

NEW Lowpass/Highpass Chebyshev Data Summary

LC & HC Series



Chebyshev

Frequency Range from 100 Hz to 7 GHz

Application-Specific Designs

SERIES NUMBER	NUMBER OF POLES	INSERTION LOSS AT 5.0 x f _{-3dBc} dB MAXIMUM	ATTENUATION dBc MINIMUM	STOPBAND FREQUENCY
LC17 SERIES				
LC3	3	0.50	-40	4.20 x f _{-3dBc}
LC4	4	0.50	-40	2.70 x f _{-3dBc}
LC5	5	0.50	-50	2.50 x f _{-3dBc}
LC6	6	0.50	-50	2.00 x f _{-3dBc}
LC7	7	0.50	-60	2.00 x f _{-3dBc}
LC8	8	0.50	-60	1.90 x f _{-3dBc}
LC9	9	0.50	-60	1.60 x f _{-3dBc}
LC10	10	0.50	-60	1.50 x f _{-3dBc}
LC11	11	0.50	-60	1.40 x f _{-3dBc}
LC13	13	0.50	-60	1.32 x f _{-3dBc}
LC15	15	0.50	-60	1.29 x f _{-3dBc}
NEW LC17	17	0.50	-60	1.27 x f _{-3dBc}
HC17 SERIES				
HC3	3	0.50	-40	0.25 x f _{-3dBc}
HC5	5	0.50	-50	0.40 x f _{-3dBc}
HC7	7	0.50	-60	0.50 x f _{-3dBc}
HC9	9	0.50	-50	0.62 x f _{-3dBc}
HC11	11	0.50	-60	0.71 x f _{-3dBc}
HC13	13	0.50	-60	0.75 x f _{-3dBc}
HC15	15	0.50	-60	0.77 x f _{-3dBc}
NEW HC17	17	0.50	-60	0.78 x f _{-3dBc}

NOTES:

- Operating Temperature Range: 0°C to +70°C
- VSWR: 1.5:1 Typical
- Input Power: 20 mW
- Case Type: Refer to **Case Selection Guide**
- Case Options: PCB, SMT, BNC or SMA
- Normalized Response: Refer to **Graphs**

LC Series

TERMINATIONS:

50Ω	100 MHz - 3 GHz
50Ω or 75Ω	300 kHz - 100 MHz
1kΩ - 50Ω	10 kHz - 300 kHz
10 kΩ - 1 kΩ	100 Hz - 10 kHz

STOPBAND FREQUENCY CALCULATIONS:

Using part number LC11-50M-50-65A, we know, that the filter is an 11 pole Chebyshev lowpass filter. Scroll down to series number LC11. Moving to the right we find the stopband specification listed as -60dBc minimum at 1.40 x f_{-3dBc}. Thus, the -60dBc frequency is at 70 MHz (1.40 x 50 MHz).

HC Series

TERMINATIONS:

50Ω	100 MHz - 500 MHz
50Ω or 75Ω	300 kHz - 100MHz
1kΩ - 50Ω	10 kHz - 300 kHz
10 kΩ - 1 kΩ	100 Hz - 10 kHz

STOPBAND FREQUENCY CALCULATIONS:

Using part number HC11-50M-50-65A, we know, that the filter is an 11 pole Chebyshev highpass filter. Scroll down to series number HC11. Moving to the right we find the stopband specification listed as -60dBc minimum at 0.71 x f_{-3dBc}. Thus, the -60dBc frequency is at 35.5 MHz (0.71 x 50 MHz).

PART NUMBER DERIVATION:

HC 11	*(T)	** (R)	-50M	-50	-65A
1	2	3	4	5	6 7

- 1) Series, HC
- 2) Number of poles, 11
- *3) The "T" option specifies a filter with low THD for ADC/DAC testing. When selected the minimum THD is >-80dBc, -96dBc typical. Testing requires a bandpass filter.
- **4) "R" RoHS compliant. Allow for longer lead time.
- 5) f_{-3dBc}
- 6) Terminations
- 7) Case selection from the case selection guide. "T" option cases are larger than standard.