



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)	Maximum Rated 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	
	Driving Current(V=5V)		0.6mA(max)	
Input Filter	Capacitor			

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Current accuracy		±2	±3	%
Input to Output Voltage drop	48V input	3.3-36		VDC
	36V input	3.3-32		
	24V input	3.3-21		
	20V input	3.3-17		
	15V input	3.3-13.2		
	12V input	3.3-10		
	5.5V input	3.3-4		
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
Case material		Plastic UL94-VO		
Potting material		Epoxy Resin (Flammability UL94V-0)		
Weight		6		g
Dimensions (L x W x H)		0.939 x 0.713 x 0.315 inches	23.86 x 18.10 x 8.00 mm	
MTBF		>2 000 000 hrs (MIL-HDBK-217 F at +25 °C)		

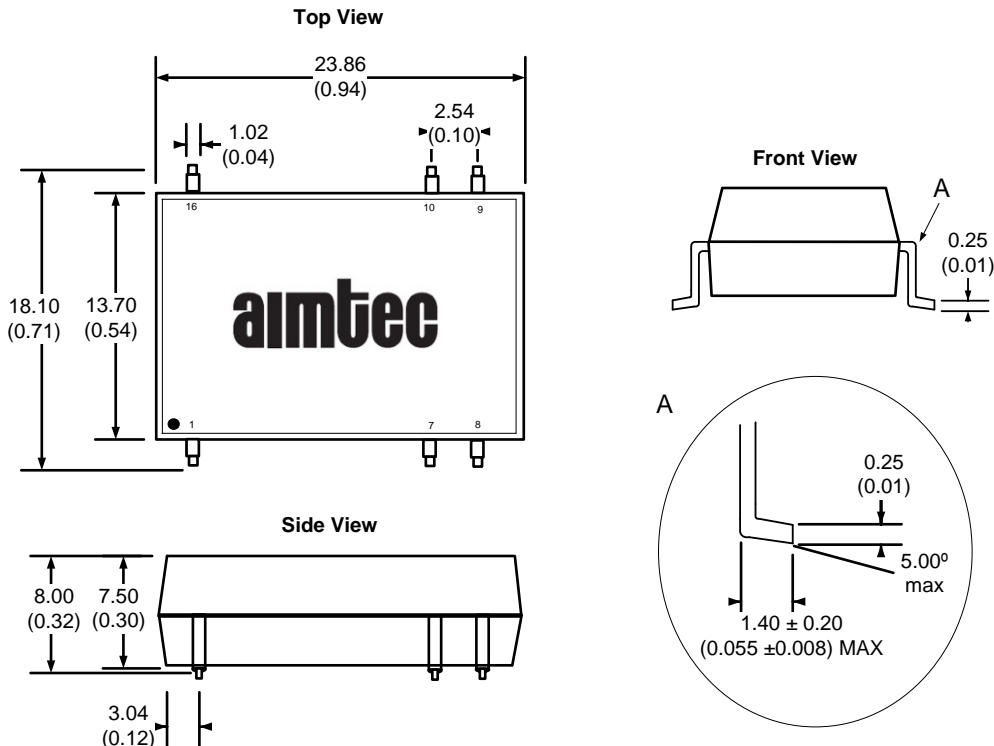
Safety Specifications

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)

