The Electrical Characteristics of T Filter Configured Multilayer Varistors

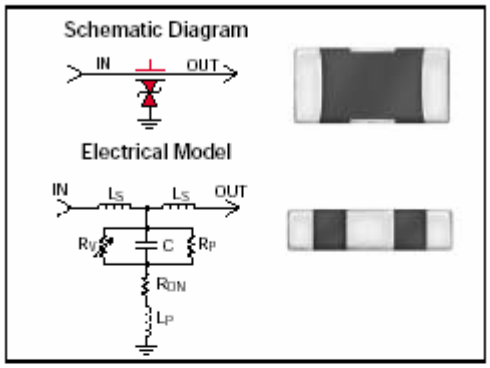
TransFeed

AVX Multilayer Ceramic Transient Voltage Suppressors
TVS Protection and EMI Attenuation in a Single 0805 Chip - V2F Series

GENERAL DESCRIPTION

AVX has combined the best electrical characteristics of its TransGuard Transient Voltage Suppressors (TVS) and its Feedthru Capacitors into a single chip for state-of-the-art overvoltage circuit protection and EMI reduction over a broad range of frequencies. This unique combination of multilayer ceramic construction in a feedthru configuration gives the circuit designer a single 0805 chip that responds to transient events faster than any TVS device on the market today, and provides significant EMI attenuation when in the off-state.

The reduction in parallel inductance, typical of the feedthru chip construction when compared to the construction of standard TVS or ceramic capacitor chips, gives the TransFeed product two very important electrical advantages: (1) faster "turn-on" time. Calculated response times of <200 pSec are not unusual with this device, and measured response times range from 200 – 250 pSec. The TransFeed "turn-on" characteristic is less than half that of an equivalent TransGuard part — and TransGuards clamp transient voltages faster than any other bipolar TVS solution such as diodes; (2) the second electrical advantage of lower parallel inductance, coupled with optimal series inductance, is the enhanced attenuation characteristics of the TransFeed product. Not only is there significantly greater attenuation at a higher self-resonance frequency,



but the roll-off characteristic becomes much flatter, resulting in EMI filtering over a much broader frequency spectrum. Typical applications include filtering/protection on Microcontroller I/O Lines, Interface I/O Lines, Power Line Conditioning and Power Regulation.

Where designers are concerned with both transient voltage protection and EMI attenuation, either due to the electrical performance of their circuits or due to required compliance to specific EMC regulations, the TransFeed product is an ideal choice.

HOW TO ORDER

V	2	F	1	05	A	150	Y	2	E	D	X
Varistor	Chip Size 2 = 0805	Feedthru Capacitor	No. of Elements	Voltage 05 = 5.6V 09 = 9.0V 14 = 14.0V 18 = 18.0V	Energy Rating X = 0.05J A = 0.1J C = 0.3J	Varistor Clamping Voltage 150 = 15.5V 200 = 20.0V 300 = 30.0V 400 = 40.0V 500 = 50.0V	Capacitance Tolerance Y = +100/-50%	DC Resistance 1 = 0.150 Ohms 2 = 0.200 Ohms 3 = 0.250 Ohms	Feedthru Current D = 500 mA E = 750 mA F = 1.0 Amp	Packaging Code Pcs./Reel D = 1,000 R = 4,000 T = 10,000	Termination Finish X = Pt/Pd/Ag (Non-Plated) P = Ni/Sn Alloy (Plated) Contact Factory for Availability