

Blocking/ Coupling

Blocking/Coupling is the complement to bypass/De-coupling. In coupling applications, the DC portion of a mixed signal input is to be kept from the circuit element. The capacitor is placed in series with the circuit element the DC is to be kept from. Once the capacitor is charged to the operating voltage of the circuit, it becomes an open circuit to the DC portion of the input signal while it is still capable of passing the AC portion onto the circuit.

The capacitor in a coupling application is not really passing the AC signal through it. Actually the capacitor is charging and discharging in the opposite direction of the input signal. This effectively causes the AC signal to become inverted.

For proper coupling to be effective, the capacitor's resistance should be low for the frequency range of interest. In coupling applications, the main capacitor's characteristics are:

- Insulation resistance/ Leakage current
- Impedance value for the frequency range of interest
- Voltage rating of the capacitor

