Approved by:
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SPECIFICATION

PRODUCT: SAW FILTER

MODEL: HF318 TO-39

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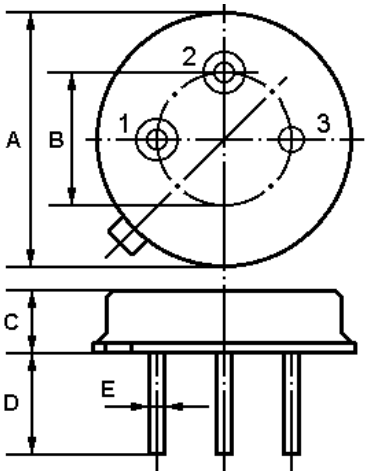
The **HF318** is a low-loss, compact, and economical surface-acoustic-wave (**SAW**) filter in a low-profile metal **TO-39** case designed to provide front-end selectivity in **318.000** MHz receivers. Receiver designs using this filter include superhet with 10.7 MHz or 500 kHz IF, direct conversion and superregen.

1.Package Dimension (TO-39)



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

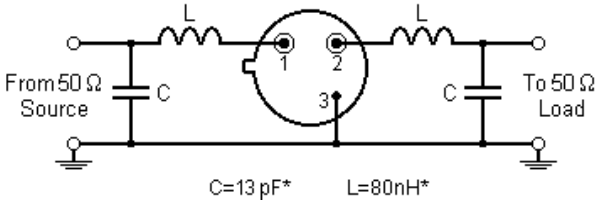
Dimension	Data (unit: mm)
A	9.30±0.20
B	5.08±0.10
C	3.40±0.20
D	3±0.20／5±0.20
E	0.45±0.20

2.Marking

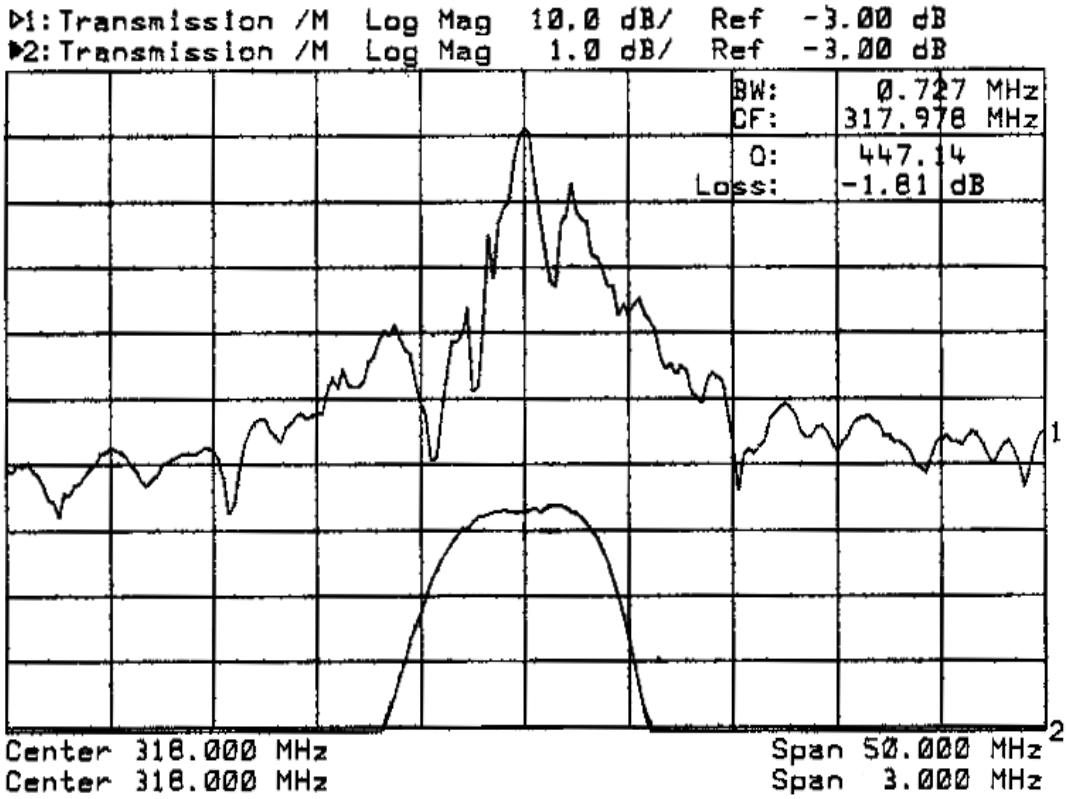
HF318

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	℃
Operating Temperature Range	T_A	-10 to +60	℃

5-2.Electronic Characteristics

Reference temperature: T_A= 25°C
Terminating source impedance: Z_S= 50Ω and matching network
Terminating load impedance: Z_L= 50Ω and matching network

Characteristic			Minimum	Typical	Maximum	Unit
Center Frequency (center frequency between 3dB points)		f_C		318.000		MHz
Insertion Loss		IL	--	3.0	4.5	dB
3dB Bandwidth		BW_3		600	800	kHz
Passband Ripple		$\Delta\alpha$			±1.0	dB
Rejection	at f_C -21.4MHz (Image)		40	50	--	dB
	at f_C -10.7MHz (LO)		20	30	--	
	Ultimate		--	60	--	
Temperature	Turnover Temperature	T_O	25		55	℃
	Turnover Frequency	f_O		f_C		MHz
	Frequency Temperature Coefficient	FTC		0.032		ppm/℃^{2}
Frequency Aging	Absolute Value during the First Year	$\|fA\|$		10		ppm/yr

ⓘ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 50Ω test system with VSWR≤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.
3. Unless noted otherwise, specifications apply over the entire specified operating temperature range.
4. Frequency aging is the change in f_C with time and is specified at +65°C or less. Aging may exceed the specification for prolonged temperatures above +65°C. Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.
5. Turnover temperature, T_0, is the temperature of maximum (or turnover) frequency, f_0. The nominal frequency at any case temperature, T_C, may be calculated from: $f = f_0 [1 - FTC (T_0 - T_C)^2]$.
6. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
7. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
8. 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.
9. For questions on technology, prices and delivery, please contact our sales offices or e-mail sales@hoperf.com.