



COAXIAL LOW PASS FILTERS

C70L SERIES C70LH SERIES

DATA SHEET
No. T25C

- HIGH POWER**
- HIGH REJECTION**
- LOW VSWR**
- LOW LOSS**



DESCRIPTION

MEC C70L Series are tubular low pass filters of Chebyshev equi-ripple design. They consist of stepped-impedance, semi-lumped elements in a low-loss air or dielectric transmission line. The number of elements determines the sharpness of the skirt and rejection level. However, more elements also increase passband insertion loss and filter length.

The stop band is reflective and extends from the cutoff frequency f_c to an upper frequency limit beyond which the transmission line becomes over-moded allowing possible spikes or holes in the rejection response.

MEC C70LH filters are high power versions of the C70L series and are limited only by the power capability of the coaxial connectors used.

The low and high power models listed below represent a practical compromise between selectivity, loss, length and upper frequency limit for general laboratory use, although other combinations of characteristics may just as easily be made to fit your exact requirements.

Low pass filters are recommended at the output of broadband RF sources and in test set-ups to eliminate undesired harmonics and other spurious outputs for increased measurement accuracy. They are also used in signal processing, individually and in more complex assemblies, to separate various frequencies.

Filter housing is aluminum with chromate conversion finish per MIL-C-5541, Class 3. Connector shells are passivated stainless steel. Paint is gray epoxy enamel for the C70L series and high-temperature black for the C70LH series.

SPECIFICATIONS

| LOW POWER C70L SERIES | | f_c (GHz) | PASSBAND (DC- f_c) | | MINIMUM REJECTION (GHz) | | | MAX. LENGTH* (INCHES) | HIGH POWER C70LH SERIES | | | | | | |
|-----------------------|------------------------|----------------|-----------------------|-------------------------|-------------------------|-------|------|--------------------------|-------------------------|-------------|-----------|-----|----------|-----|---|
| MODEL NUMBER | AVERAGE POWER † (W) | | VSWR (MAX) | INSERTION LOSS (dB Max) | 20 dB @ | 50 dB | | | MODEL NUMBER | POWER † | | | | | |
| | | | | | | FROM | TO | | | AVERAGE (W) | PEAK (kW) | | | | |
| C70L-.75 | 60 | 0.75 | 1.2 | 0.2 | 0.9 | 1.0 | 10 | 10.5 | C70LH-.75 | 800 | 8 | | | | |
| C70L-1.5 | | 1.50 | | | 1.8 | 2.0 | 10 | 9.0 | C70LH-1.5 | | | | | | |
| C70L-2 | | 2.0 | | | 2.4 | 2.7 | 10 | 8.0 | C70LH-2 | | | | | | |
| C70L-3 | | 3.0 | | | 3.6 | 3.4 | 10 | 7.0 | C70LH-3 | | | | | | |
| C70L-4 | | 4.0 | | | 4.8 | 5.3 | 13 | 6.0 | C70LH-4 | | | | | | |
| C70L-5 | 40 | 5.0 | 1.25 | 0.3 | 6.0 | 6.6 | 14 | 6.0 | C70LH-5 | 600 | 6 | | | | |
| C70L-6 | | 6.0 | | | 7.2 | 8.0 | 16 | 4.5 | C70LH-6 | | | | | | |
| C70L-7 | | 7.0 | | | 8.4 | 9.3 | 18 | 3.9 | C70LH-7 | | | | | | |
| C70L-8 | | 8.0 | | | 9.6 | 10.6 | 19 | | C70LH-8 | | | | | | |
| C70L-9 | | 9.0 | | | 10.8 | 12.0 | 19 | | C70LH-9 | | | | | | |
| C70L-10 | 10.0 | 12.0 | 13.3 | 19 | C70LH-10 | | | | | | | | | | |
| C70L-11 | 11.0 | 13.2 | 14.6 | 22 | C70LH-11 | | | | | | | | | | |
| C70L-12 | 20 | 12.0 | 1.3 | 0.4 | 14.4 | 16.0 | 24 | 6.0 | C70LH-12 | 500 | 5 | | | | |
| C70L-13 | | 13.0 | | | 15.6 | 17.3 | 26 | 3.0 | C70LH-13 | | | | | | |
| C70L-14 | | 14.0 | | | 16.8 | 18.6 | 30 | 1.0 | C70LH-14 | | | | | | |
| C70L-17 | | 17.0 | | | 1.3 | 0.5 | 20.4 | 22.6 | 34 | | | 3.7 | C70LH-17 | 100 | 1 |
| | | | | | | | | | | | | | | | |

*Including 1 male and 1 female type N connectors.

† Consistent with connector.

ORDERING INFORMATION

To specify connectors, add suffixes to model number from table below. Also note maximum frequency and power limits shown.

| CONNECTOR TYPE | FEMALE SUFFIX | MALE SUFFIX | MAXIMUM FREQUENCY (GHz) | POWER (W) AT MAXIMUM FREQUENCY |
|----------------|---------------|-------------|-------------------------|--------------------------------|
| SC | -SC | -SCM | 8 | 800 |
| TNC | -T | -TM | 18 | 400 |
| N | -N | -NM | 18 | 200 |
| SMA | -3 | -3M | 26 | 50 |
| APC-7 | | -7 | 18 | 10 |

