Output Considerations

Additional Filtering

Additional filtering may be added to the DC-DC Converter outputs to reduce load transients, fundamental ripple or spike waveforms.

If adding external components in order to reduce load application or load removal transients, low ESR solid tantalum capacitors should be used. An external series inductor should not be used since this will add impedance and negate the benefit of the external capacitance. Relatively large amounts of external capacitance may be added, but do not exceed the following guidelines without consulting MDI.

The maximum recommended external output capacitance on the main regulated output is a function of the converter's output voltage and power. For a 5 VDC output, 100 microfarads may be added to a 6.5 watt unit, 330 microfarads for a 20 watt unit, 500 microfarads for a 30 watt unit, 680 microfarads for a 40 watt unit and 1000 microfarads for an 80 watt unit.

For a higher voltage unit, the capacitance should be reduced by the inverse square of 5 VDC and the actual voltage. Conversely, for a lower voltage unit, the output capacitance may be increased by the square ratio. For outputs that are linear regulated, there is no restriction on the external output capacitance.

If adding external components in order to reduce high frequency spikes, multi-layer ceramic capacitors in surface mount chip form should be used. For best results, the capacitor should be connected as a four terminal device (see Figure 5 below). An external series common mode inductor or ferrite beads should be used between the converter and the capacitor.

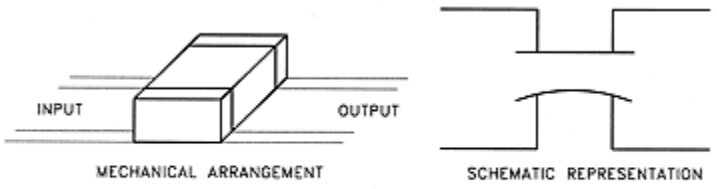

Figure 5
Four Terminal Capacitor
Method for Improved Filtering