

APPLICATION NOTES

Electromagnetic Interference is defined as any electrical signal radiated or connected into or out of the electrical equipment, disrupting the normal operation of the equipment. EMI includes the frequency range of the entire electromagnetic spectrum, from direct current to the visible frequencies, and can be either continuous or intermittent in occurrence.

INTERFERENCE SUPPRESSION

Filter networks suppress electromagnetic interference in two basic ways. The capacitor elements shunt the interference to ground, and the series inductor elements raise the impedance of the line making the shunt capacitor elements even more effective.

CAPACITOR ELEMENTS

The types of capacitor used in INTEC filters are often referred to as feed-thru capacitors due to their physical geometry.

The feed-thru design results in greatly reduced self-inductance compared to standard leaded capacitors. Also this design effectively prevents radiation from the input coupling directly with the output of the capacitor, unlike leaded or chip capacitors. The combination of low inductance and high input/output isolation provides excellent shunting of EMI for frequencies up to and beyond 1 GHz.

All of our products are manufactured with our own multi-layer ceramic discoidal capacitors. The discoidal capacitor gives you the following advantages:

- The highest capacitance to volume ratio of any capacitor type.
- Lowest impedance at higher frequencies.
- Superior strength to tubular capacitors under both mechanical and thermo stress conditions.

INTEC currently offers filters in various configurations. Selection of the proper filter for your application is key to achieving the best overall performance in your system.