

Specifications

FEATURES

Netcom's 5587 is a digitally tunable filter covering the frequency range of 90 to 520MHz.

The filter has been designed using two bands of tunable filters from Netcom's proven 5500 Series.

This dual-band filter is offered in a smaller integrated SMT package to support applications where compact design and board layout flexibility is important.

It uses new commercially available high voltage drivers and a new generation CPLD, which allows for improved performance and reduced cost while at the same time providing increased functionality. The filter incorporates high voltage totem-pole drivers for the PIN diode bias voltage to minimize current draw from the 100 VDC supply.

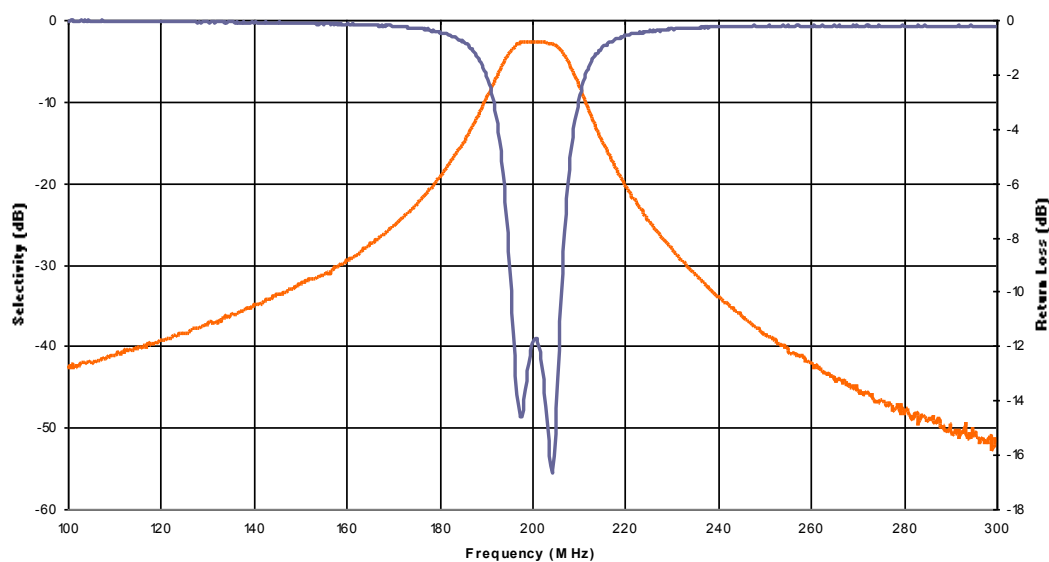
The following table shows the typical performance of the filter at different 3dB bandwidths. Options are available upon request for different bandwidth and frequency range.



