



LinearDimensions
SEMICONDUCTOR

LND060

**OFFLINE LED DRIVER (Up to 277VAC)
NO INDUCTORS, FILTERS, PF>0.9, THD<25%**

GENERAL DESCRIPTION

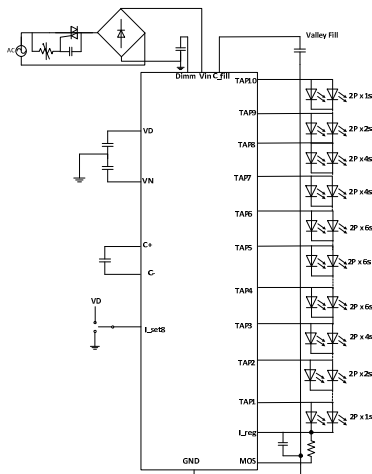
The LND060 is designed to drive one or more strings of LEDs directly from an offline AC source. Using a Linear Dimensions proprietary (PATENTS PENDING) switch array, LED strings can be segmented with a combination of series and parallel LED combinations and re-combinations. The result is an extremely high efficiency solution with low total harmonic distortion (THD<25%) and high power factor (>0.9).

As the LND060 connects directly to the AC line and re-configures the LEDs to match the input voltage, it does not require magnetics, capacitors or filtering components as standard LED driver solutions do. This direct coupling is also very efficient.

The use of a proprietary switch array allows a large number of segments and re-arrangement in serial and parallel combinations. This overcomes the flicker, fanout, LED utilization, low THD & poor power factor of first generation offline direct drive schemes.

The LND060 is compatible with standard phase control TRIAC dimmers. One percent (1%) dimming is accomplished using Linear's proprietary patent pending switch array, an on board charge pump, and an RMS-to-Linear converter. When dimming the LND060 converts the phase control signal to 1kHz PWM waveform to reduce flicker.

APPLICATIONS DIAGRAM



FEATURES

- Lowest cost offline LED driver (Up to 277VAC)
- No inductors, transformers or HV capacitors required
- Fewer LEDs required than other direct drive solutions
- Up to 18W LED driver solution
- High power factor >0.9
- THD $<25\%$
- No electrolytic capacitors
- No flicker, uniform brightness
- Dimming:
 - Standard TRIAC dimmer compatible
 - Re-organizes LEDs
 - Converts to 1kHz PWM dimming to eliminate flicker at low dimming levels
- LED recombination to optimize LED utilization, PF and THD
- Current programmability for individual segments
- Over current protection
- Over temperature protection with automatic restart
- Power package
- Up to $T_j=150^{\circ}\text{C}$ Operation
- ESD protected

APPLICATIONS

- Solid state lighting
- LED fluorescent tube replacement
- Replacement lamps for 120V and 230VAC
- General LED lighting
- LED street lamps

EXAMPLE APPLICATIONS

