



FEATURES:

- High Power LED Driver
- Ultra Wide Input Voltage Range
- Remote ON/OFF Function
- SMD Package
- Constant Current Output mode
- High Efficiency (Up to 96%)
- PWM & Analogue Dimming Function
- Operating Temperature range -40°C - +85°C

Models
Single output



Model	Input Voltage (V)	Output Voltage (V)	Output Current (mA)	Efficiency Max (%)
AMLDV-4830-NZ	5.5-48	3.3-36	300	96
AMLDV-4835-NZ	5.5-48	3.3-36	350	96
AMLDV-4850-NZ	5.5-48	3.3-36	500	96
AMLDV-4860-NZ	5.5-48	3.3-36	600	96
AMLDV-4870-NZ	5.5-48	3.3-36	700	96

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24	5.5-48		VDC
Absolute Maximum Rating(≤10sec)		5-55		VDC
On/Off Control (Analog Control) (Leave open if not used)	ON: Open or 2.8V > V < 6V			
	OFF: V < 0.6V			
Remote pin current	V=5V		1	mA
Quiescent input current in Shutdown mode	Vin=24V, V<0.6V		400	µA
Dimming Control (Digital Control)	Max PWM Frequency: 200Hz			
Dimming Control (Analog Control) (Leave open if not used)	Input Voltage Range (Vin=5.5-48V)		0-15V	
	Output Current Range(Vin=5.5-48V)		0-100%	
	Control Voltage Range(Full ON)		0.2V±50mV	
	Control Voltage Range(Full OFF)		4.5V±50mV	
Input Filter	Driving Current(V=5V)		0.2mA(max)	
	Capacitor			

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Current accuracy		±2	±3	%
Short Circuit protection		Continuous, Automatic Recovery		
Efficiency	At full load		96	%
Max load capacitance			1000	µF
Ripple & Noise	20MHz Bandwidth	120		mV p-p
Temperature coefficient	-40°C to +71°C	±0.015		%/oC
Output Current Stability	Vin=48V, Vo=3.3~36V		±1	%
Internal Power Dissipation	Vin=24V, 5LEDS		700	mW

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	370	320-420	KHz
Operating temperature	300mA, 350mA	-40 to +85		°C
	500mA, 600mA, 700mA	-40 to +71		°C
Storage temperature		-55 to +125		°C
Max Case temperature			100	°C
Cooling	Free Air Convection			
Humidity			95	% RH

General Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Case material		Plastic UL94-VO		
Potting material		Epoxy Resin(Flammability UL94V-0)		
Weight		6		g
Dimensions (L x W x H)		0.939 × 0.713 × 0.315 inches	23.86 × 18.10 × 8.00 mm	
MTBF		>2 000 000 hrs (MIL-HDBK-217 F at +25 °C)		

