

Specifications



FEATURES

Netcom's 5671 tunable filter covers the frequency range of 30MHz to 90MHz.

The filter is a single band tunable filter offering the advantage of small size with a control system comparable to larger size filters.

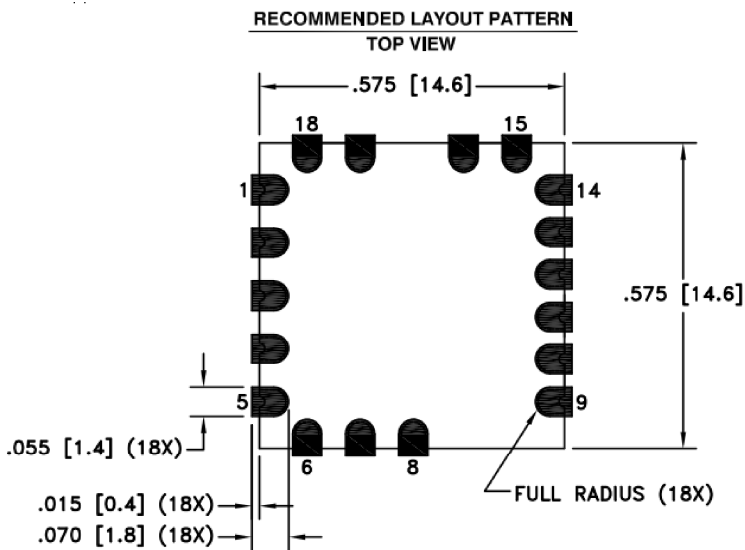
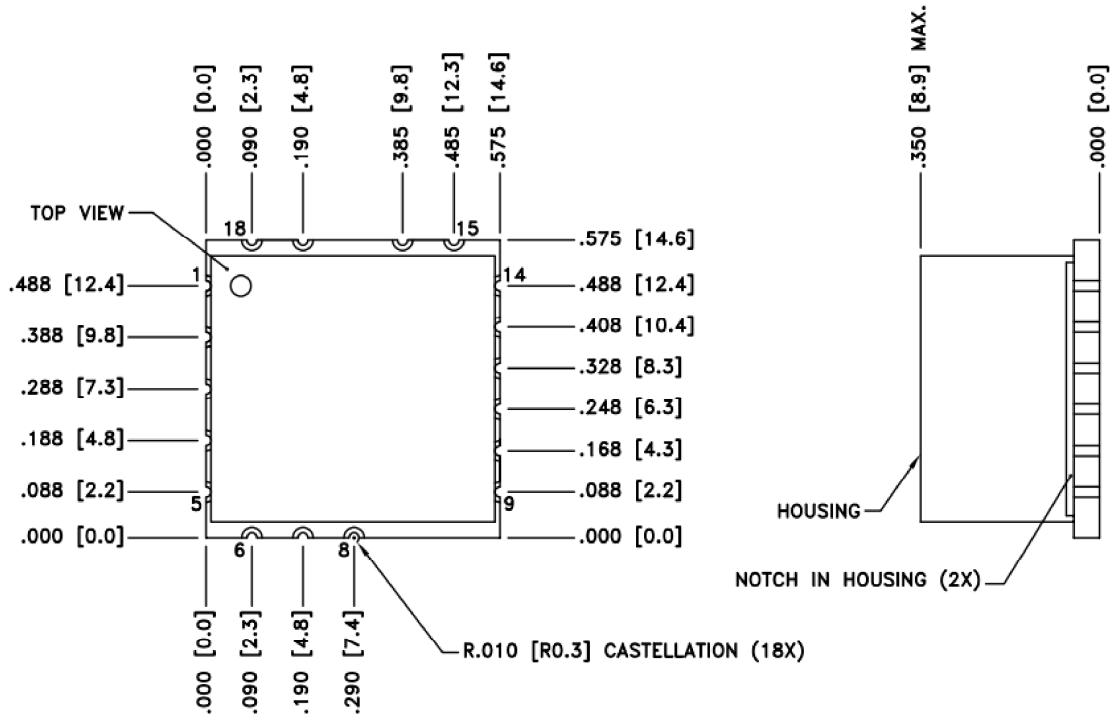
The following table shows the typical performance of the filter.

