

## LB Series



### Butterworth

Frequency Range from 100 Hz to 2 GHz

Application-Specific Designs

SERIES NUMBER	NUMBER OF POLES	INSERTION LOSS at 0.1 x f <sub>-3dBc</sub> dB MAXIMUM	STOPBAND	
			ATTENUATION dBc MINIMUM	FREQUENCY
FREQUENCY <sub>-3dBc</sub> – 100 Hz to 2 GHz – specify any f within that range				
LB3	3	0.5	-40	5.0 x f <sub>-3dBc</sub>
LB4	4	0.5	-45	4.0 x f <sub>-3dBc</sub>
LB5	5	0.5	-60	4.5 x f <sub>-3dBc</sub>
LB6	6	0.5	-60	3.3 x f <sub>-3dBc</sub>
LB7	7	0.5	-60	2.8 x f <sub>-3dBc</sub>
LB8	8	0.5	-60	2.5 x f <sub>-3dBc</sub>
LB9	9	0.5	-60	2.3 x f <sub>-3dBc</sub>
LB10	10	0.5	-60	2.1 x f <sub>-3dBc</sub>
LB11	11	0.5	-60	2.0 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: LB7R-125M-50-3A**

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

These RoHS components meet the ≤ 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 to 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 **LB Series**

#### TERMINATIONS:

50 Ω	100 MHz - 2 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 LB7-125M-50-3A, we know that the filter is a 7 pole Butterworth lowpass filter. Scroll down to series number LB7. Moving to the right we find the stopband specification listed as -60dBc minimum at 2.8 x f<sub>-3dBc</sub>. Thus, the -60dBc frequency is at 350 MHz (2.8 x 125 MHz).

#### PART NUMBER DERIVATION:

LB7 \*(R) -125M -50 -3A  
1 2 3 4 5 6

1) Series, LB

2) Number of poles, 7

\*3) "R" RoHS compliant. Allow for longer lead time.

4) f<sub>-3dBc</sub>

5) Terminations

6) Case selection from the case selection guide.