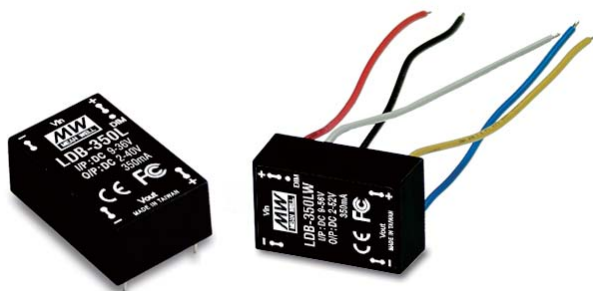




DC-DC Constant Current Buck-Boost LED driver

LDB-L series



■ Features :

- DC/DC buck-boost converter
- Constant current output: 300mA to 600mA
- Wide input voltage: 9 ~ 36VDC
- Wide output LED string voltage: 2 ~ 40VDC
- High efficiency up to 91%
- Built-in EMI filter, comply with EN55015 and FCC part15 without additional input filter and capacitors
- Built-in PWM and remote ON/OFF control
- Protections: Short circuit / Over temperature
- Cooling by free air convection
- Fully encapsulated with IP67 level
- Compact size
- Low cost, high reliability
- Suitable for driving illumination LED
- 3 years warranty



LDB-350L ☒ Blank : pin style
W : wire style

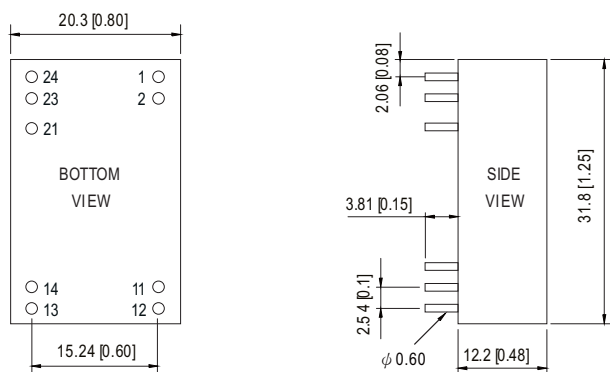
SPECIFICATION

ORDER NO.			LDB-300L ☐	LDB-350L ☐	LDB-500L ☐	LDB-600L ☐
OUTPUT	CURRENT RANGE		300mA	350mA	500mA	600mA
	VOLTAGE RANGE		2 ~ 40VDC	2 ~ 40VDC	2 ~ 32VDC	2 ~ 30VDC
	CURRENT ACCURACY (Typ.)		±4%			
	RIPPLE & NOISE(max.) Note.2		150mVp-p	150mVp-p	150mVp-p	200mVp-p
	SWITCHING FREQUENCY		350KHz			
	EXTERNAL CAPACITANCE LOAD (max.)		10uF			
INPUT	VOLTAGE RANGE		9 ~ 36VDC	9 ~ 36VDC	9 ~ 30VDC	9 ~ 28VDC
	EFFICIENCY (max.)	12VDC	89%	89%	89%	87%
		24VDC	90%	90%	91%	91%
	DC CURRENT	Full load	12VDC 1070mA	1120mA	1235mA	1610mA
		24VDC	530mA	610mA	710mA	910mA
		No load	5mA			
	FILTER		Capacitor			
PWM DIMMING & ON/OFF CONTROL	REMOTE ON/OFF		Leave open if not use			
			Power ON with dimming: DIM ~ -Vin >2 ~ 10VDC or open circuit			
			Power OFF : DIM ~ -Vin < 0.5VDC or short			
	PWM FREQUENCY		100 ~ 1KHz			
QUIESCENT INPUT CURRENT IN SHUTDOWN MODE(max.)		1mA at PWM dimming OFF and 24VDC input				
PROTECTION	SHORT CIRCUIT		Regulated at rated output current Protection type: Can be continued, recovers automatically after fault condition is removed			
	OVER TEMPERATURE		Tj 145℃ typically(IC1) detect on main control IC			
			Protection type : Shut down, recovers automatically after temperature goes down			
ENVIRONMENT	WORKING TEMP.		-40 ~ + 71℃ (Refer to derating curve)			
	WORKING HUMIDITY		20% ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY		-55 ~ +125℃, 10 ~ 95% RH			
	TEMP. COEFFICIENT		±0.03% / ℃			
	VIBRATION		10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes			
	OPERATING CASE TEMP. (max.)		110℃			
EMC	EMC EMISSION		Compliance to EN55015, FCC part 15 class B			
	EMC IMMUNITY		Compliance to EN61000-4-2,3,4,6,8, light industry level, criteria A			
OTHERS	MTBF		2000Khrs min. MIL-HDBK-217F (25℃)			
	DIMENSION		31.8*20.3*12.2mm or 1.25**0.8**0.48" inch (L*W*H)			
	WEIGHT		LDB-L:15.6g ; LDB-LW:18g			
	POTTING MATERIAL		Expoxy(UL94-V0)			
NOTE	1.All parameters are specified at normal input(24VDC), rated load, 25℃ 70% RH ambient. 2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf capacitor. 3.The output of LDB-L should not be connected to the input of the same unit or output from other sources.					