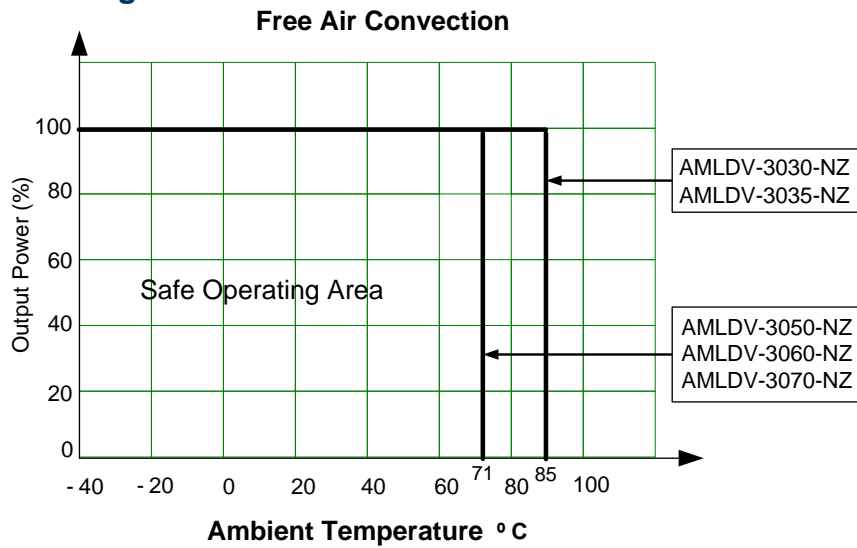
Pin Out Specifications

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

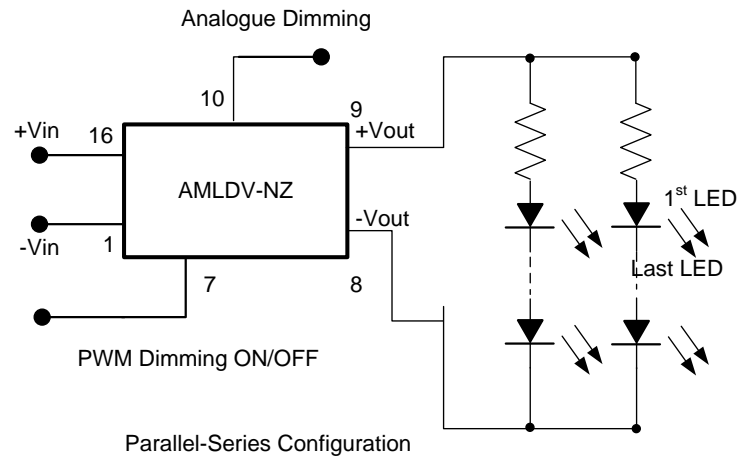
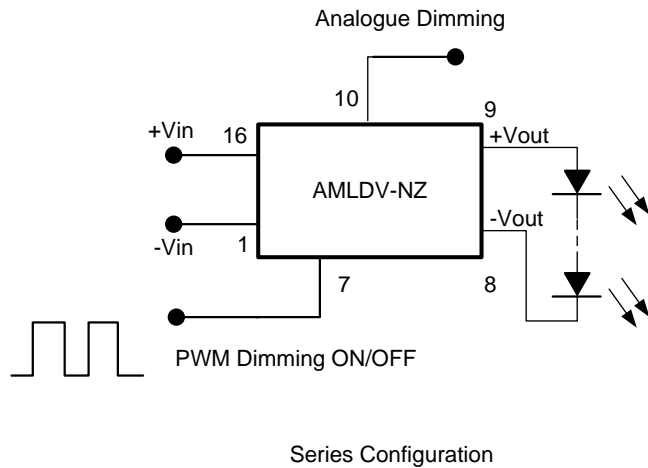
Dimensions