| | |
|-------------------------------------|------------------------------|
| Frequency Range | 30MHz to 90MHz |
| BW (Typical) | 12.5% |
| Impedance (Input /Output) - Typical | 50 Ω |
| Ftune +/- 10% Rejection | < -10dB |
| Ftune +/- 15% Rejection | < -14dB |
| Ftune +/- 20% Rejection | < -19dB |
| Tuning Speed | < 35 μ s |
| Insertion Loss (Typical) | 3.8dB |
| Tuning Resolution* | 125KHz |
| P1dB | +24dBm |
| Max Power Handling | +28dBm |
| IIP3 | +39dBm |
| DC Power - Typical Max | 3.3 Volts 30 mA |
| Operating Temperature Range | -40 to +85°C |
| Control Interface | Serial Input |
| Dimensions | 0.575 x 0.575 x 0.350 inches |

* See page 3 for details

Note: Parameters subject to change

Mechanical



- NOTES:
1. TOLERANCES $\pm .010$ [0.25] UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE INCHES [mm].

| PIN DESIGNATORS | |
|-----------------|-------------|
| PIN NUMBER | DESCRIPTION |
| 1 | RF_IN |
| 2 | GND |
| 3 | SPI_CLK |
| 4 | SPI_MOSI |
| 5 | NC |
| 6 | NC |
| 7 | NC |
| 8 | NC |
| 9 | NC |
| 10 | NC |
| 11 | NC |
| 12 | TUNE_READY |
| 13 | GND |
| 14 | RF_OUT |
| 15 | GND |
| 16 | VCC (+3.3V) |
| 17 | SPI_CS |
| 18 | GND |

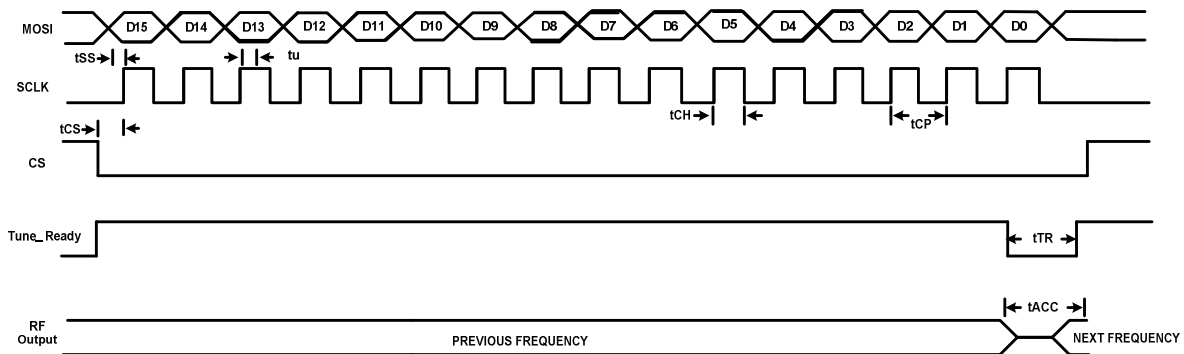
NC = NO CONNECT

Serial Address Input Timing Diagram

Tuning addresses start at 240 decimal (30MHz) and end at 720 decimal (90MHz) .
 Tuning resolution is 125KHz from address 240 decimal (30MHz) to 511 decimal (63.875MHz) .
 Tuning resolution is 250KHz from address 512 decimal (64.000MHz) to 720 decimal (90.000MHz) .
 Tuning of the filter starts when the last data clock (16th) pulse of the address is sent to the unit while the CS (Chip select) is low. The filter will move to the correct tune channel which allows the tuned address frequency to pass while meeting all of the tuning parameters. In some cases the filter tune channel may not move.

| Symbol | Parameter | Min | Max | Units |
|--------|---|-----|-----|-------|
| tSS | Setup time MOSI Data to SCLK* | 50 | | ns |
| tu | Hold Time MOSI Data From SCLK | | 0 | ns |
| tCH | Clock High Time | 125 | | ns |
| tCP | Clock Period | 250 | | ns |
| tCS | Chip Setup Time (CS falling edge to SCLK start) | 125 | | ns |
| tTR | Tune_Ready indicator*** | | 35 | us |
| tACC | Access time from Last (16th) SCLK edge to Fo** | | 35 | us |

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* Data clocked in on SCLK leading edge.

