

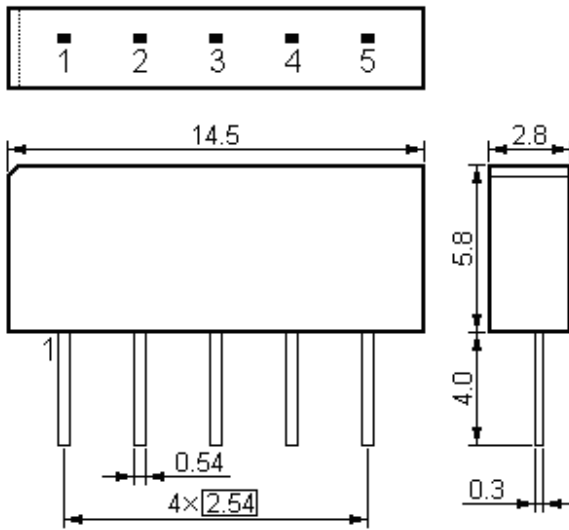
Bandpass Filter for Digital Terrestrial TV Applications

Features

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

Package Dimension Configuration

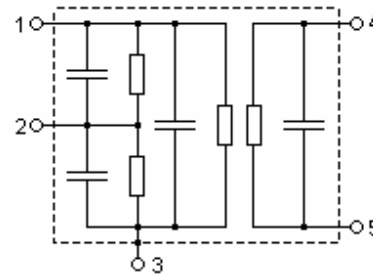
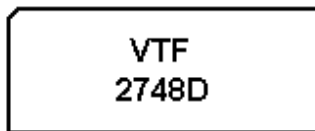
Pin



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

Plastic Package **SIP5D**  
Unit: mm

Marking



Performance

Maximum Ratings

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

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

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
<b>Insertion attenuation</b>	$IL$				
Reference level for the following data	36.17 MHz	19.5	21.0	22.5	dB
<b>Pass bandwidth</b>					
$\alpha_{rel} \leq 1.5\text{ dB}$	$BW_{1.5}$	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
<b>Relative attenuation</b>	$\alpha_{rel}$				
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
<b>Reflected wave signal suppression</b>					
1.1 $\mu\text{s}$ ... 6.0 $\mu\text{s}$ after main pulse (test pulse 250 ns, carrier frequency 36.17 MHz)		42.0	50.0	—	dB
<b>Feedthrough signal suppression</b>					
1.3 $\mu\text{s}$ ... 1.2 $\mu\text{s}$ before main pulse (test pulse 250 ns, carrier frequency 36.17 MHz)		—	50.0	—	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
	32.25 ... 40.05 MHz	—	50	—	ns
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-72	—	ppm/K

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

Reference temperature:  $T_A = 25\text{ °C}$

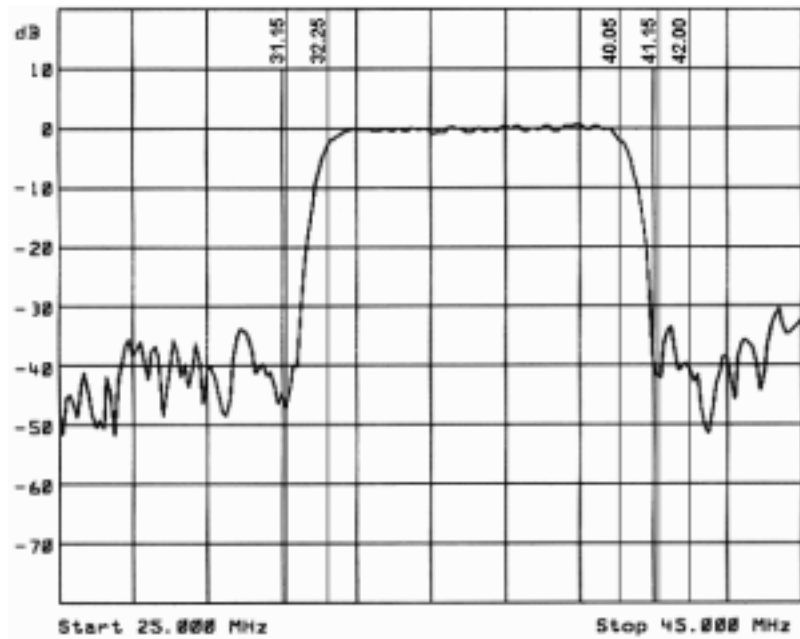
Terminating source impedance:  $Z_S = 50\ \Omega$

Terminating load impedance:  $Z_L = 2\text{ k}\Omega \parallel 3\text{ pF}$

Item		min.	typ.	max.	Unit
<b>Insertion attenuation</b>	$IL$				
Reference level for the following data	36.17 MHz	19.5	21.0	22.5	dB
<b>Pass bandwidth</b>					
$\alpha_{rel} \leq 1.5\text{ dB}$	$BW_{1.5}$	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
<b>Relative attenuation</b>	$\alpha_{rel}$				
Lower sidelobe	25.00 ... 31.55 MHz	28.0	34.0	—	dB
Upper sidelobe	40.75 ... 45.00 MHz	27.0	32.0	—	dB
<b>Reflected wave signal suppression</b>					
1.1 $\mu\text{s}$ ... 6.0 $\mu\text{s}$ after main pulse (test pulse 250 ns, carrier frequency 36.17 MHz)		42.0	50.0	—	dB
<b>Feedthrough signal suppression</b>					
1.3 $\mu\text{s}$ ... 1.2 $\mu\text{s}$ before main pulse (test pulse 250 ns, carrier frequency 36.17 MHz)		—	50.0	—	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
32.75 ... 39.55 MHz		—	50	—	ns
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-72	—	ppm/K

**Frequency Response**

Channel 1 (switching pin 2 connected to ground)



Channel 2 (switching pin 2 connected to pin 1)

