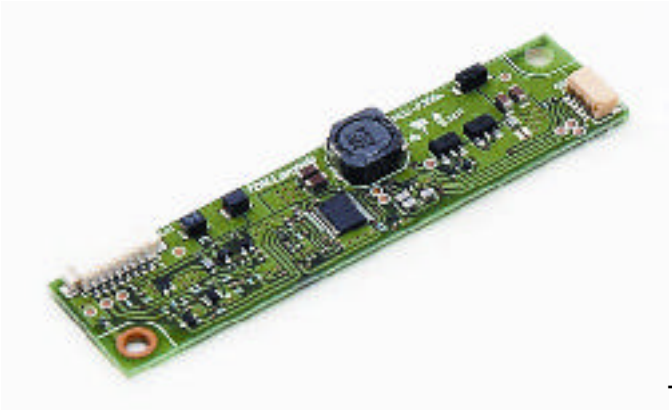
Multi-Output Backlight LED Drivers for LCD Displays



To serve the steady migration from cold cathode florescent (CCFL) backlighting of LCD displays to LED backlights, TDK-Lambda has launched their new ALD Series of multi-output DC-DC backlight LED drivers. These drivers are specifically designed for LED backlighting of LCD displays that are now used in industrial and consumer applications. The series includes models for backlight LEDs arranged in two, three, and four string configurations. The drivers feature wide-range dimming controls with resistive, analog, or PWM inputs that provide smooth LED brightness control. Each ALD output provides up to 140 mA of constant-current drive to backlighting LEDs that can be connected in series and parallel configurations.
The ALD drivers are designed to operate with an input voltage of 10.8 to 13.2 VDC and have a maximum open-circuit output voltage of 42 to 44 VDC. The series are ultra thin (5.0 to 5.5 mm) to facilitate easy mounting behind LCD screens with a minimum of space. The two and three string models measure only 21.5-mm high x 85-mm long and the four string drivers are 50-mm high x 100-mm long.

Other features include a remote on/off input and an overvoltage alarm output. The overvoltage alarm serves as an LED open detector. These drivers are convection cooled and designed to operate in ambient temperatures ranging from -30 to 85°C without deratings. Typical operating efficiencies are 90%, which substantially reduces power consumption and unwanted heat.

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