Derating

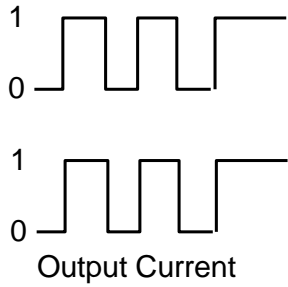


Typical Application Circuits

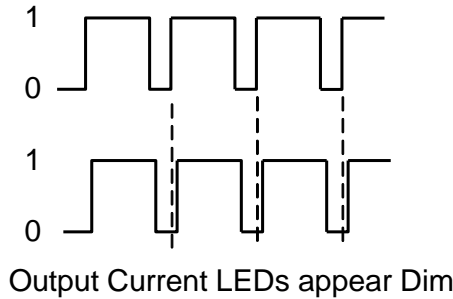


PWM Dimming Control

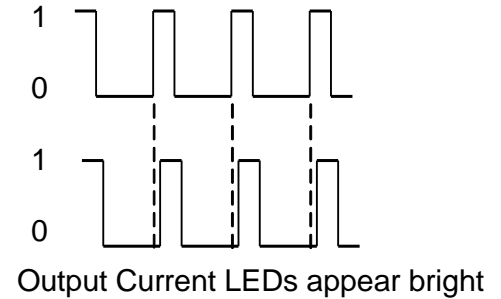
PWM Digital Control Signal



PWM Digital Control Signal



PWM Digital Control Signal

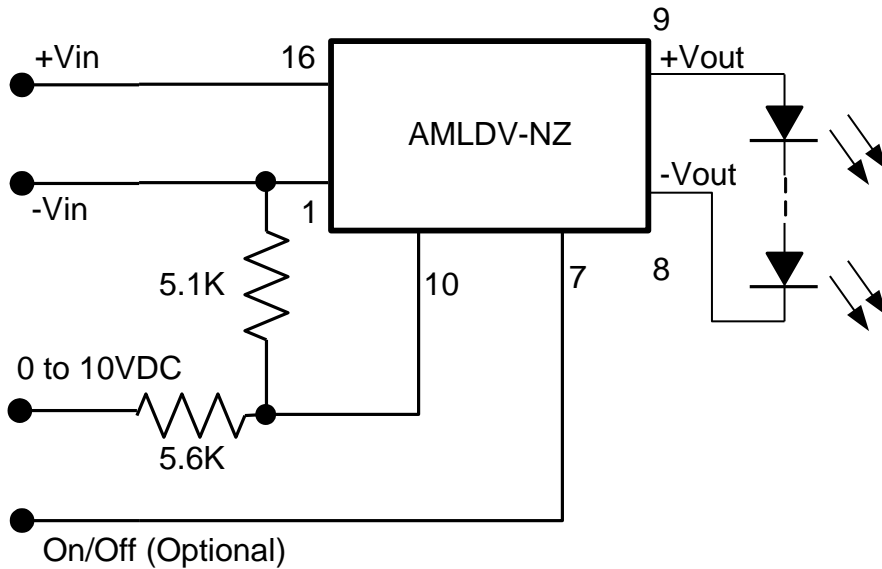


$$I_{out_Set} = \left[\frac{(DT-0.6)}{T} \right] I_{out_Nominal}$$

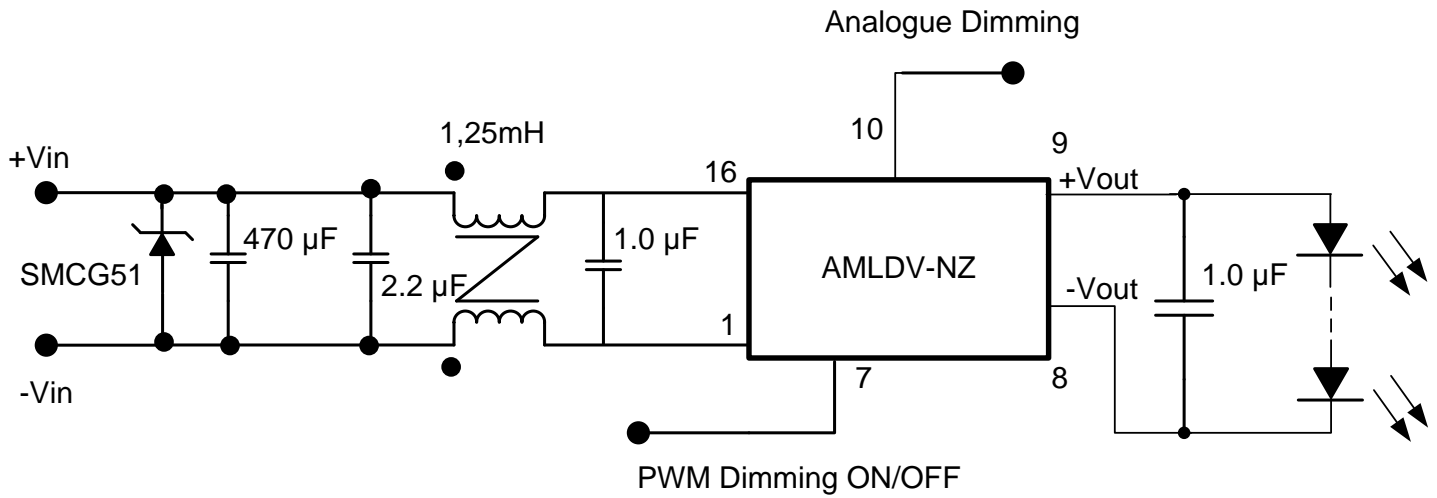
Where: D is pulse width
T is cycle of the pulse

