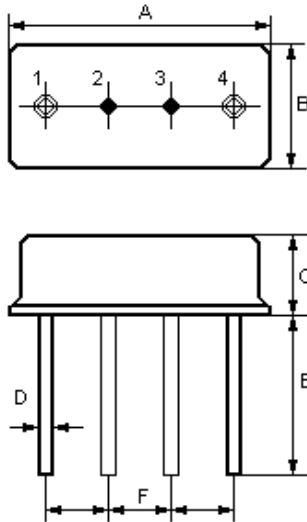


SAW FILTER

Part Number: VTF315B

The **VTF315B** is a low-loss, compact, and economical surface-acoustic-wave (**SAW**) filter in a low-profile metal **F-11** case designed to provide front-end selectivity in **315.000** MHz receivers. Receiver designs using this filter include superhet with 10.7 MHz or 500 kHz IF, direct conversion and superregen.

1. Package Dimension (F-11)



Pin	Configuration
1	Input / Output
4	Output / Input
2/3	Case Ground

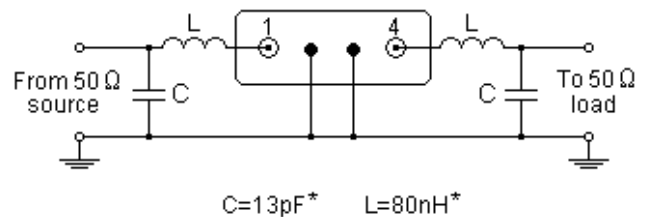
Dimensions	Data (unit: mm)
A	11.0±0.3
B	4.5±0.3
C	3.2±0.3
D	0.45±0.1
E	5.0±0.5
F	2.54±0.2

2. Marking

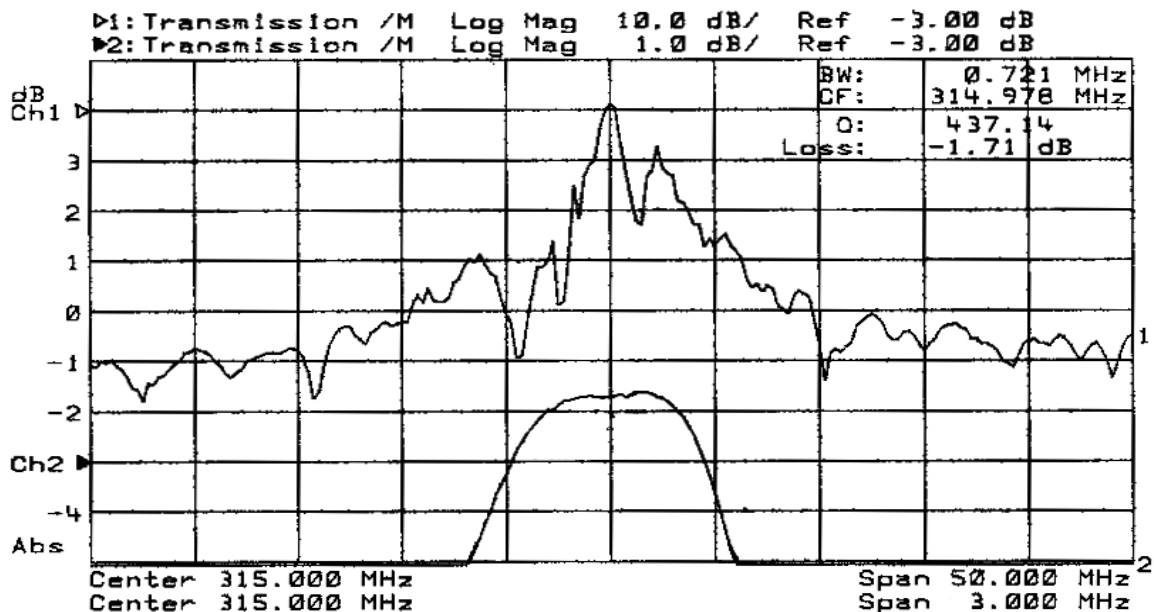
VTF315B

Color: Black or Blue

3. Test Circuit



4. Typical Frequency Response



5. Performance

5-1. Maximum Rating

Rating		Value	Unit
CW RF Power Dissipation	P	10	dBm
DC Voltage Between Any Two Pins	V_{DC}	± 30	V
Storage Temperature Range	T_{stg}	-40 to +85	$^{\circ}C$
Operating Temperature Range	T_A	-10 to +60	$^{\circ}C$

5-2. Electronic Characteristics

Characteristic		Minimum	Typical	Maximum	Unit
Center Frequency (center frequency between 3dB points)	f_C		315.000		MHz
Insertion Loss	IL	--	3.0	4.5	dB
3dB Bandwidth	BW_3		600	800	kHz
Rejection	at $f_C - 21.4$ MHz (Image)	40	50	--	dB
	at $f_C - 10.7$ MHz (LO)	20	30	--	
	Ultimate	--	60	--	
Temperature	Turnover Temperature	T_O	25	55	$^{\circ}C$
	Turnover Frequency	f_O		f_C	MHz
	Frequency Temperature Coefficient	FTC		0.032	ppm/ $^{\circ}C^2$
Frequency Aging	Absolute Value during the First Year	$ fA $		10	ppm/yr

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

- The frequency f_C is defined as the midpoint between the 3dB frequencies.
- Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture that is connected to a 50Ω test system with $VSWR \leq 1.2:1$. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency, f_C . Note that insertion loss, bandwidth, and passband shape are dependent on the impedance matching component values and quality.
- Unless noted otherwise, specifications apply over the entire specified operating temperature range.
- Frequency aging is the change in f_C with time and is specified at $+65^{\circ}C$ or less. Aging may exceed the specification for prolonged temperatures above $+65^{\circ}C$. Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.
- Turnover temperature, T_O , is the temperature of maximum (or turnover) frequency, f_O . The nominal frequency at any case temperature, T_C , may be calculated from: $f = f_O [1 - FTC (T_O - T_C)^2]$.
- The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
- All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
- 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.
- For questions on technology, prices and delivery, please contact our sales offices or e-mail info@v-torch.com