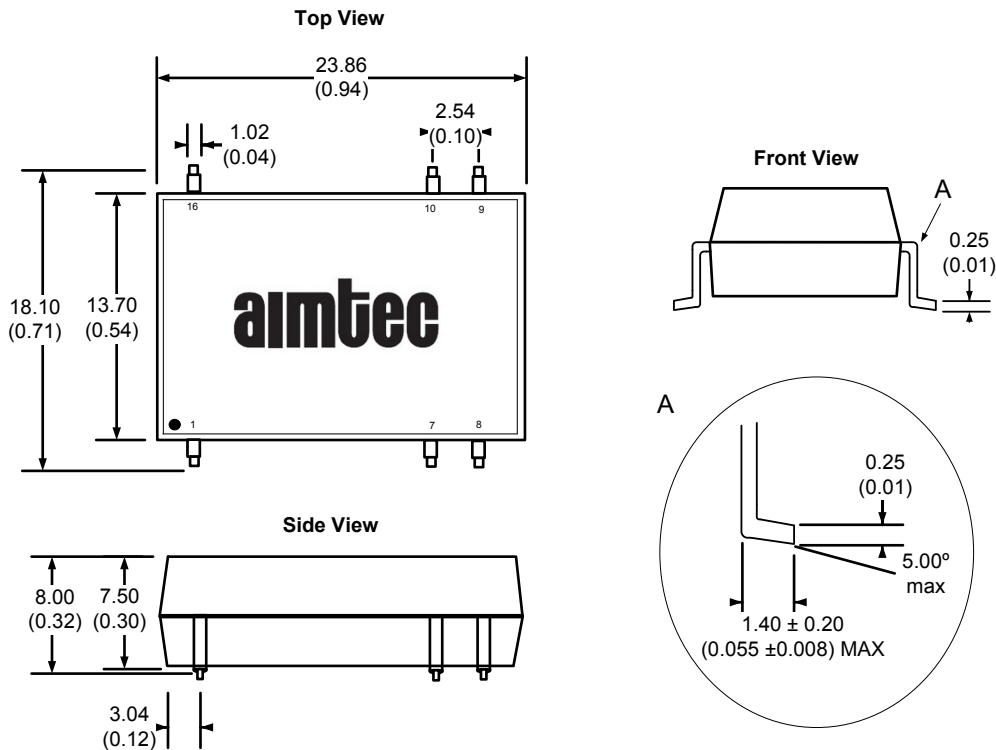
Safety Specifications

Parameters	
Standards	Designed to meet: EN 55022, class B, IEC/EN 61000-4-2 (Perf. Criteria B), IEC/EN 61000-4-3 (Perf. Criteria B), IEC/EN 61000-4-4 (Perf. Criteria B), IEC/EN 61000-4-5 (Perf. Criteria B), IEC/EN 61000-4-5 (Perf. Criteria B)

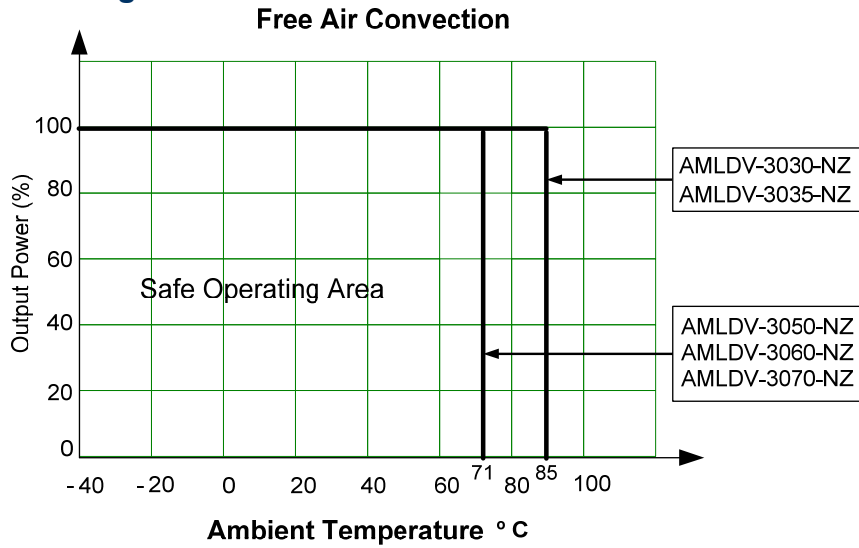
Pin Out Specifications

Pin	Single	
1	-V Input	DC Supply
7	Remote On/Off PWM Dimming	PWM/ON/OFF or not used
8	-V Output	LED Cathode connection
9	+V Output	LED Anode connection
10	Analogue Dimming	Analogue Dimming or not used
16	+V Input	+ DC Supply