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

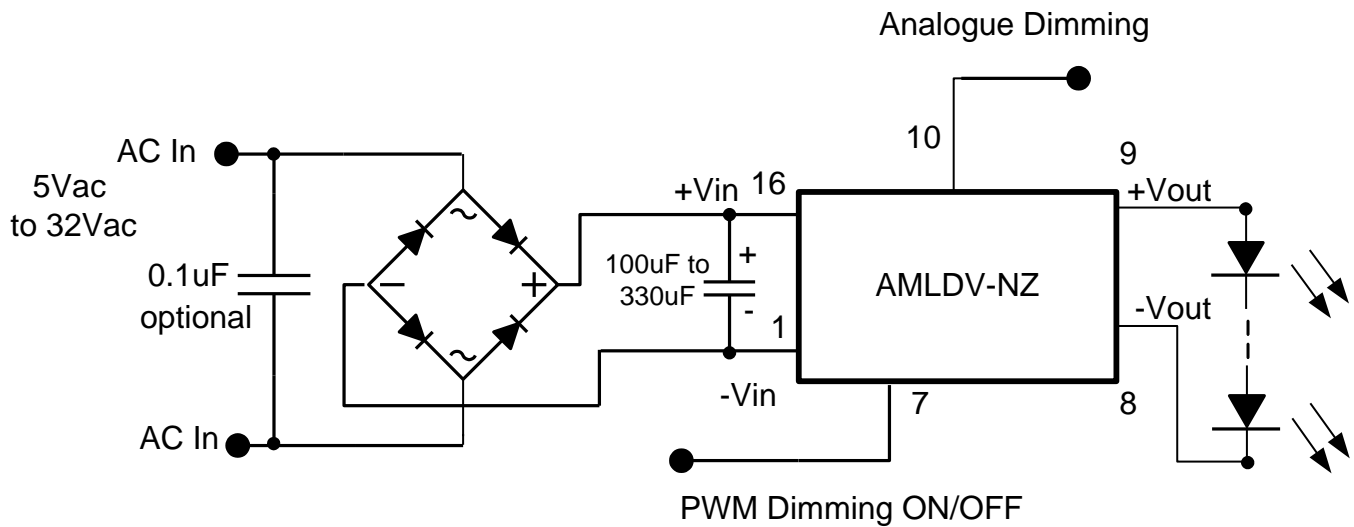
Analogue Dimming Control