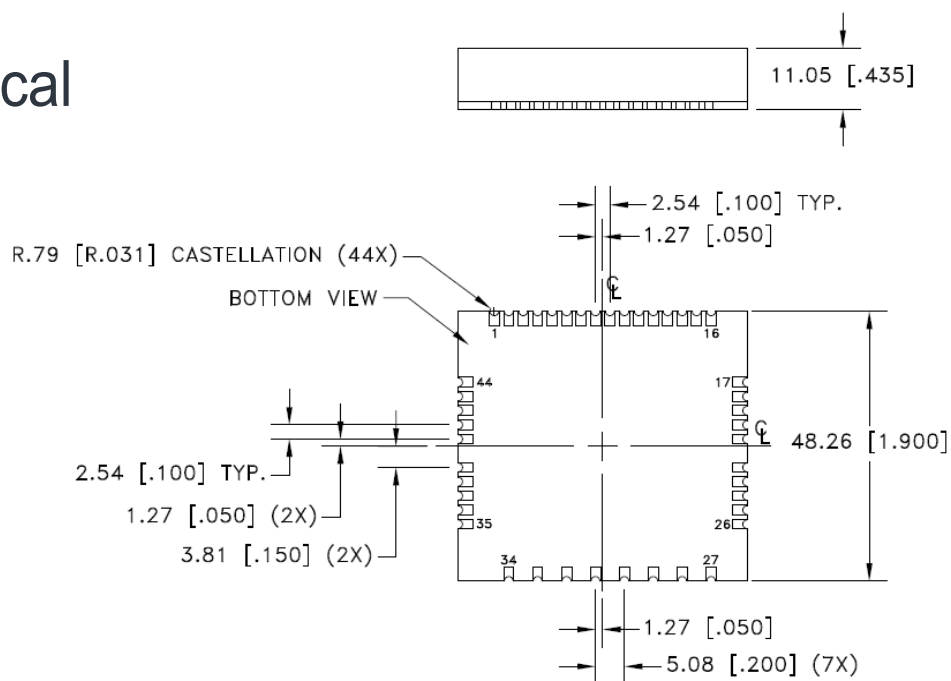
Frequency Range	90 to 520 MHz		
Available BW	3%	5%	7%
*Ftune +/- 10% Rejection (Typical)	N/A	N/A	N/A
*Ftune +/- 15% Rejection (Typical)	N/A	N/A	N/A
*Ftune +/- 20% Rejection (Typical)	N/A	N/A	N/A
Insertion Loss (Typical)	6.3 dB	4.1 dB	3.3 dB
Impedance (Input /Output)	50 Ω		
Tuning Speed	30 μs		
Tuning Resolution	100 kHz		
P1dB	N/A		
IIP3 (+18dBm input)	N/A		
Noise Figure	N/A		
DC Inputs			
+5 Volts (±0.5 Volts)	275 mA		
+100 Volts (-7, +25 Volts)	0.3 mA		
Operating Temperature Range	-40 to +85°C		
Control Interface	- Selectable 13 bit Parallel or Serial - TTL and CMOS Compatible		
Dimensions [L x W x H]	1.90 x 1.90 x 0.43 inches 48.26 x 48.26 x 10.92 mm		

Performance

Model 5587 - 90 to 520 MHz, 7% BW at 200 MHz



Mechanical



NOTES:

1. TOLERANCES ± 0.25 [0.010] UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE mm [inches].

Ordering Information

Model Number	(-)	Bandwidth	(-)	Options	Add “-EB” for Unit Mounted on Evaluation Board	
5587	(-)		(-)		(-)	EB

Options:

A:

B:

C:

Available Bandwidths

*Options available upon request

Bandwidth options are available in increments of 1% step size

Frequency Range	90 to 520 MHz		
Available BW	3%	5%	7%
*Ftune +/- 10% Rejection (Typical)	N/A	N/A	N/A
*Ftune +/- 15% Rejection (Typical)	N/A	N/A	N/A
*Ftune +/- 20% Rejection (Typical)	N/A	N/A	N/A
Insertion Loss (Typical)	6.3 dB	4.1 dB	3.3 dB

Corresponding Evaluation Board

The EB5587 Evaluation Board is designed to test and evaluate Netcom's 5587 programmable filters. The evaluation board is used to supply power to the filter, provide tuning control of the filter, and to facilitate measurement of the filter's RF parameters, switching speed, and power consumption.

Model 5587 filters are programmable bandpass filters that can be tuned over the frequency range of 30 to 520 MHz using a binary switched capacitor tuning table with fixed inductors to provide the resonators, coupling, and impedance matching. The switching element is a PIN diode powered by an external nominal 100 VDC supply voltage that when adjusted can be used to optimize inband power handling and IP3 performance.

Tuning control of the filter is provided by the EB5588 Evaluation Board in the form of frequency words. The frequency words can be created manually by the use of on-board DIP switch settings or automatically using a digital TTL interface. Frequency words are loaded into the filter using a strobe function when in Manual Mode by use of an on-board strobe button, or in Auto Mode with an external strobe input. The EB5588 Evaluation Board includes a separate RF thru path for calibration of test equipment to improve the accuracy of the RF measurements on the filter.



NETCOM
RF & MICROWAVE TECHNOLOGY

599 Wheeling Road
Wheeling, IL 60090
USA
Phone 847.537.6300
Fax 847.537.2700
www.netcominc.com