

11 Inductors

A 10 V supply is connected across a 1 H inductor.

The initial rate of change of current is

1. 0.1 A s^{-1}

2. 1 A s^{-1}

3. 3.14 A s^{-1}

4. 10 A s^{-1}

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A sinusoidal current waveform flows through an inductor.

Will the phase of the voltage waveform, measured with respect to the current waveform, be

1. At $+90^\circ$
2. At $+1.57$ rad
3. At 0°
4. At -90°
5. At -1.57 rad

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The greatest rate of change of current occurs when

1. 20 V is applied across a 1 H inductor
2. 1 V is applied across a 0.1 H inductor
3. 10 mV is applied across a 1 μ H inductor
4. 1 mV is applied across a 1 mH inductor

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A coil is wound on a tubular plastic former. When a ferrite rod is inserted into the center of the coil

1. The inductance decreases
2. The inductance remains the same
3. The inductance increases

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In calculating the value of the waveform in equations such as

$$V = L2\pi fI_0 \sin(2\pi ft + \frac{\pi}{2})$$

your calculator should be set to operate in

1. Degrees
2. Rads
3. Grads