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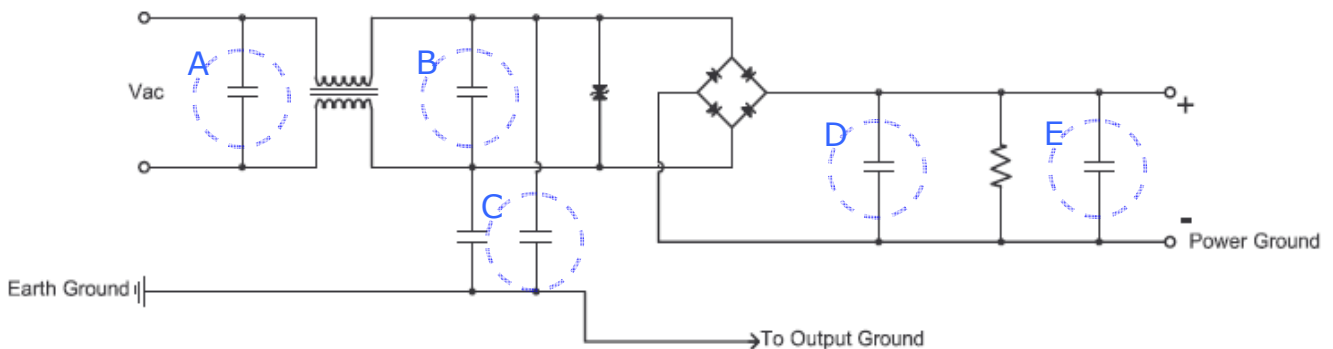
High Voltage MLCC for use in Power Supplies

Syfer Technology Limited is a premier global source for application specific multilayer ceramic capacitors and EMI suppression filters. Our comprehensive product range includes many application-specific capacitors, including FlexiCap™, as well as standard voltages and capacitance values. All our products are available in small, medium and large volumes. We specialise in high voltage MLCC, our ranges include some of the highest high voltage capacitance values in 0805, 1206 and 1812 case sizes available in the market place today. The benefit is a potential drop in case size which saves both cost and, in a market demanding ever smaller products, invaluable PCB real estate. MLCC exhibit low ESR characteristics which makes them ideal in mid frequency applications.

The following example is intended as a guide to where and how Syfer's capacitors can be used. Exact capacitance values and required voltage ratings are to be determined by the user.

AC:DC converter to DC:DC converter.

AC Converter:



AC side

A and B: Component 1808JA250102KXTSP, this component is a Y3/X2 rated safety capacitor certified by UL and TUV for use across the line in mains voltage applications.

C: Component 2220JA250472KXTB16, this component is a Y2/X1 rated safety capacitor certified by UL and TUV for use between live and ground in mains voltage applications.

DC side

D: Tank capacitor, usually a high capacitance value for smoothing, low voltage low frequency devices would use an electrolytic capacitor but at higher voltage and higher frequencies where charge/discharge rates are important and lower ESR is required an

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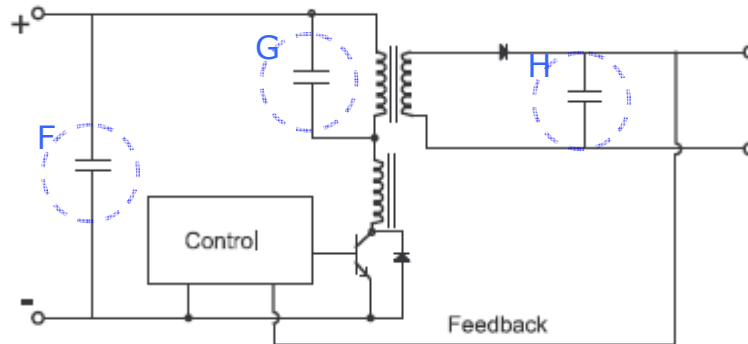
AN0030 – Issue 1
 P102899



MLCC would be suitable, Syfer can offer an 1812 1kV 100nF MLCC in X7R dielectric, these can be coupled in parallel to provide the required capacitance value.

E: Filtering, lower capacitance values. Syfer offer an extensive range of high voltage capacitors in both X7R and C0G dielectrics from 200V to 6kV which are suitable for output filtering depending on frequency.

DC:DC Flyback Converter; input on left side as per output on AC:DC converter



F and H: Filtering, lower capacitance values. Syfer offer an extensive range of high voltage capacitors in both X7R and C0G dielectrics from 200V to 6kV which are suitable for output filtering depending on frequency.

G: Resonant Capacitor

Relevant Syfer Ranges:

Surge and Safety Range – 1808 to 2220 Y2/X1, Y3/X2, X2. Available capacitance 4.7pF to 10nF dependant on case size and specification. Full details see www.syfer.com or http://www.syfer.com/doc_docs/safetychart.pdf



Syfer High Voltage Range – 0603 to 8060 X7R and C0G 68pF to 3.3uF dependant on voltage rating, case size and dielectric. Full details see www.syfer.com or http://www.syfer.com/doc_docs/smquickref

All C0G and X7R surface mount capacitors are available in FlexiCap™, Syfer's industry leading flexible termination designed to reduce the occurrence of failure due to "Mechanical" or "Board Flex" cracking.

For further information or technical assistance please contact our Sales Department on +44 1603 723310 or by Email at sales@syfer.co.uk