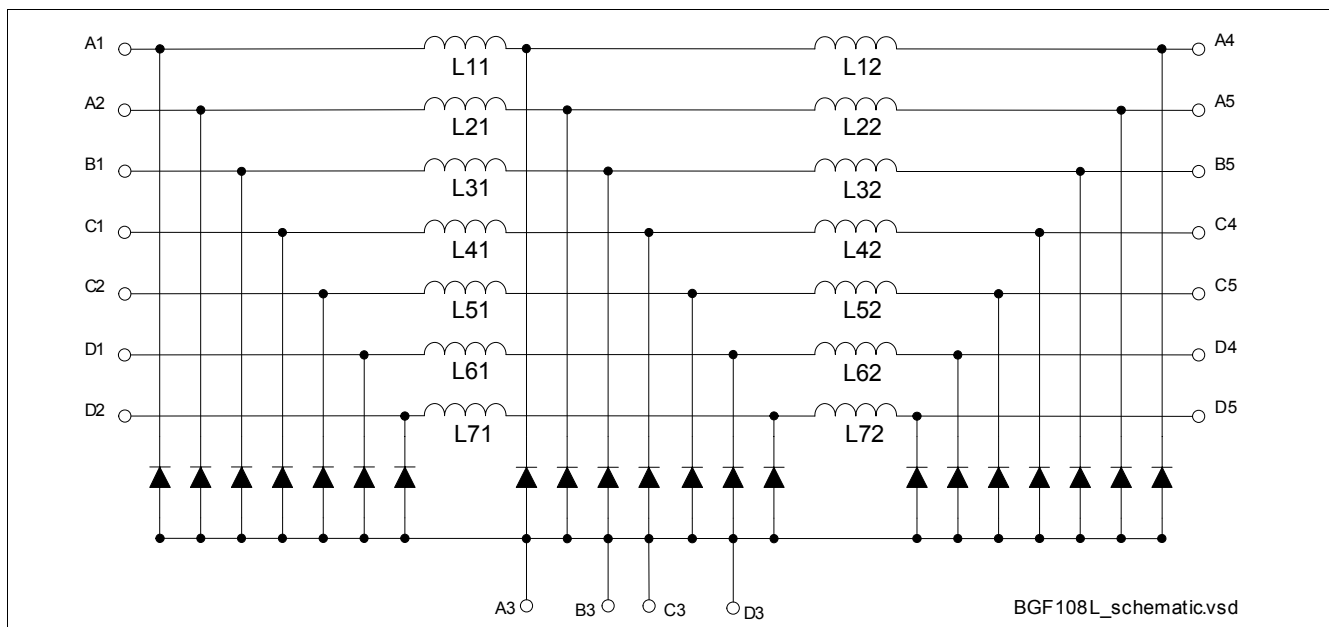


Figure 1 Schematic

Description

BGF108L is a 7 channel 5th order LC filter array to provide superior signal attenuation in the 800 - 2200 MHz range. EMI filtering is very good regarding suppression of interference caused by high power TX signals or interference to RX frequency bands caused by data signal harmonics in mobile phones.

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 2.1 mm x 1.7 mm and a total height of 0.6 mm.

Type	Package	Marking	Chip
BGF108L	WLP-18-2	BGF108L	N0737

7 Channel LCD Filter Array with ESD Protection

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	
DC current each line ¹⁾	I_{DC}			25	mA	$T_A < 85\text{ °C}$
Total dissipated power for all lines	P_{diss}			160	mW	$T_A < 85\text{ °C}$
Electrostatic discharge according to IEC61000-4-2 ²⁾ at all pins	V_{ESD}	-15		+15	kV	

