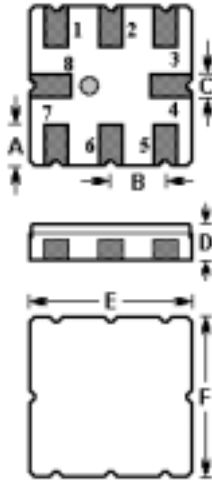


# SAW Filter

# VTF12206

The **VTF12206** is a low-loss, compact, and economical surface-acoustic-wave (**SAW**) RF filter in a surface-mount ceramic **QCC8B** case for digital set top box.

## 1. Package Dimension (QCC8B)



Pin	Configuration
1, 2	Input
5, 6	Output
3, 7	To be grounded
4, 8	Case Ground

Sign	Data (unit: mm)	Sign	Data (unit: mm)
A	1.00	D	1.50
B	1.27	E	3.80
C	0.60	F	3.80

## 2. Marking

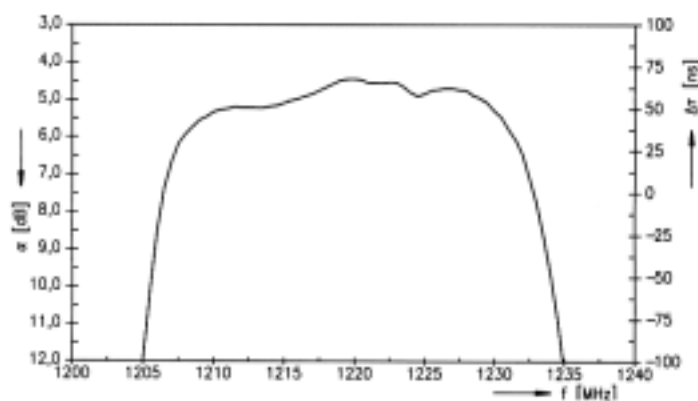
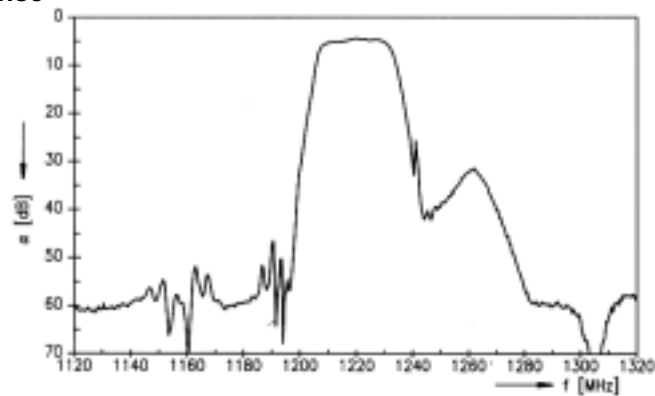
VTF  
12206

Laser Marking

## 3. Matching Circuit

No matching network required for operation at 200Ω

## 4. Typical Frequency Response



## 5. Performance

## 5-1. Maximum ratings

Rating		Value	Unit
Input Power Level	$P$	0	dBm
DC Voltage	$V_{DC}$	0	V
Storage Temperature Range	$T_{stg}$	-40 to +85	
Operable Temperature Range	$T_A$	-40 to +85	

## 5-2. Electronic characteristics

Operating temperature range:  $T = -40 \dots +85$

Terminating source impedance:  $Z_S = 200\Omega$

Terminating load impedance:  $Z_L = 200\Omega$

Characteristic		Min.	Typ.	Max.	Unit
Center Frequency	$f_C$		1220.0		MHz
Maximum insertion Loss ( $\pm 4$ MHz)	$IL_{max}$	3.5	4.7	5.8	dB
Ripple in passband ( $\pm 4$ MHz)	$\Delta\alpha$		0.8	1.5	dB
Attenuation	$\alpha$				
500.00 ..... $f_C - 91.00$ MHz		50.0	60.0		
$f_C - 91.00$ ..... $f_C - 85.00$ MHz		50.0	60.0		
$f_C - 76.00$ ..... $f_C - 68.00$ MHz		46.0	55.0		
$f_C - 88.00$ MHz		50.0	60.0		dB
$f_C - 72.00$ MHz		48.0	58.0		
$f_C - 44.00$ MHz		50.0	60.0		
$f_C - 36.00$ MHz		46.0	52.0		
$f_C + 70.00$ ..... 2000.00 MHz		50.0	55.0		
Group delay ripple	$\Delta\tau$				
Aperture 500 kHz	1216.00 ..... 1224.00 MHz		15		ns

## 5-3. Electronic characteristics

Operating temperature range:  $T = 20 \dots 70$   
 Terminating source impedance:  $Z_S = 200\Omega$   
 Terminating load impedance:  $Z_L = 200\Omega$

Characteristic	Min.	Typ.	Max.	Unit
Center Frequency $f_C$		1220.0		MHz
Minimum Insertion Loss 1210.00 ..... 1229.00 MHz $IL_{min}$	3.5	4.5	5.8	dB
Ripple in passband 1210.00 ..... 1229.00 MHz $\Delta\alpha$		1.0	3.0	dB
Relative attenuation ( relative to $IL_{min}$ ) $\alpha_{rel}$				
500.00 ..... $f_C-91.00$ MHz	46.0	56.0		
$f_C-91.00$ ..... $f_C-85.00$ MHz	46.0	56.0		
$f_C-76.00$ ..... $f_C-68.00$ MHz	42.0	51.0		
$f_C-88.00$ MHz	46.0	56.0		dB
$f_C-72.00$ MHz	44.0	54.0		
$f_C-44.00$ MHz	46.0	56.0		
$f_C-36.00$ MHz	42.0	48.0		
$f_C +70.00$ ..... 2000.00 MHz	46.0	51.0		
Group delay ripple Aperture 500 kHz 1210.00 ..... 1229.00 MHz $\Delta\tau$		40		ns

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

1. The frequency  $f_C$  is defined as the midpoint between the 3dB frequencies.
2. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture that is connected to a 50 $\Omega$  test system with VSWR $\leq$ 1.2:1.
3. Unless noted otherwise, specifications apply over the entire specified operating temperature range.
4. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
5. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
6. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.