

LC Series



Chebyshev

Frequency Range from 100 Hz to 4 GHz

Application-Specific Designs

SERIES NUMBER	NUMBER OF POLES	INSERTION LOSS at 0.1 x f _{-3dBc} dB MAXIMUM	STOPBAND	
			ATTENUATION dBc MINIMUM	FREQUENCY
FREQUENCY _{-3dBc} – 100 Hz to 4 GHz – specify any f within that range				
LC3	3	0.5	-40	4.20 x f _{-3dBc}
LC4	4	0.5	-40	2.70 x f _{-3dBc}
LC5	5	0.5	-50	2.50 x f _{-3dBc}
LC6	6	0.5	-50	2.00 x f _{-3dBc}
LC7	7	0.5	-60	2.00 x f _{-3dBc}
LC8	8	0.5	-60	1.90 x f _{-3dBc}
LC9	9	0.5	-60	1.60 x f _{-3dBc}
LC10	10	0.5	-60	1.50 x f _{-3dBc}
LC11	11	0.5	-60	1.40 x f _{-3dBc}
LC13	13	0.5	-60	1.32 x f _{-3dBc}

Note: TTE's products are made in the USA. Application-specific designs are made to order. Typical delivery is 2 weeks. Expedited lead time of 3-5 days is available on many products.

For RoHS compliant, add "R" to part number. Example: LC11R-50M-50-65A

TTE designates a component RoHS-compliant by adding "R" (RoHS) within the part number.

These RoHS components meet the $\leq 0.1\%$ lead requirement and they are compatible with 260°C soldering processes.

NOTES:

- Operating Temperature Range: 0°C to +70°C
- Number of Poles: 3-11, 13
- 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**
- Product Info: Refer to **LC Series**

TERMINATIONS:

50 Ω	100 MHz - 3 GHz
50 Ω or 75 Ω	300 kHz - 100 MHz
1 kΩ - 50 Ω	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 1.4 x f _{-3dBc}. Thus, the -60dBc frequency is at 70 MHz (1.4 x 50 MHz).

PART NUMBER DERIVATION:

LC11	*(T)	** (R)	-50M	-50	-65A	
1	2	3	4	5	6	7

1) Series, LC

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.

**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.