



SAW Components

SAW filter

MediaFLO

Series/type:	B7738
Ordering code:	B39721B7738K710
Date:	May 16, 2006
Version:	2.0



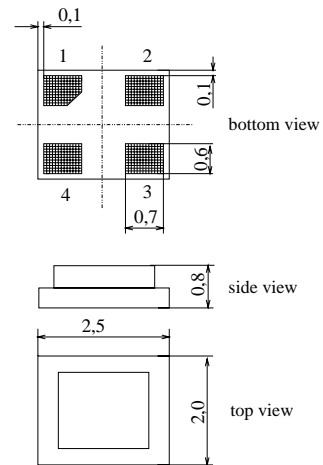
Application

- Low-loss RF filter for MediaFLO TV application in mobile telephone systems
- High selectivity
- Usable passband: 5 MHz
- No matching required for operation at 50Ω



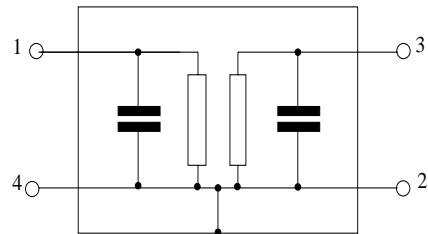
Features

- Package size 2.5 x 2.0 x 0.8 mm³
- Package code DCS4H
- RoHS compatible
- Approximate weight 0.015 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 1 Input
- 3 Output
- 2,4 To be grounded





Data sheet



Characteristics

Temperature range for specification: T = -30 °C to +85 °C
 Terminating source impedance: Z_S = 50 Ω
 Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	719.0	—	MHz
Maximum insertion attenuation	α _{max}	—	2.6	3.0	dB _{INT} ¹⁾
716.5 ... 721.5MHz					
Amplitude ripple (p-p)	Δα	—	0.4	2.0	dB
716.5 ... 721.5MHz					
Return Loss (Input/Output)		10.0	16.0	—	
716.5 ... 721.5MHz					
Group delay ripple (p-p)		—	20	80	ns
716.5 ... 721.5MHz					
Attenuation	α				
0.1 ... 690.0MHz		40.0	46.0	—	dB
690.0 ... 704.0MHz		35.0	40.0	—	dB
704.0 ... 710.0MHz		30.0	40.0	—	dB _{INT}
710.0 ... 716.0MHz		4.5 ²⁾	9.5	—	dB _{INT}
722.0 ... 728.0MHz		4.5 ³⁾	9.0	—	dB _{INT}
728.0 ... 734.0MHz		30.0	36.0	—	dB _{INT}
734.0 ... 750.0MHz		29.0	34.0	—	dB
750.0 ... 824.0MHz		40.0	45.0	—	dB
824.0 ... 960.0MHz		45.0	50.0	—	dB
960.0 ... 2500.0MHz		32.0	37.0	—	dB

1) dB_{INT} is integrated rejection (see formula below)

$$dB_{INT} = \frac{\sum_{n=1}^N \frac{Loss(F_{n-1}) + Loss(F_n)}{2} \times (F_n - F_{n-1})}{F_N - F_1}$$