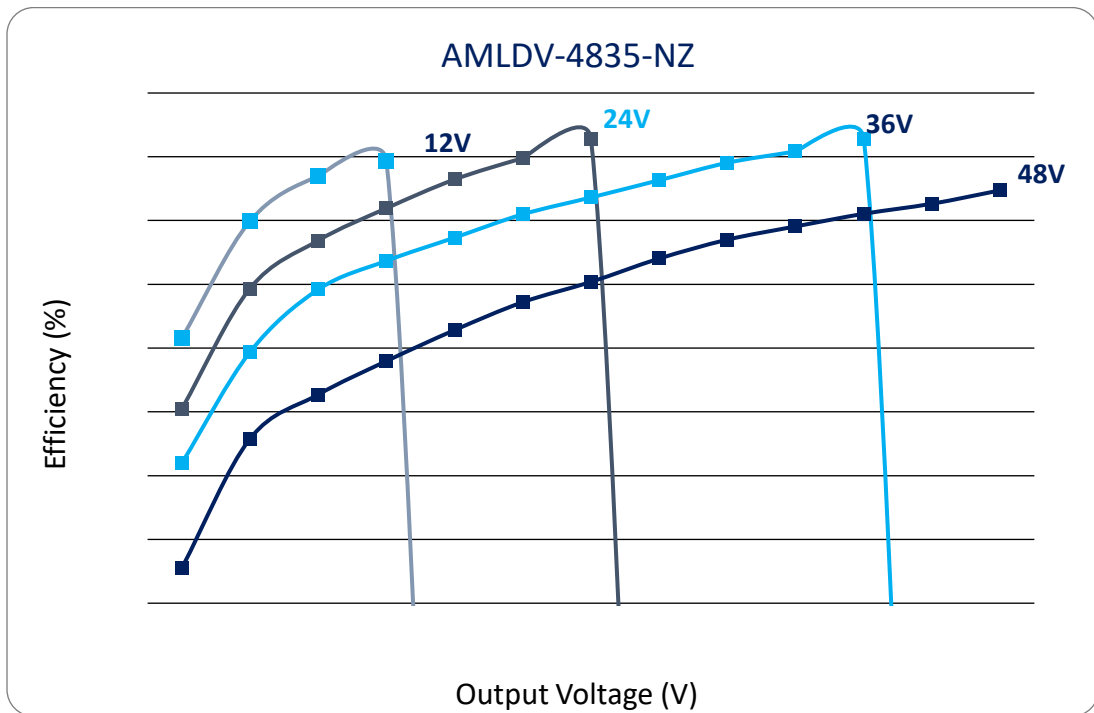
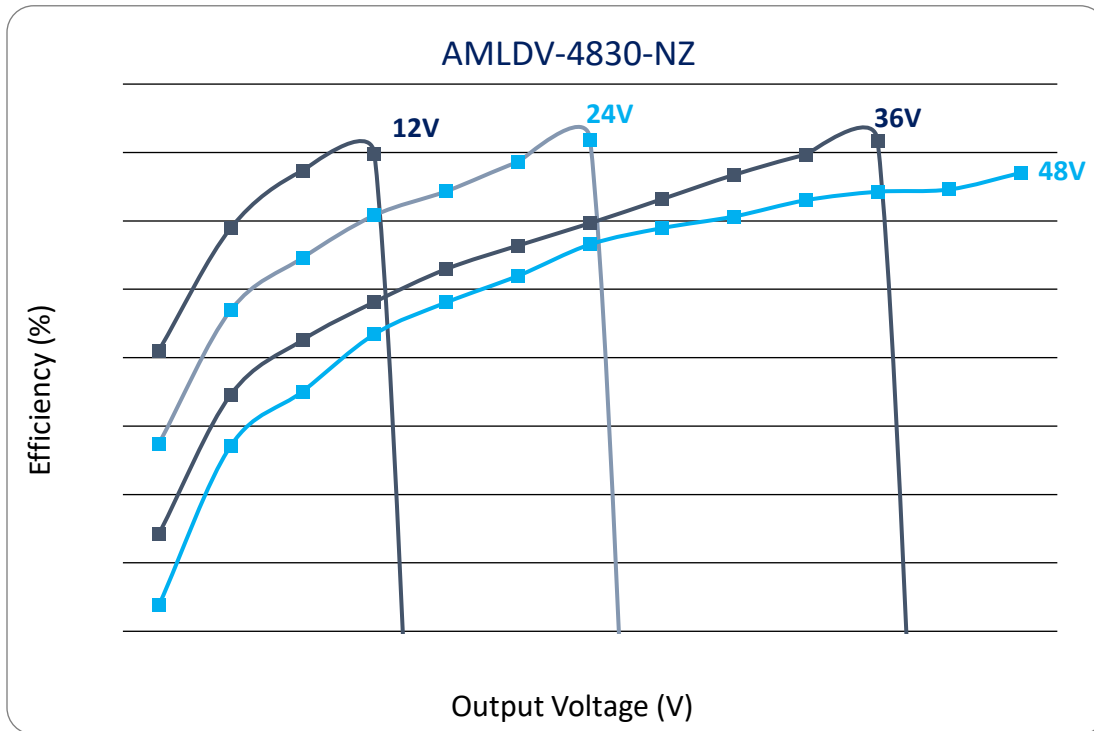
Recommended EMC Circuit

