

### **Wide Input Range Eases Transient Protection For DC-DC Converters**

[Gaia Converter](#) has extended its platform of dc-dc converters with ultra-wide input voltage range to the High Rel MGDD-80 series, which targets military and airborne applications. According to the vendor, the input range on the MGDD-80 series is uniquely wide, having an ability to accept continuous inputs of 9 V to 60 V while also withstanding transients up to 80-V for 1 sec. This input voltage capability simplifies compliance with Mil-Std-1275, 704 or DO-160 standards without installing additional front end protection devices. This performance is achieved via Gaia's proprietary switching techniques which also keeping efficiency over 90%.

With two outputs (for parallel, serial or symmetrical operation) of 5 V, 12 V, 15 V and 24 V, these converters can cover a wide variety of needs such as single 5-V to 48-V output,  $\pm 15V$  or 2 x 24-V outputs for example. Packaged in a 2-in. x 1.6-in. housing, the MGDD-80 series have a wide temperature range of  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$  and are potted to fit rugged military and airborne environmental conditions (see the figure).

The units are full featured and protected with zero to full load regulation, trim, synchro and on/off capability, adjustable UVLO, soft start, embedded EMI filter as well as overcurrent and overtemperature protection. They can also be synchronized and/or paralleled for added power or N+1 redundancy. Designed for rugged applications, the MGDD-80 series converters do not use any optocouplers. For more information, see the company's High Rel & Industrial Grade DC-DC converters [page](#).



*Figure. Featuring an input voltage range of 9 to 60 V, the MGDD-80 series dc-dc power modules are designed for use in distributed power architectures in military and avionics applications where variable input voltage and transients are prevalent and where high power density up to 50 W/in.<sup>3</sup> is required. The MGDD-80 series is compliant with DO-160 and MIL-STD-704 transient voltage without an additional voltage limiter.*