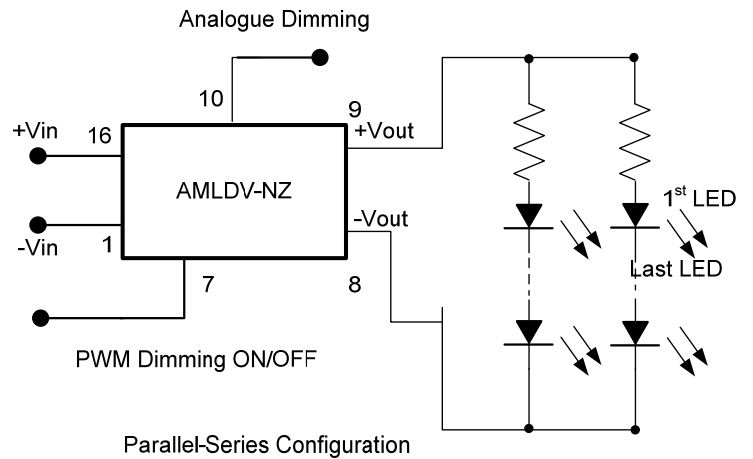
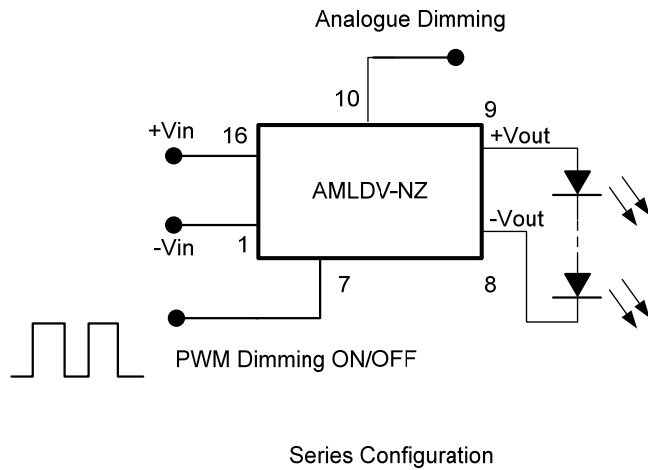
Dimensions



Derating

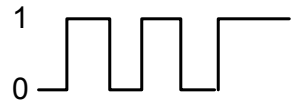
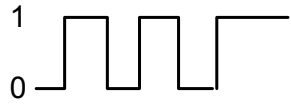


