

## LE Series



### Elliptical Function – Anti-Aliasing

Frequency Range from 1 kHz to 200 MHz

Application-Specific Designs

| SERIES NUMBER  | NUMBER OF POLES | INSERTION LOSS<br>at 0.1 x f -3dBc<br>dB MAXIMUM | STOPBAND                   |                |
|--|-----------------|--|----------------------------|----------------|
|  |                 |  | ATTENUATION<br>dBc MINIMUM | FREQUENCY      |
| FREQUENCY -3dBc – 1 kHz to 200 MHz – specify any f within that range |                 |  |                            |                |
| LE7415   | 7               | 0.5  | -40                        | 1.15 x f -3dBc |
| LE7640   | 7               | 0.5  | -60                        | 1.40 x f -3dBc |
| LE7890   | 7               | 0.5  | -80                        | 1.90 x f -3dBc |
| LE9410   | 9               | 0.5  | -40                        | 1.10 x f -3dBc |
| LE9615   | 9               | 0.5  | -60                        | 1.15 x f -3dBc |
| LE9840   | 9               | 0.5  | -80                        | 1.40 x f -3dBc |
| LE1141   | 11              | 0.5  | -40                        | 1.06 x f -3dBc |
| LE1161   | 11              | 0.5  | -60                        | 1.10 x f -3dBc |
| LE1182   | 11              | 0.5  | -80                        | 1.20 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: LE1182R-100M-50-720A**

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: 7, 9 or 11
- 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 **LE Series**

#### TERMINATIONS:

|              |                   |
|--------------|-------------------|
| 50 Ω         | 100 MHz - 200 MHz |
| 50 Ω or 75 Ω | 300 kHz - 100 MHz |
| 1 kΩ - 50 Ω  | 10 kHz - 300 kHz  |
| 10 kΩ - 1 kΩ | 1 kHz - 10 kHz    |

#### STOPBAND FREQUENCY CALCULATIONS:

Using part number LE1182-100M-50-720A, we know that the filter is an 11 pole Elliptical Function – Anti-Aliasing lowpass filter. Scroll down to series number LE1182. Moving to the right we find the stopband specification listed as -80dBc minimum at 1.20 x f -3dBc. Thus, the -80dBc frequency is at 120 MHz (1.20 x 100 MHz).

#### PART NUMBER DERIVATION:

|        |      |        |       |     |       |
|--------|------|--------|-------|-----|-------|
| LE1182 | *(T) | ** (R) | -100M | -50 | -720A |
| 1      | 2    | 3      | 4     | 5   | 6     |

- 1) Series, LE1182 (which has 11 poles)
- \*2) The "T" option specifies a filter with low THD for ADC/DAC testing. When selected the minimum THD is  $> -80\text{dBc}$ ,  $-96\text{dBc}$  typical.
- \*\*3) "R" RoHS compliant. Allow for longer lead time.
- 4) f -3dBc
- 5) Terminations
- 6) Case selection from the case selection guide. "T" option cases are larger than standard.