Where Loss(F_n) = 10^{(S₂₁indB)/20}

N = Number of frequency, insertion pairs

2) 7.0dB_{INT} at 25 °C

3) 7.0dB_{INT} at 25 °C



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719.0 MHz

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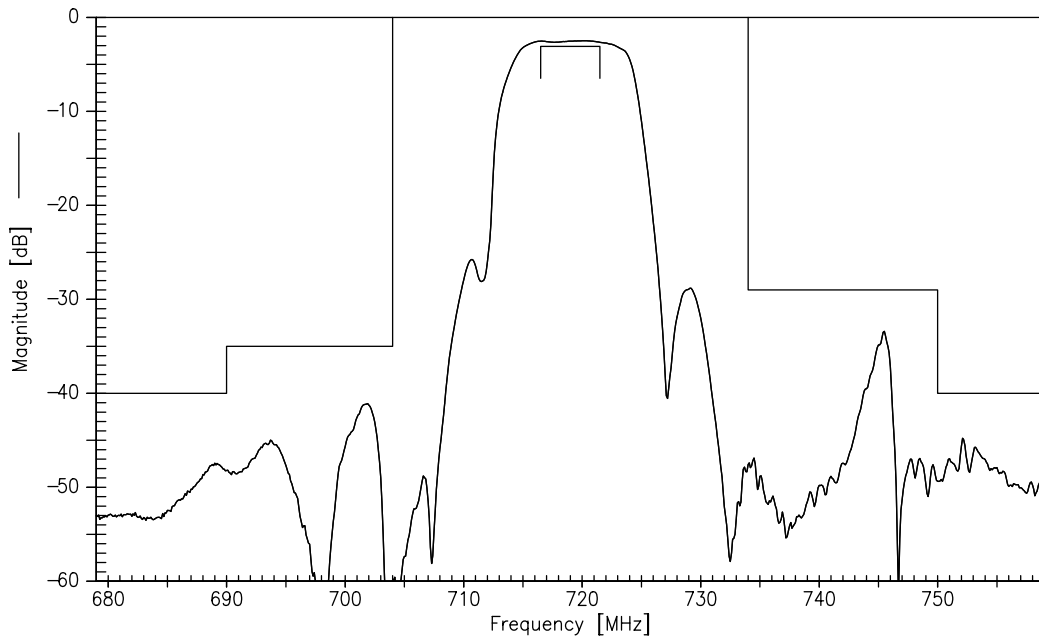
Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	3	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	machine model, 10 pulses
Input power at				
400.0 ... 500.0MHz				
800.0 ... 2500.0MHz	P _{IN}	15	dBm	CW

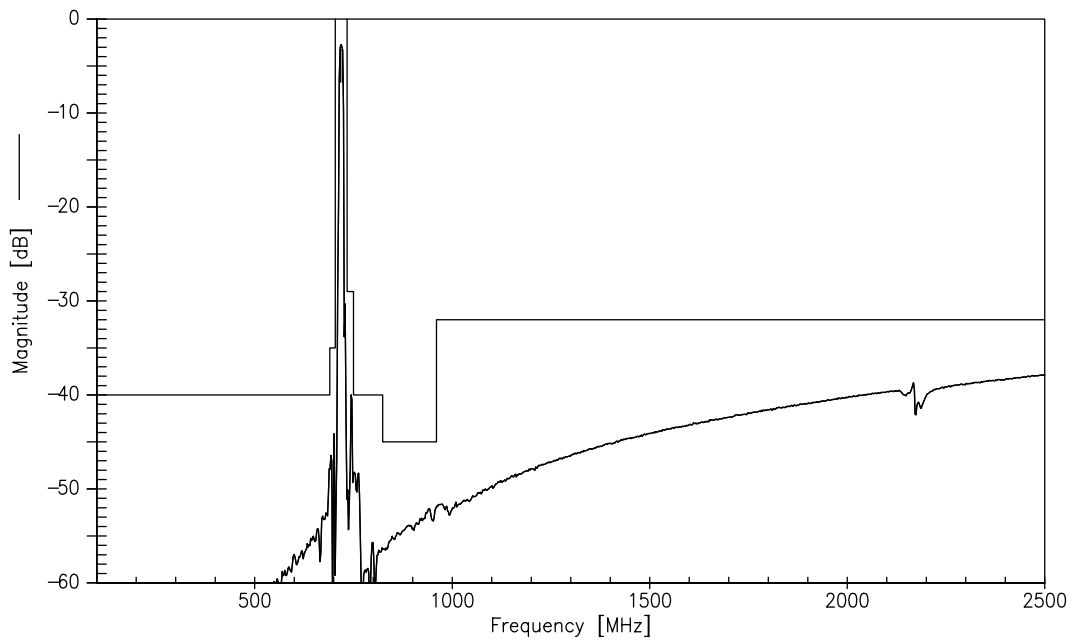
¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function



Transfer function (wideband)