** Filter tunes to address on last clock bit of address SCLK.

*** Tune_Ready at logic low when filter processing tuned address.

Environmental Specification Standards

Temperature:

- High temperature shall meet MIL-STD-810E, Method 501.3, Procedure I to 125°C storage, and procedure II to 85°C operating.
- Low temperature shall meet Method 502.3, Procedure I to -57°C storage, and Procedure II to -40°C operating.

Vibration:

- MIL-STD-810E Method 514.4

Shock:

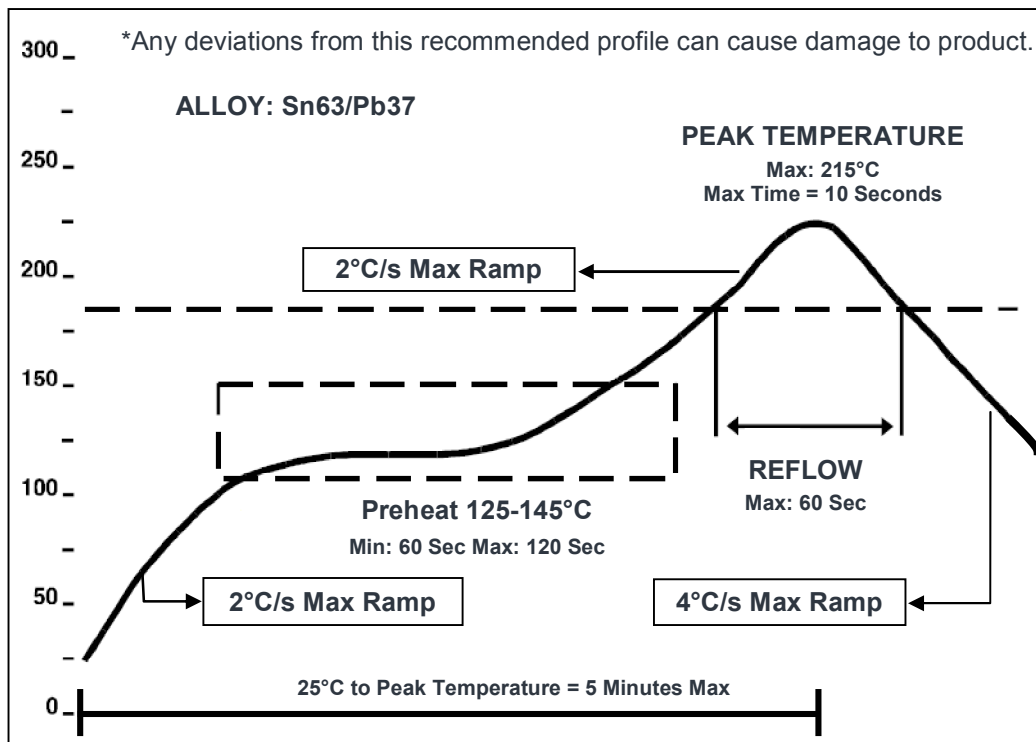
- MIL-STD-810E Procedure VI, Method 516.4

Solder Process

Filter model 5671 is designed for system assembly through SMT reflow soldering. All filter components have been selected for secondary reflow and are assembled using SAC305 high temp solder. The system level SMT reflow temperature profile is as specified in the IPC/JEDEC J-STD-020 standard for a Sn-Pb Eutectic Process. In systems using Pb-Free and high temp solder, the filter must be mounted through a hand soldering process.

The exact reflow profile required will depend on the characteristics of the circuit board assembly like thickness, size, and heat transfer. Also affecting the reflow profile is the solder paste type, flux, and density of other components. Temperature limitations of other components on the circuit board also must be considered. The recommended profile below is at the printed circuit board interface using Sn63/Pb37 tin lead solder.

Recommended Solder Profile



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