Typical Application Circuits



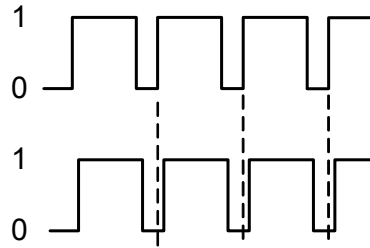
PWM Dimming Control

PWM Digital Control Signal



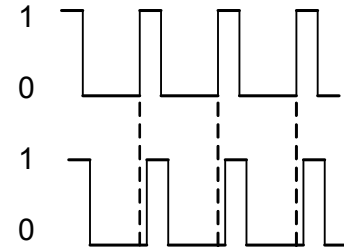
Output Current

PWM Digital Control Signal



Output Current LEDs appear Dim

PWM Digital Control Signal



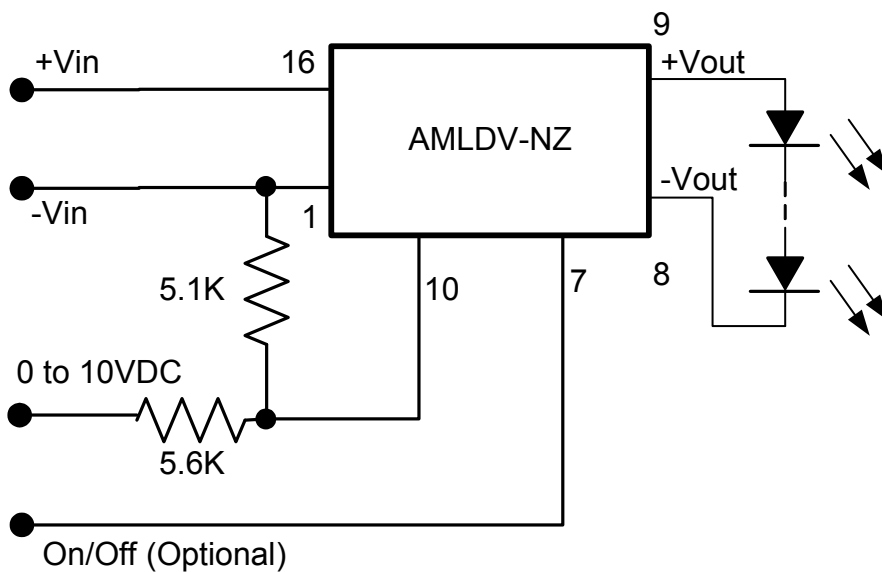
Output Current LEDs appear bright

$$I_{out_Set} = \left[\frac{(DT-0.6)}{T} \right] I_{out_Nominal}$$

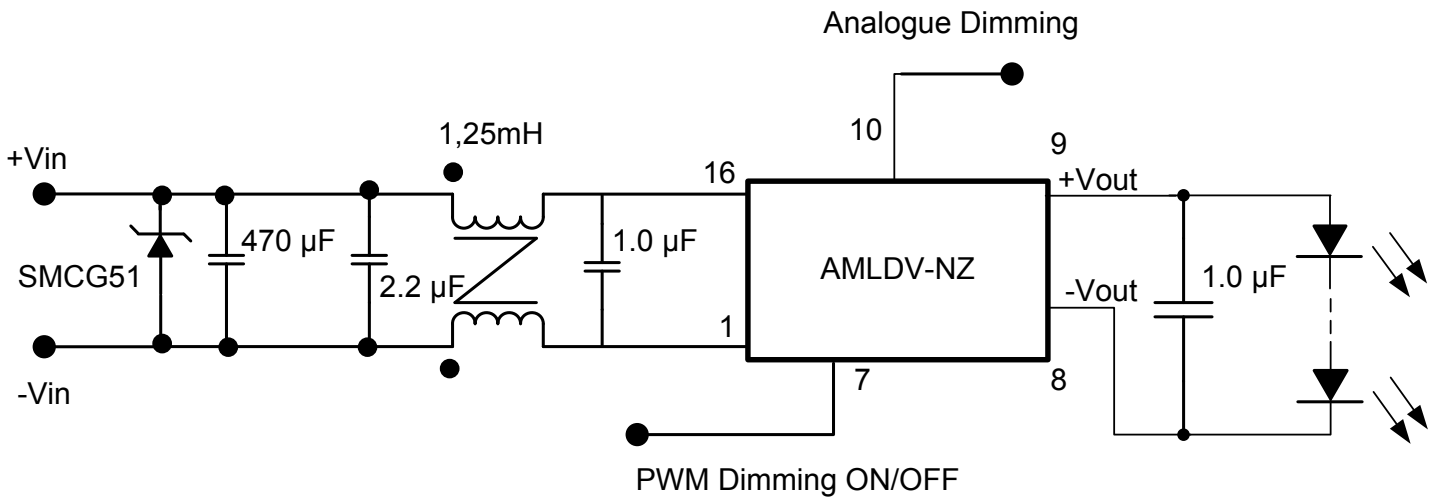
Where: D is pulse width
T is cycle of the pulse

NOTE: Formula is for reference; actual output current may depend on loading.
The Time On of pulse must be > 0.7mS