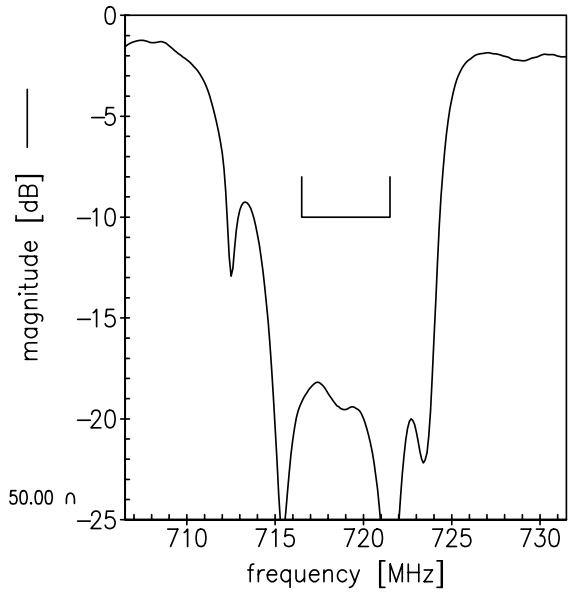
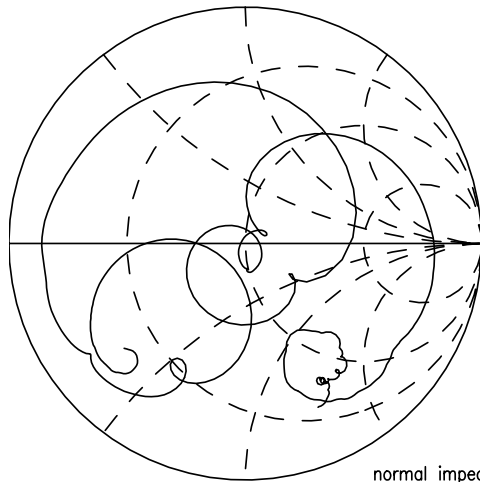


Data sheet

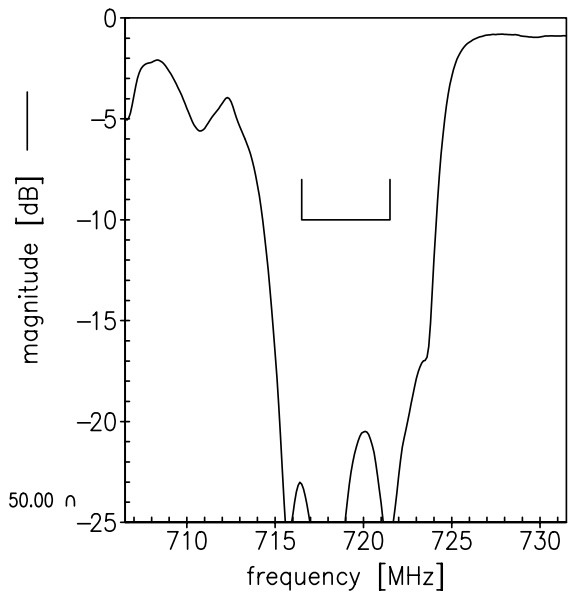
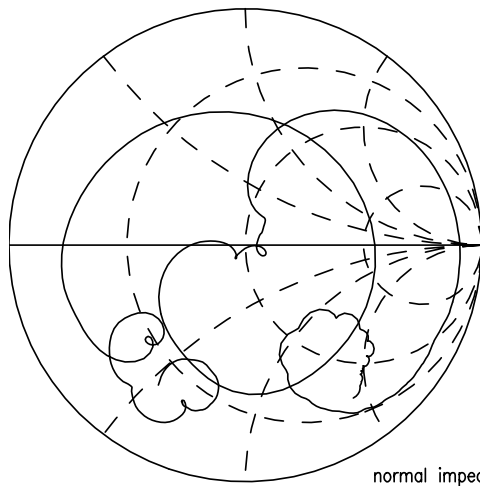


Smith charts

S₁₁ function



S₂₂ function





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719.0 MHz

Data sheet



References

Type	B7738
Ordering code	B39721B7738K710
Marking and package	C61157-A7-A80
Packaging	F61074-V8189-Z000
Date codes	L_1126
S-parameters	B7738_NB.s2p B7738_WB.s2p
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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