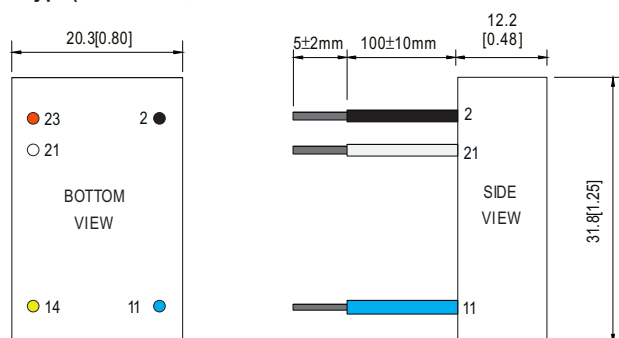
Mechanical Specification

Blank type(LDB – _L):

Unit: mm (inch)


NOTE: Pin tolerance ± 0.05 mm

W type(LDB – _LW):



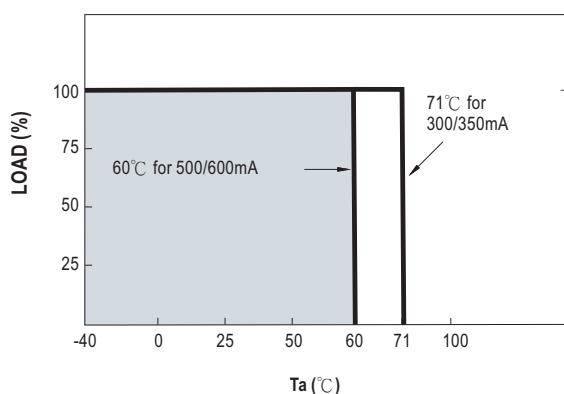
NOTE: All wires UL3385 22AWG

Pin Configuration

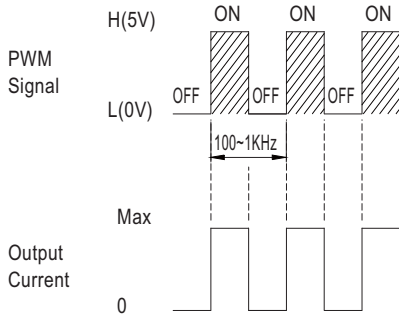
Pin No.	Output	Comment
1,2	-Vin	Don't connect to -Vout
11,12	-Vout	LED - Connection
13,14	+Vout	LED + Connection
21	PWM DIM	ON/OFF and PWM Dimming (Leave open if not used)
23,24	+Vin	DC Supply

Pin No.	Output	Comment
2	-Vin (Black)	Don't connect to -Vout
11	-Vout (Blue)	LED - Connection
14	+Vout (Yellow)	LED + Connection
21	PWM DIM (White)	ON/OFF and PWM Dimming (Leave open if not used)
23	+Vin (Red)	DC Supply