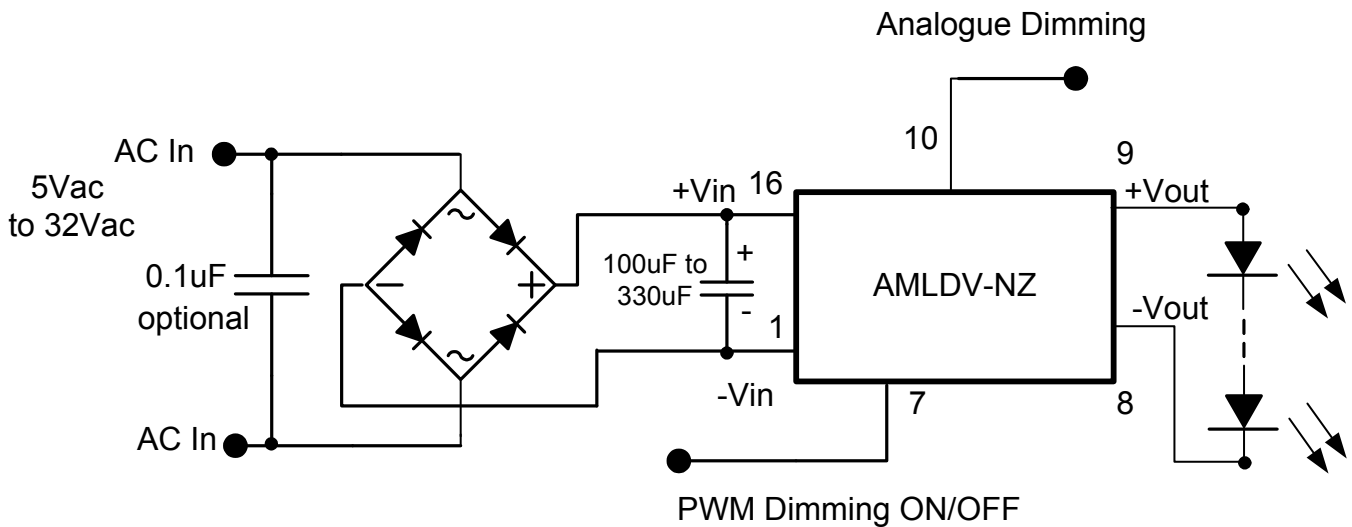
Analogue Dimming Control



