

KT Series



Bessel

Frequency Range from 500 Hz to 200 MHz

Application-Specific Designs

SERIES NUMBER	NUMBER OF POLE PAIRS (ELEMENTS)	INSERTION LOSS at f_0 dB TYPICAL	BANDWIDTH SELECTION -3dBc % f_0	STOPBAND ATTENUATION dBc MINIMUM		FREQUENCY	
				1	2	1	2
CENTER FREQUENCY – 500 Hz to 200 MHz – specify any f_0 within that range							
KT2	2 (4)	5.0 - 3.1	3 to 5	-25		$0.85 \times f_0$	$1.15 \times f_0$
		3.1 - 1.6	> 5 to 10	-25		$0.50 \times f_0$	$1.40 \times f_0$
KT3	3 (6)	6.0 - 3.7	3 to 5	-30		$0.75 \times f_0$	$1.23 \times f_0$
		3.7 - 1.9	> 5 to 10	-30		$0.50 \times f_0$	$1.40 \times f_0$
KT4	4 (8)	7.3 - 4.5	3 to 5	-40		$0.75 \times f_0$	$1.22 \times f_0$
		4.5 - 2.3	> 5 to 10	-40		$0.40 \times f_0$	$1.35 \times f_0$
KT5	5 (10)	8.2 - 4.9	3 to 5	-50		$0.75 \times f_0$	$1.22 \times f_0$
		4.9 - 2.5	> 5 to 10	-50		$0.35 \times f_0$	$1.40 \times f_0$
KT6	6 (12)	8.9 - 5.6	3 to 5	-50		$0.80 \times f_0$	$1.18 \times f_0$
		5.6 - 2.8	> 5 to 10	-50		$0.53 \times f_0$	$1.32 \times f_0$

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: KT4R-144K-4.32K-50-3264

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 Pole Pairs (Elements): 2-6 (4-12)
- VSWR at f_0 : 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 **KT Series**

TERMINATIONS:

50 Ω	100 MHz - 200 MHz
50 Ω or 75 Ω	300 kHz - 100 MHz
1 k Ω - 50 Ω	10 kHz - 300 kHz
10 k Ω - 1 k Ω	500 Hz - 10 kHz

STOPBAND FREQUENCY CALCULATIONS:

Using part number KT4-144K-4.32K-50-3264, we know that the filter is a 4 pole Bessel bandpass filter. Scroll down to series number KT4. Moving to the right we select the 3% bandwidth range. Moving to the right again we find the stopband specification listed as -40dBc minimum at $0.75 \times f_0$ and $1.22 \times f_0$. Thus, the -40dBc frequencies are at 108 kHz (0.75×144 kHz) and at 175.68 kHz (1.22×144 kHz), respectively.

PART NUMBER DERIVATION:

KT4 *(R) -144K -4.32K 50 3264
1 2 3 4 5 6 7

- 1) Series, KT
- 2) Number of poles, 4
- *3) "R" RoHS compliant. Allow for longer lead time.
- 4) The Center Frequency, f_0
- 5) The -3dBc passband bandwidth. It may also be specified as a percentage of f_0 . Thus, instead of 4.32 kHz, use 3P.
- 6) Terminations
- 7) Case selection from the case selection guide.