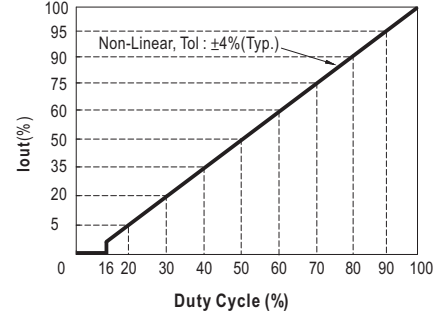
Derating Curve



PWM Dimming Control

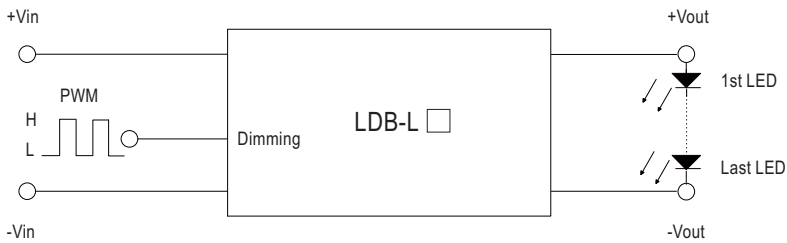


During PWM dimming operation, the output current will change to PWM style.



Power OFF : Duty cycle 0 ~ 15%
Power ON : Duty cycle 16 ~ 100%

Standard Application



Efficiency VS Output Voltage (Number of LEDs)

Fig-1 LDB-300L

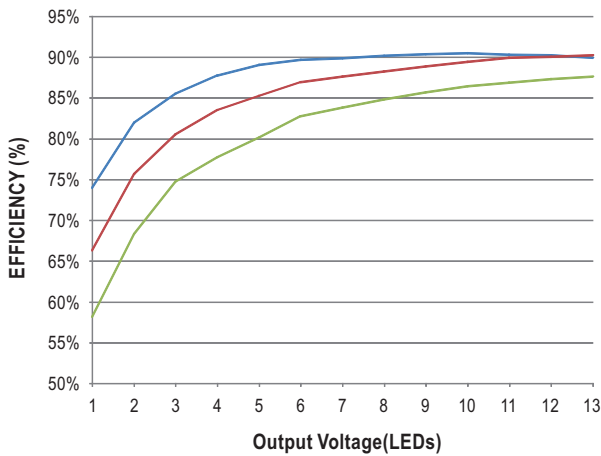


Fig-2 LDB-350L

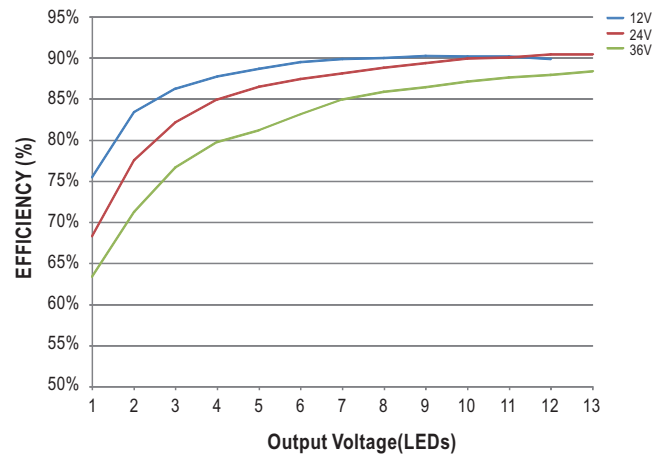


Fig-3 LDB-500L

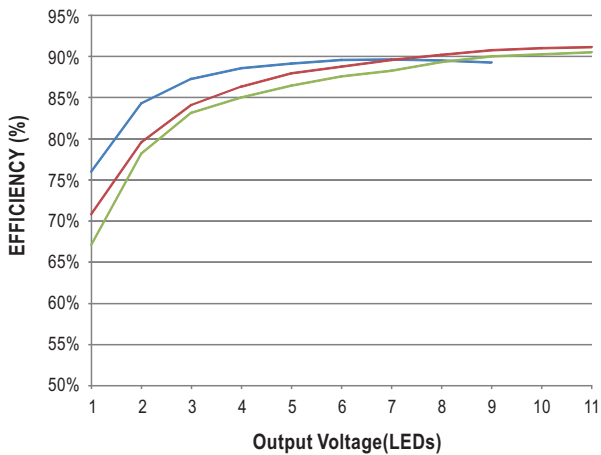


Fig-4 LDB-600L