1) Total dissipated power must not be exceeded

2) Contact discharge

Table 2 Electrical Characteristics¹⁾

Parameter	Symbol	Values			Unit	Note / Test Condition
		Min.	Typ.	Max.		
Series resistance $R_1... R_7$	R	68	90	112	Ω	
Line capacitance of each line to GND	C_T	36	42.5 28	49	pF	$V_R = 0\text{ V}$ $V_R = 3\text{ V}$
Leakage currents of lines to GND	I_R			200	nA	$V_R = 3\text{ V}$
Breakdown voltage of ESD diodes	$V_{(BR)}$	6.5	7.8	-	V	$I_{(BR)} = 1\text{ mA}$
Stopband attenuation Input to output pin ²⁾	IL_{800} IL_{2200}		45 45		dB	$f = 800\text{ MHz}$ $f = 2200\text{ MHz}$
Cross talk between 2 adjacent channels with all pins terminated ²⁾	CT_{800} CT_{2200}		-45 -40		dB	$f = 800\text{ MHz}$ $f = 2200\text{ MHz}$

1) at $T_A = 25\text{ °C}$

2) $Z_S = Z_L = 50\text{ Ω}$, 0 V bias

7 Channel LCD Filter Array with ESD Protection

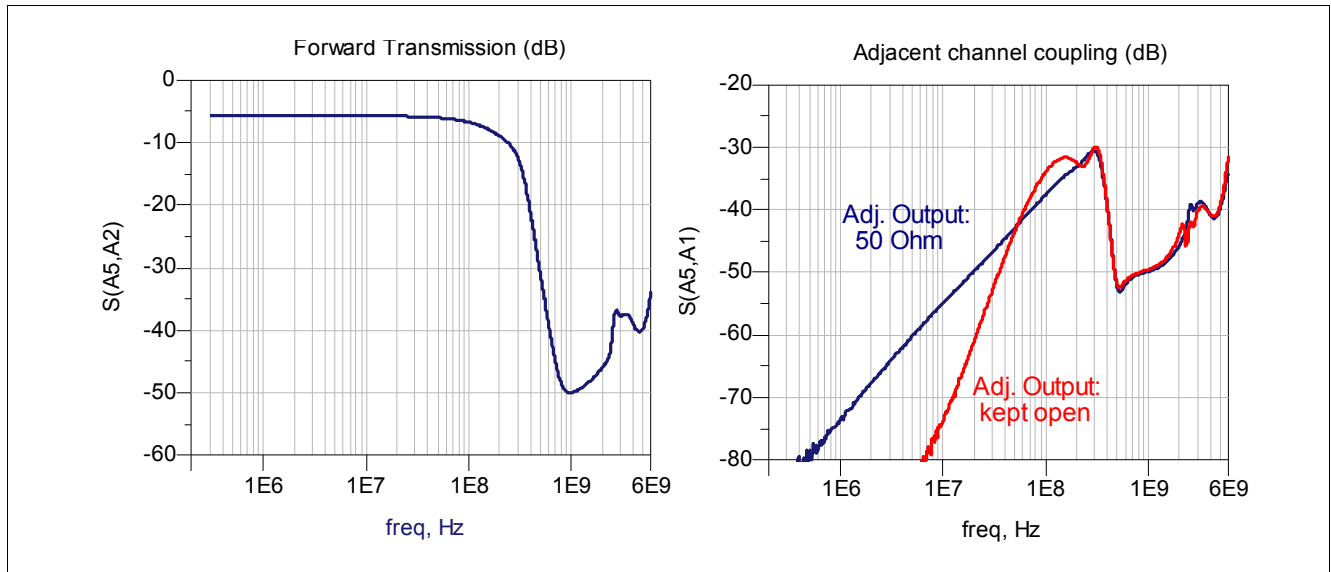


Figure 2 Filter characteristic of one channel and the crosstalk between adjacent channels with different termination