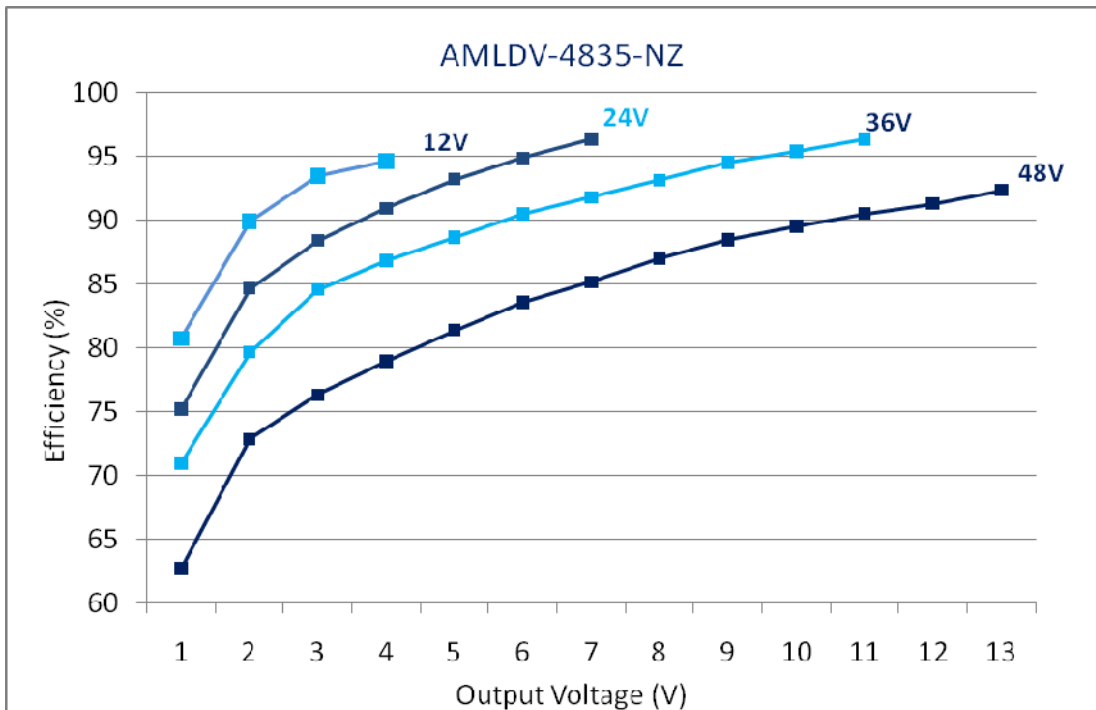
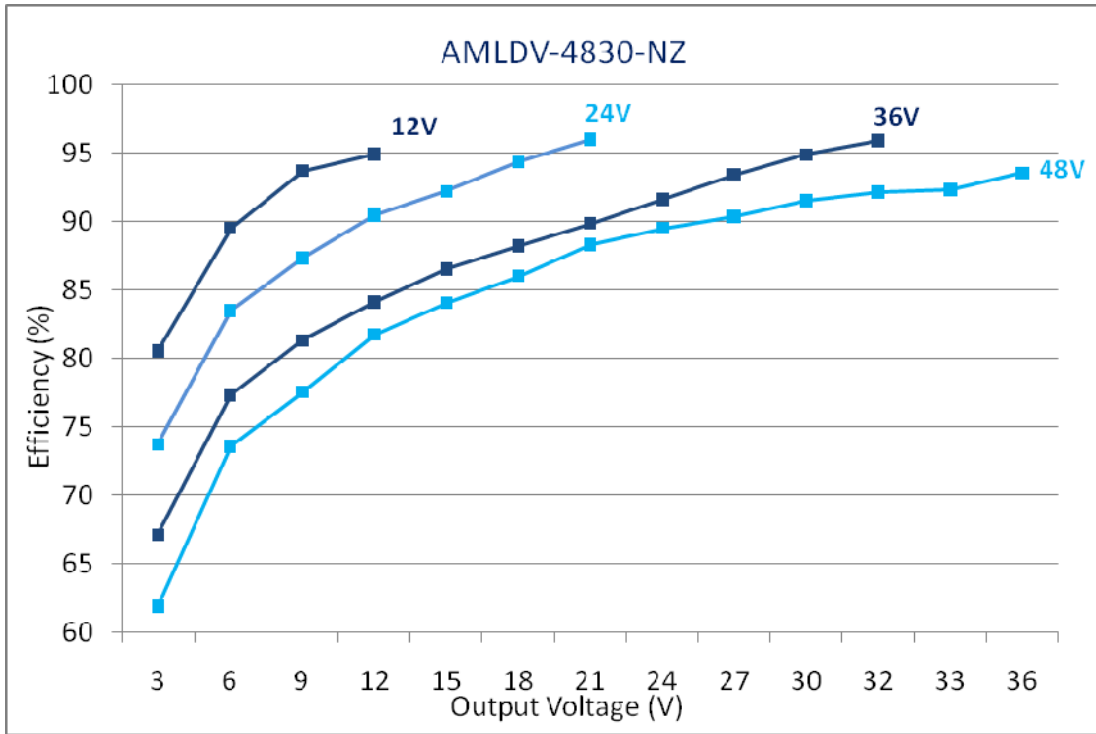
Recommended EMC Circuit