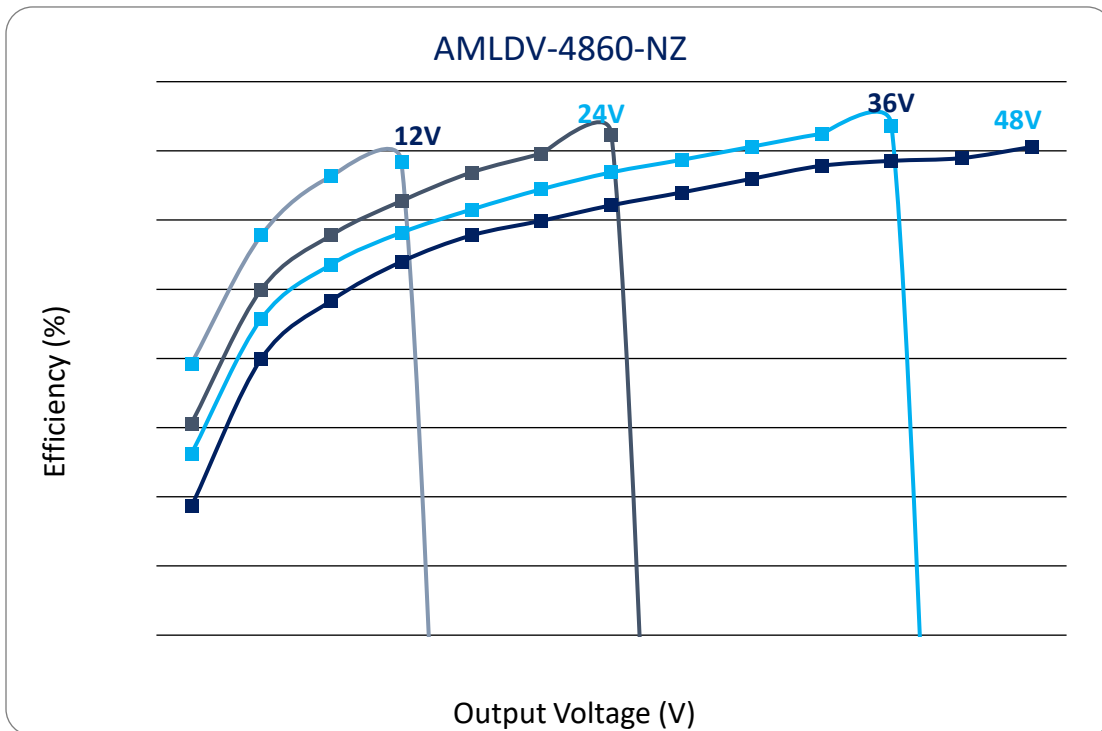
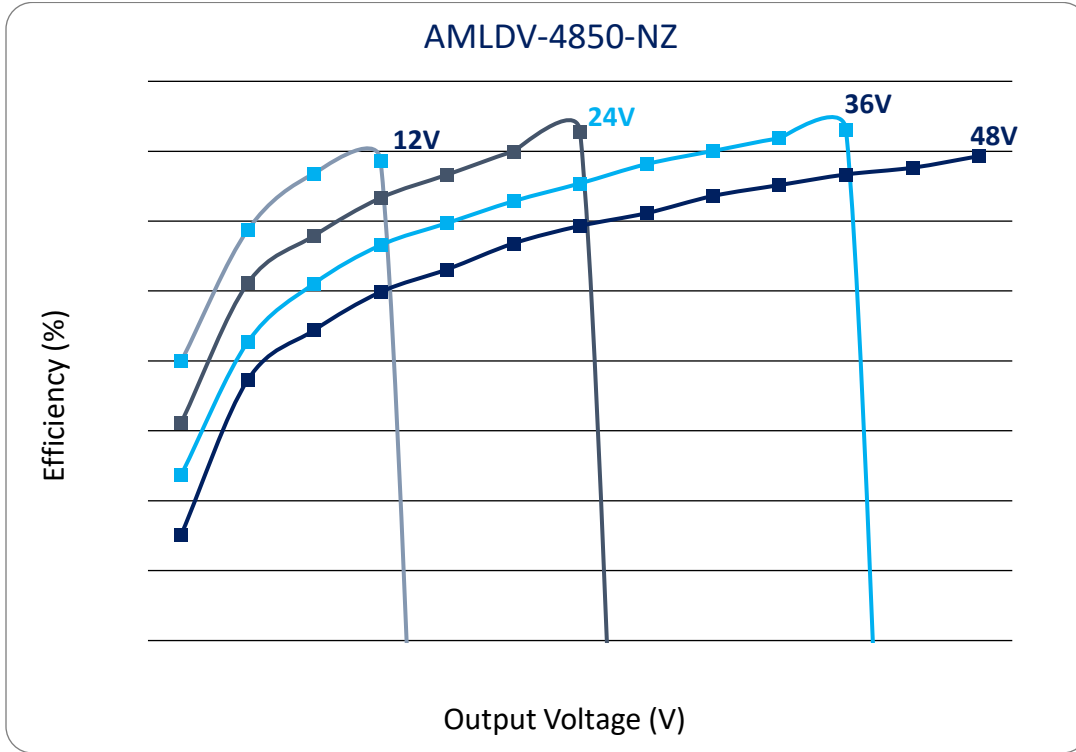