Package Outline

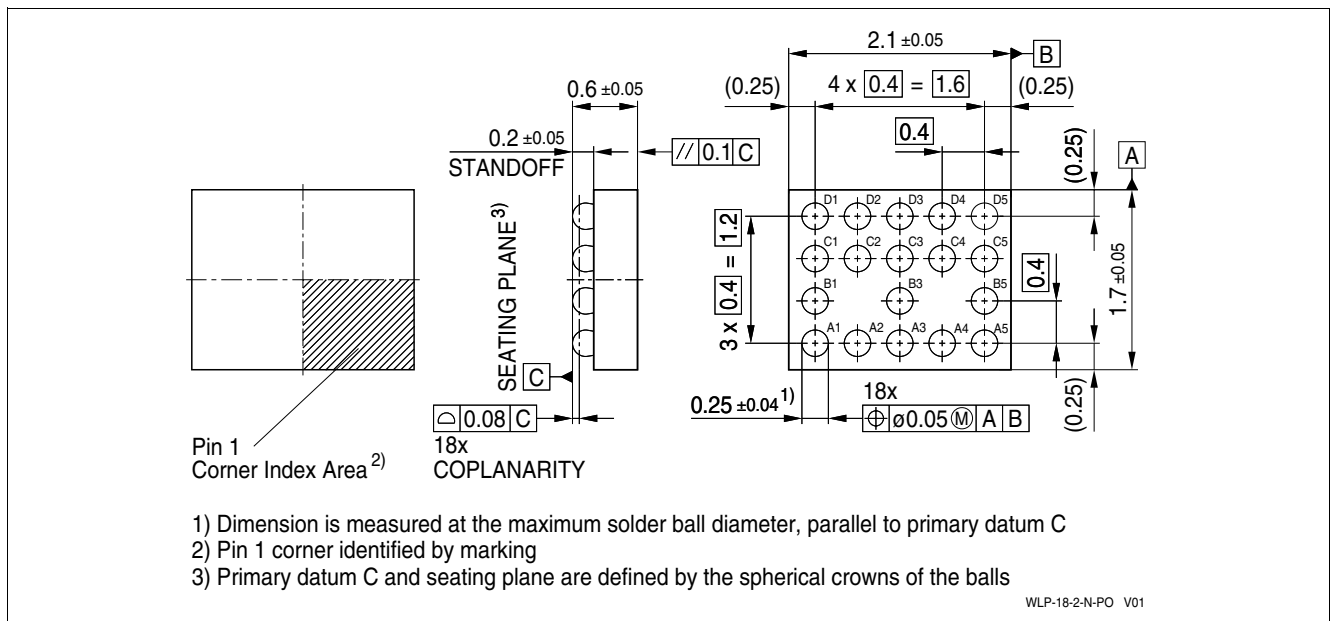


Figure 3 Package WLP-18-2 (dimensions in mm)

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Tape and reel specification

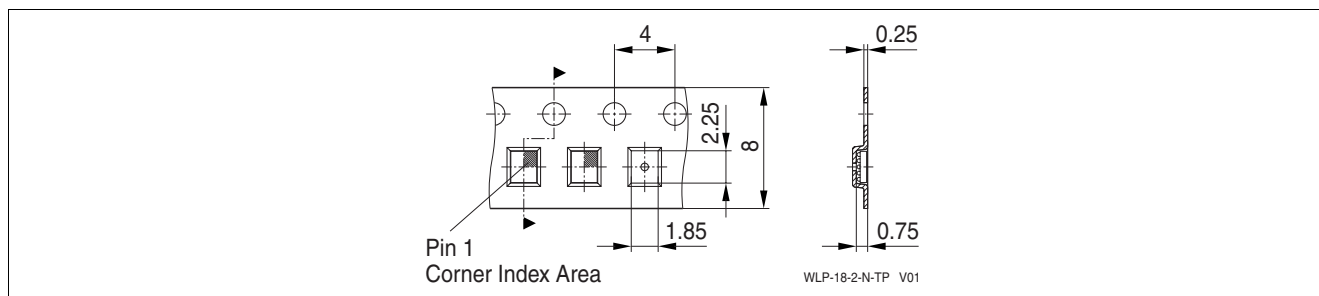


Figure 4 Tape for WLP-18-2 (dimensions in mm)