



45 years ago, a Transient Protector gets it right

January 23, 2012

In the early 60s, a time when the newly emerging transistor technology quickly took over the tube market, young engineer and physicist Richard Odenberg gained what proved to become valuable experience designing voltage regulators for the space industry. Transistors are based on semiconductors, a technology that is highly sensitive to voltage fluctuations. When a friend shared his frustration over new transistor based two-way radios consistently failing on shrimp boats, Richard was able to offer his expertise. He received a contract to design a new voltage regulator replacing the old electromagnetic ones that created transients, which caused the transistors in the radios to fail.



With confidence, Richard got to work, but his design kept failing, too. On a mission to get it right, he discovered that transients caused the solid state technology he was using to break down. To overcome the problem, he needed to incorporate a surge suppressor. While the old tube technology could be adequately protected with air gap suppressors, the new technology required a much more sophisticated approach. Neither zener diodes nor metal oxide varistors (MOVs) worked for his low voltage application. The sensitive semiconductor technology needed a suppressor that had a sufficiently low voltage let-through. Silicone avalanche suppression diodes, which had just entered the market, finally provided the required protection level to keep transients from destroying the voltage regulator.

With a vision and three patents, Transtector was born in 1967, focusing on low voltage protection providing immunity from failure to equipment. However, the market proved to be challenging. Despite their inherently different characteristics and high voltage applications, much cheaper MOVs remained the biggest competitor. To help support his mission to educate the market and consequently safeguard costly investments in advanced technologies as well as critical applications, RO Associates was founded. The U.S. military listened and so did many high tech companies within the communication and medical industry. As a member and chairman of several IEEE, IEC and ANSI committees as well as author and lecturer of university accredited courses, Richard Odenberg continues to this day to educate and help advance national and global standards.

In the late 90s, as a steadily growing business focused on quality products that live up to its hard earned reputation of "because it works!", Transtector caught the interest of the global technology conglomerate Smiths, a world leader in the practical application of advanced technologies. Although several companies were interested in acquiring Transtector, Richard Odenberg's focus on first building trust, educating, and then helping the customer to find the right product aligned best with the core values of Smiths, plc.

45 years ago, a **Transient Protector** gets it right. As semiconductor technologies continue to increase in sophistication and shrink in size, this **Transient Protector** is here to stay. Advanced circuitries necessitate better protection. Silicon can provide it.

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