

## LC Series



### Chebyshev

Frequency Range from 100 Hz to 7GHz

Application-Specific Designs

SERIES NUMBER	NUMBER OF POLES	INSERTION LOSS AT 0.10 x f <sub>-3dBc</sub> dB MAXIMUM	ATTENUATION dBc MINIMUM	STOPBAND FREQUENCY
FREQUENCY -3dBc - 100 Hz to 7 GHz - specify any f within that range				
LC3	3	0.50	-40	4.20 x f <sub>-3dBc</sub>
LC4	4	0.50	-40	2.70 x f <sub>-3dBc</sub>
LC5	5	0.50	-50	2.50 x f <sub>-3dBc</sub>
LC6	6	0.50	-50	2.00 x f <sub>-3dBc</sub>
LC7	7	0.50	-60	2.00 x f <sub>-3dBc</sub>
LC8	8	0.50	-60	1.90 x f <sub>-3dBc</sub>
LC9	9	0.50	-60	1.60 x f <sub>-3dBc</sub>
LC10	10	0.50	-60	1.50 x f <sub>-3dBc</sub>
LC11	11	0.50	-60	1.40 x f <sub>-3dBc</sub>
LC13	13	0.50	-60	1.32 x f <sub>-3dBc</sub>
LC15	15	0.50	-60	1.29 x f <sub>-3dBc</sub>
<b>NEW</b> LC17	17	0.50	-60	1.27 x f <sub>-3dBc</sub>

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 ≤ 0.10% lead requirement and they are compatible with 260°C soldering processes.

#### NOTES:

- Operating Temperature Range: 0°C to +70°C
- Number of Poles: 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15 or 17
- 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:

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<sub>-3dBc</sub>. Thus, the -60dBc frequency is at 70 MHz (1.40 x 50 MHz).

#### PART NUMBER DERIVATION:

LC 11	*(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<sub>-3dBc</sub>
- 6) Terminations
- 7) Case selection from the case selection guide. "T" option cases are larger than standard.