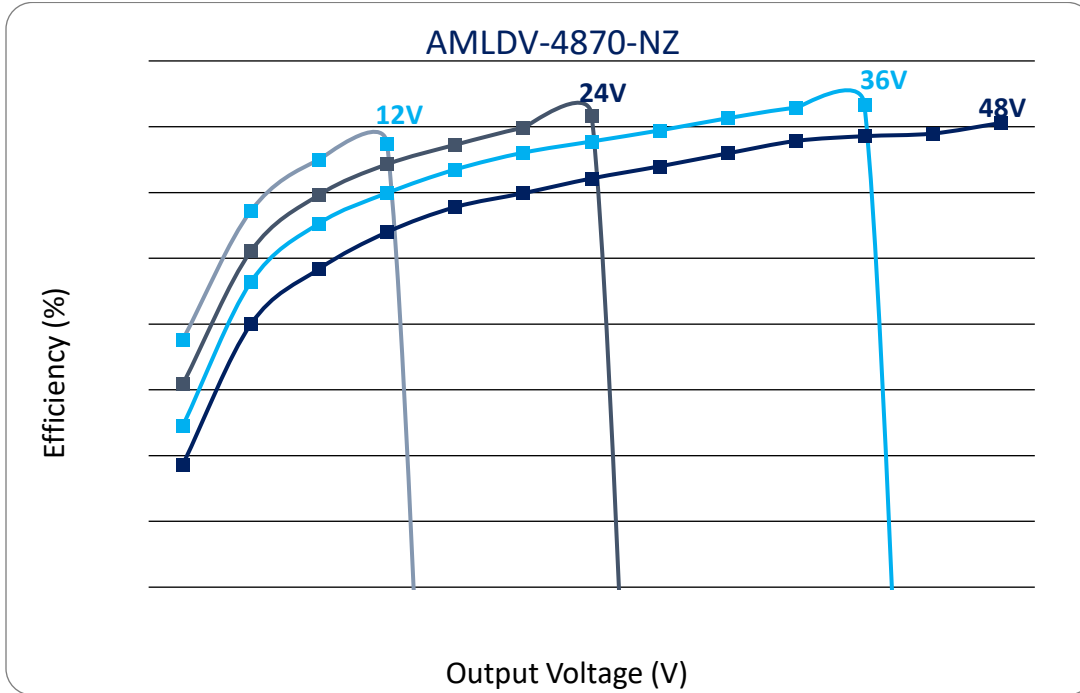
Recommended AC Input Circuit



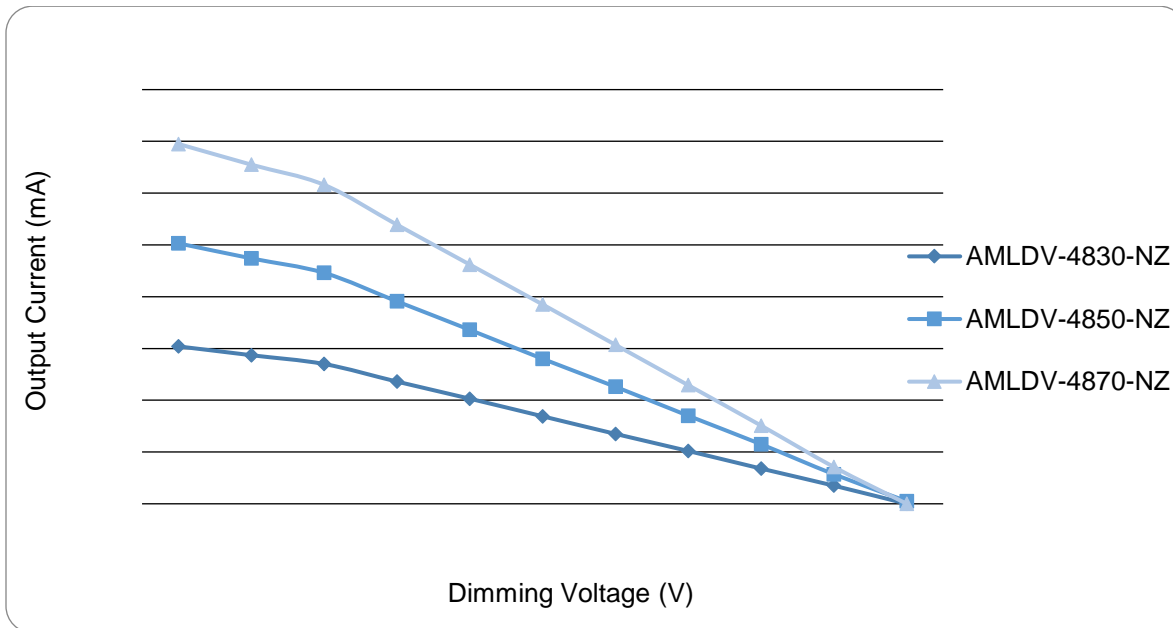
Efficiency versus Input Voltage







Output Current versus Dimming Voltage



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