

Bandpass Filter for Digital Terrestrial TV Applications

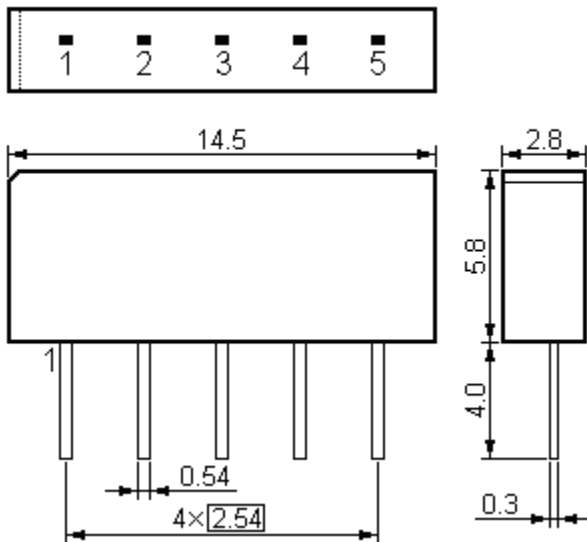
36.17 MHz

ACTX2748D/36.17/SIP5D

Features

- n IF filter for digital TV
- n Switchable between two bandwidths
- n Optimised for cascade of two devices
- n Plastic Package

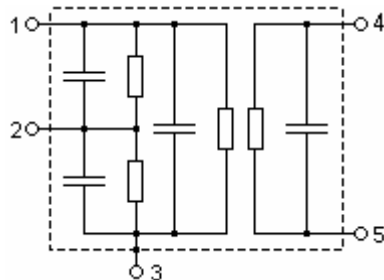
Package Dimension



Pin Configuration

- 1 Input
- 2 Switching Input
- 3 Chip carrier - ground
- 4 Output
- 5 Output

Plastic Package **SIP5D**
 Unit: mm



In keeping with our ongoing policy of product evolution and improvement, the above specification is subject to change without notice.

ISO9001: 2000 Registered - Registration number 6830/2

For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berks, RG41 2EY, UK

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Issue : 1 C1

Date : SEPT 04

Performance

Maximum Ratings

Rating		Value	Unit
Operable Temperature Range	T_A	-25 to +65	°C
Storage Temperature Range	T_{stg}	-40 to +85	°C
DC Voltage (between any terminals)	V_{DC}	5	V
AC Voltage (between any terminals)	V_{PP}	10	V

Characteristics of channel 1 (switching pin 2 connected to ground)

Reference temperature:

$$T_A = 25 \text{ °C}$$

Terminating source impedance:

$$Z_S = 50 \text{ } \Omega$$

Terminating load impedance:

$$Z_L = 2 \text{ k}\Omega \parallel 3 \text{ pF}$$

Item		min.	typ.	max.	Unit
Insertion attenuation	IL				
Reference level for the following data	36.17 MHz	19.5	21.0	22.5	dB
Pass bandwidth					
$\alpha_{rel} \leq 1.5 \text{ dB}$	$BW_{1.5}$	7.2	7.5	7.8	MHz
$\alpha_{rel} \leq 3 \text{ dB}$	BW_3	7.7	8.0	8.3	MHz
$\alpha_{rel} \leq 15 \text{ dB}$	BW_{15}	8.6	8.9	9.2	MHz
$\alpha_{rel} \leq 30 \text{ dB}$	BW_{30}	8.8	9.4	10.0	MHz
Relative attenuation	α_{rel}				
Lower sidelobe	25.00 ... 31.15 MHz	28.0	34.0	—	dB
Upper sidelobe	41.15 ... 42.00 MHz	27.0	33.0	—	dB
	42.00 ... 45.00 MHz	24.0	30.0	—	dB
Reflected wave signal suppression					
1.1 μ s ... 6.0 μ s after main pulse (test pulse 250 ns, carrier frequency 36.17 MHz)		42.0	50.0	—	dB
Feed-through signal suppression					
1.3 μ s ... 1.2 μ s before main pulse (test pulse 250 ns, carrier frequency 36.17 MHz)		—	50.0	—	dB
Group delay ripple (p-p)	Δt				
32.25 ... 40.05 MHz		—	50	—	ns
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K

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Characteristics of channel 2 (switching pin 2 connected to pin 1)

Reference temperature: $T_A = 25\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 2\text{ k}\Omega \parallel 3\text{ pF}$

