



EMI/RFI Filtration and SineWave Tracking Not The Same Technology...

Several of our competitors call it EMI/RFI Filtering. One competitor uses the statement "*AC Sine Wave True Tracking Filter with EMI/RFI Filtering up to -50dB from 10 kHz to 100 MHz*" on their spec sheets. From a Surge Protective Device (SPD) perspective, this statement is confusing to the point that it does not make sense.

Sine Wave Tracking or as we call it, Frequency Responsive Circuitry™ is not intended to be just an EMI/RFI Filter. Conversely, circuits designed specifically for the purpose of EMI/RFI Filtering may not be as effective as a Sine Wave Tracking SPD. The fact is that while they are both filter circuits, they have different purposes and their performance is stated in a different manner to reflect that difference in purpose.

RFI circuits are normally a broadband type filter circuit and performance is measured in -dB numbers based on a beginning point. For each -3dB, the RFI energy has been reduced by half. The purpose of the EMI/RFI circuits are to reduce noise that resides within a wide frequency spectrum on the protected circuits. It is inherently more effective at some frequencies than others dependent on the design of the filter and the components it contains.

Sine Wave Tracking SPD circuits are designed to reduce transient voltages at the frequency range where ringing transients are most commonly found. The performance testing for this type of circuit is performed at 100 kHz. Since it is a filter circuit, it responds to rapid changes in frequency and serves to reduce the amount of that deviation from the normal 60 HZ sine wave.

Because the purpose of the circuit is transient voltage suppression, the performance is measured in volts. Since these filters serve two different functions, our spec sheets state the performance of those circuits in a separate area in the form that is proper for those filters. EMI/RFI performance is listed on the front side of the spec sheet where it says *Insertion Loss Data*. It is listed at different levels to give you an idea of how it varies according to different frequencies between 10 kHz and 1 MHz.

SSI's Frequency Responsive Circuitry™ performance data is found in the *Let-Through Voltage* section of the spec sheet of our products under the Category A column. Additionally the test impulse is introduced at the 270 degree point of the sine wave.

SSI is one of the very few manufacturers who even publish this data.

Many of the competitors try to hide behind their EMI/RFI filters and call it Sine Wave Tracking. Unless the manufacturer gives you Let-Through-Voltage Performance Data for Ring Wave Transients, you have no way to determine the level of protection that their product actually provides.

At SSI, not only do we provide this data on our spec sheets, but the test result data has also been 3rd Party Certified. We are the ONLY manufacturer who does this.

SSI does not create marketing issues to help us sell products. We don't have to. Between man and Mother Nature there are enough real issues that need to be addressed. Our job is to simply make a quality product that delivers. The most important aspect of a SPD is *Performance* via low Let Through Voltages. Everything else is Secondary...

SSI's Frequency Responsive Circuitry™ is the most advanced Sine Wave Tracking Technology on the market today.



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