Understanding Basic Concept of Electrical and Electronic Systems

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26. DIFFERENTIATOR

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26.0 Abstract:

The differentiator operational amplifier is one type of op amp circuit. The magnitude of its output is determined by the rate at which the voltage is applied to its input changes. Faster the input voltage changes, greater the voltage output voltage becomes.

26.1 Description:

An op-amp differentiator simulates mathematical differentiation, which is a process of determining the instantaneous rate of change of a function. Differentiator performs the reverse of integration function. The output waveform is derivative of tile input waveform. Here, the input element is a capacitor and the feedback element is a resistor. An ideal differentiation is shown in fig.