Item		min.	typ.	max.	Unit
Insertion attenuation	IL				
Reference level for the following data	36.17 MHz	19.5	21.0	22.5	dB
Pass bandwidth					
$\alpha_{rel} \leq 1.5\text{ dB}$	$BW_{1.5}$	6.4	6.7	7.0	MHz
$\alpha_{rel} \leq 3\text{ dB}$	BW_3	6.7	7.0	7.3	MHz
$\alpha_{rel} \leq 15\text{ dB}$	BW_{15}	7.7	8.0	8.3	MHz
$\alpha_{rel} \leq 30\text{ dB}$	BW_{30}	7.9	8.5	9.1	MHz
Relative attenuation	α_{rel}				
Lower sidelobe	25.00 ... 31.55 MHz	28.0	34.0	—	dB
Upper sidelobe	40.75 ... 45.00 MHz	27.0	32.0	—	dB
Reflected wave signal suppression					
1.1 μ s ... 6.0 μ s after main pulse (test pulse 250 ns, carrier frequency 36.17 MHz)		42.0	50.0	—	dB
Feed-through signal suppression					
1.3 μ s ... 1.2 μ s before main pulse (test pulse 250 ns, carrier frequency 36.17 MHz)		—	50.0	—	dB
Group delay ripple (p-p)	Δt				
32.75 ... 39.55 MHz		—	50	—	ns
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K

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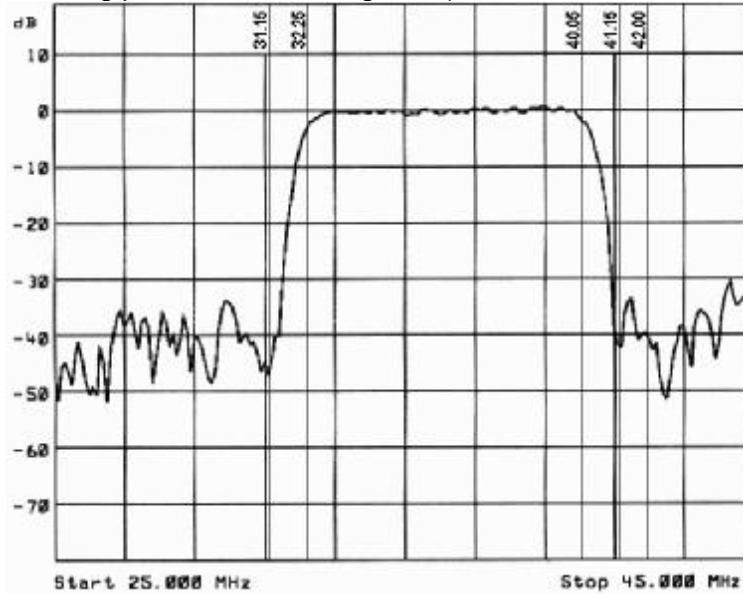
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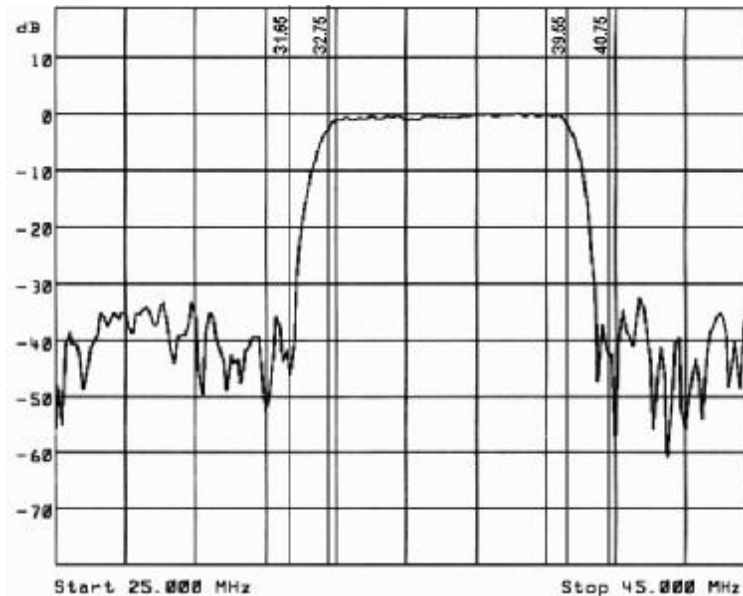
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Frequency Response

Channel 1 (switching pin 2 connected to ground)



Channel 2 (switching pin 2 connected to pin 1)



i CAUTION: Electrostatic Sensitive Device. Observe precautions for handling!

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