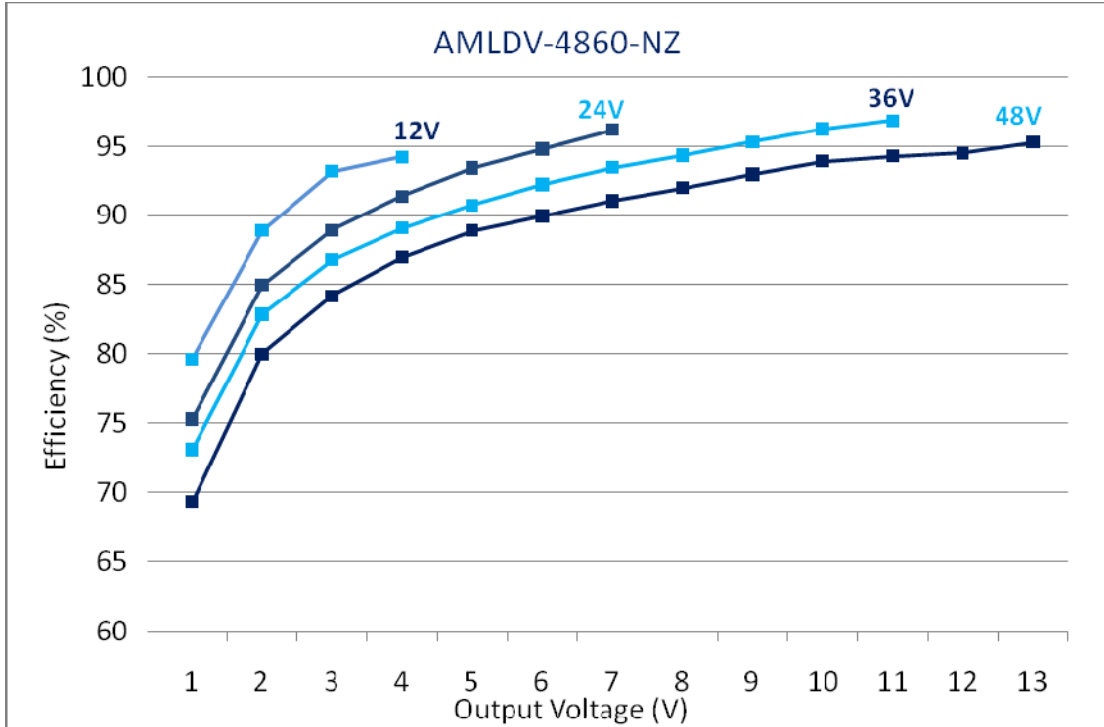
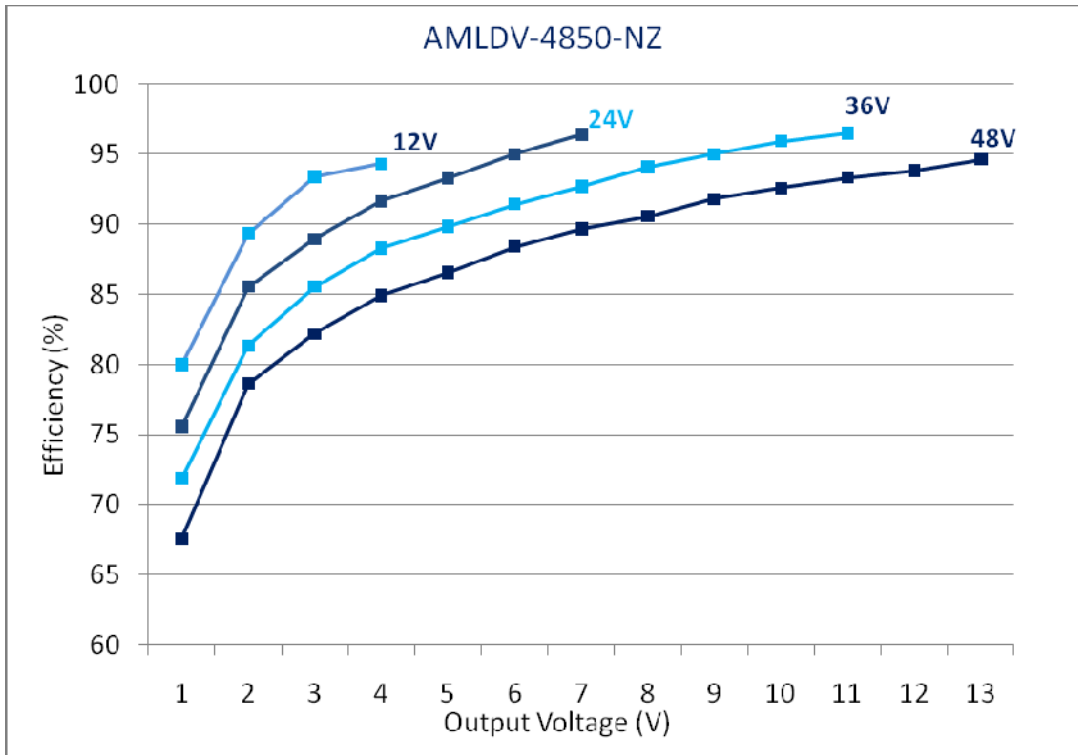


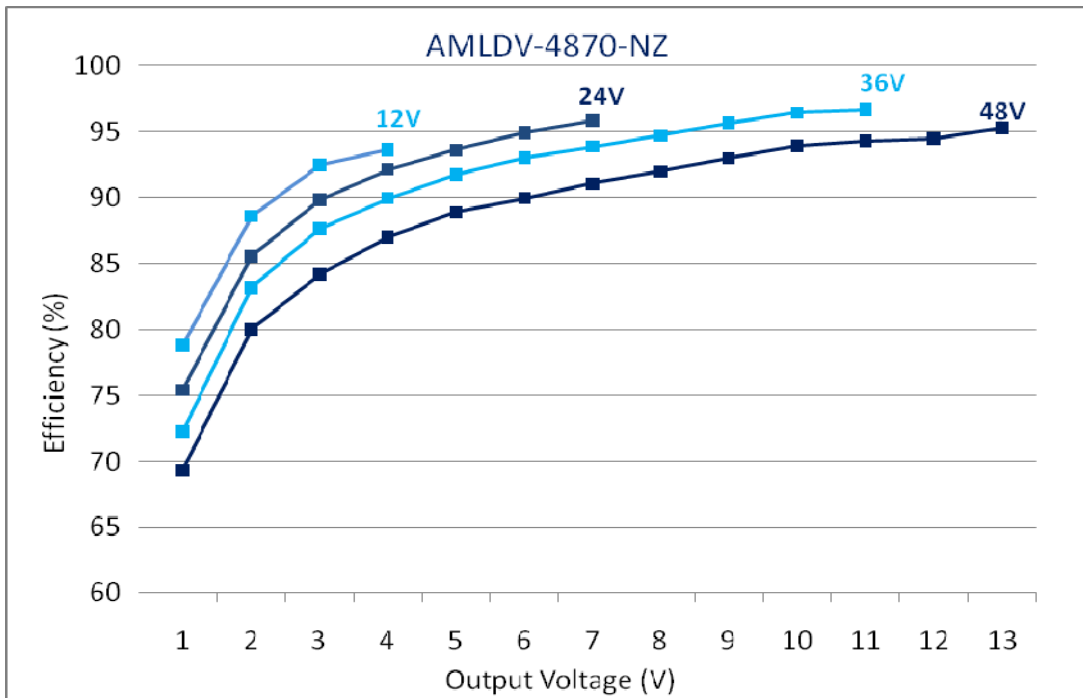
Recommended AC Input Circuit



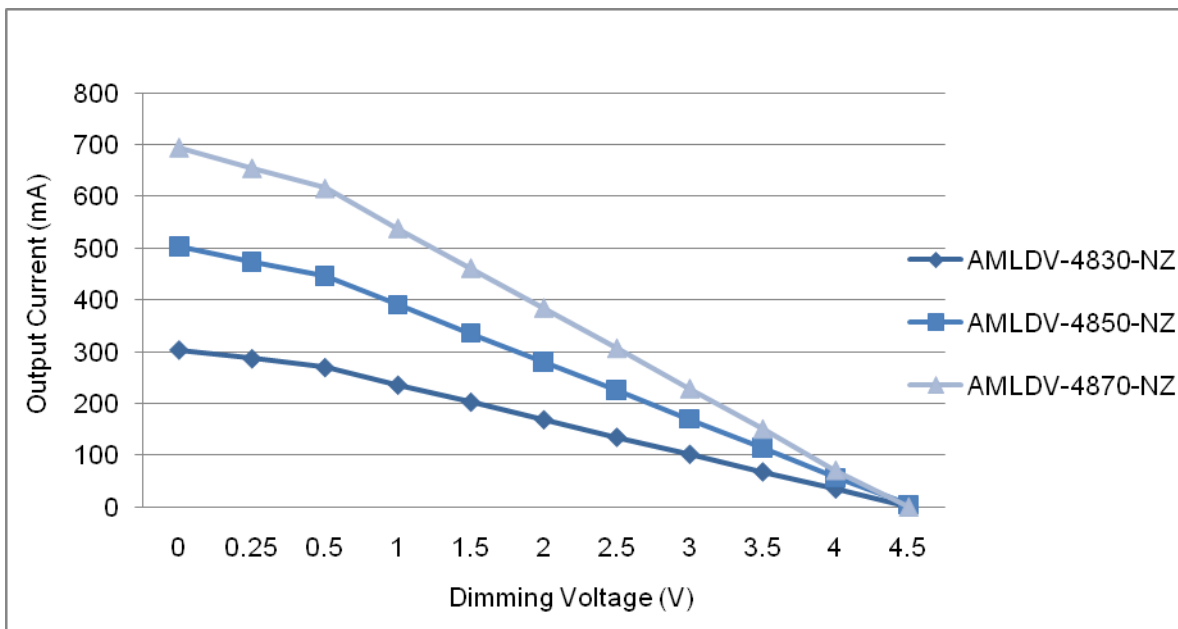
Efficiency versus Input Voltage







Output Current versus Dimming Voltage



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