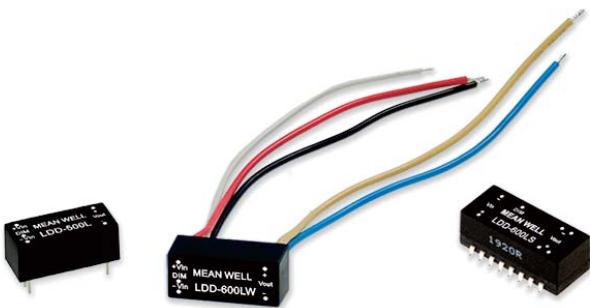




DC-DC Constant Current Step-Down LED driver

LDD-L series



■ Features :

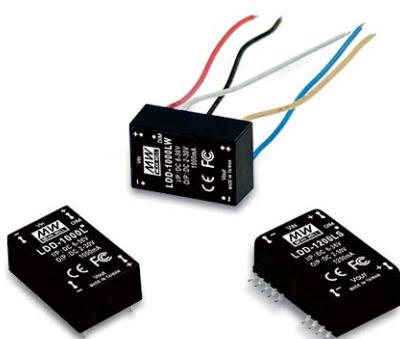
- DC/DC step-down converter
- Constant current output: 300mA to 700mA
- Wide input voltage: 9 ~ 36VDC
- Wide output LED string voltage: 2 ~ 32VDC
- High efficiency up to 95%
- Built-in EMI filter, comply with BS EN/EN55015 and FCC part15 without additional input filter and capacitors
- Built-in PWM dimming and remote ON/OFF control
- Protections: Short circuit / Over temperature
- Cooling by free air convection
- Fully encapsulated with IP67 level for pin and wire style
- Compact size
- Low cost, high reliability
- Suitable for driving illumination LED
- 3 years warranty



LDD-350L	W	Blank : pin style
	W	: wire style
	S	: SMD style

SPECIFICATION

ORDER NO.	LDD-300L	LDD-350L	LDD-500L	LDD-600L	LDD-700L
OUTPUT	CURRENT RANGE	300mA	350mA	500mA	600mA
	VOLTAGE RANGE Note.4	2 ~ 32VDC for LDD-300~700L/LW ; 2 ~ 28VDC for LDD-300~700LS			
	CURRENT ACCURACY (Typ.)	±5% at 24VDC input			
	RIPPLE & NOISE(max.) Note.2	150mVp-p	150mVp-p	150mVp-p	200mVp-p
	SWITCHING FREQUENCY	40KHz ~ 1000KHz			
INPUT	EXTERNAL CAPACITANCE LOAD (max.)	2.2uF			
	VOLTAGE RANGE	9 ~ 36VDC for LDD-300~700L/LW ; 9 ~ 32VDC for LDD-300~700LS			
	EFFICIENCY (max.)	95% at full load and 24VDC/36VDC input for LDD-300~700L/LW ; 95% at full load and 24VDC input for LDD-300~700LS			
	DC CURRENT	Full load Note.3 300mA No load 5mA	350mA	500mA	600mA
	FILTER	Capacitor			
PWM DIMMING & ON/OFF CONTROL	REMOTE ON/OFF	Leave open if not use Power ON with dimming: DIM ~ -Vin > 3.5 ~ 8VDC 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	T _j 150°C typically(IC1) detect on main control IC			
		Protection type : Shut down, recovers automatically after temperature goes down			
ENVIRONMENT	WORKING TEMP.	-40 ~ +85°C (Refer to derating curve)			
	WORKING HUMIDITY	20% ~ 90% RH non-condensing for LDD-300~700L/LW ; 20% ~ 85% RH non-condensing for LDD-300~700LS			
	STORAGE TEMP., HUMIDITY	-55 ~ +125°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03% / °C			
	VIBRATION	10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes			
EMC	OPERATING CASE TEMP. (max.)	100°C			
	SAFETY STANDARDS	EAC TP TC 004 approved			
	EMC EMISSION	Compliance to BS EN/EN55015, FCC part 15 class B, EAC TP TC 020			
OTHERS	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,6,8, light industry level, criteria A, EAC TP TC 020			
	MTBF	1000Khrs min. MIL-HDBK-217F (25°C)			
	DIMENSION	22.6*9.9*8.9mm or 0.89**0.39**0.35" inch (L*W*H) for LDD-300~700L/LW ; 25.4*10.5*9.3mm or 1**0.4135**0.366" inch (L*W*H) for LDD-300~700LS			
	WEIGHT	LDD-300~700L:4g ; LDD-300~700LW:7.3g ; LDD-300~700LS :3.4g			
NOTE	POTTING MATERIAL	Expoxy(UL94-V0) for LDD-300~700L/LW ; without potted for LDD-300~700LS			
	1. All parameters are specified at normal input(24VDC), rated load, 25°C 70% RH ambient. 2. Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf capacitor. 3. Test condition: 24VDC input. 4. Output voltage will always step down by 3 volts from input DC voltage. 5. The output of LDD-L should not be connected to the input of the same unit or output from other sources. ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx				


■ Features :

- DC/DC step-down converter
- Constant current output: 1000mA to 1500mA
- Wide input voltage: 6 ~ 36VDC
- Wide output LED string voltage: 2 ~ 30VDC
- High efficiency up to 95%
- Built-in EMI filter, comply with BS EN/EN55015 and FCC part15 without additional input filter and capacitors
- Built-in PWM +analog dimming and remote ON/OFF control
- Protections: Short circuit
- Cooling by free air convection
- Fully encapsulated with IP67 level for pin and wire style
- Non-potted, optional conformal coating for SMD style (Order No.: LDD-1000LSC)
- Compact size
- Low cost, high reliability
- Suitable for driving illumination LED
- 3 years warranty



LDD-1000L **W** Blank : pin style
W : wire style
S : SMD style

SPECIFICATION

ORDER NO.	LDD-1000L <input type="checkbox"/>	LDD-1200L <input type="checkbox"/>	LDD-1500L <input type="checkbox"/>		
OUTPUT	CURRENT RANGE	1000mA	1200mA		
	VOLTAGE RANGE Note.4	2 ~ 30VDC			
	CURRENT ACCURACY (Typ.)	±5% at 24VDC input			
	RIPPLE & NOISE(max.) Note.2	1.5Vp-p	1.5Vp-p		
	SWITCHING FREQUENCY	1000KHz	1.5Vp-p		
	EXTERNAL CAPACITANCE LOAD (max.)	2.2uF			
INPUT	VOLTAGE RANGE	6 ~ 36VDC			
	EFFICIENCY (max.)	95% at full load and 24VDC/36VDC input for LDD-1000~1500L/LW			
	DC CURRENT	Full load Note.3 990mA No load 5mA	1160mA 1450mA		
	FILTER	Capacitor			
PWM DIMMING & ON/OFF CONTROL	Leave open if not use				
	REMOTE ON/OFF				
	Power ON with dimming: DIM ~ -Vin > 2.6 ~ 5.5VDC or open circuit				
	Power OFF : DIM ~ -Vin < 0.4VDC or short				
ANALOG DIMMING & ON/OFF CONTROL	POWER FREQUENCY				
	100 ~ 500Hz				
	QUIESCENT INPUT CURRENT IN SHUTDOWN MODE(max.)				
PROTECTION	1mA at PWM dimming OFF and 24VDC input				
	REMOTE ON / OFF				
	Leave open if not use				
ENVIRONMENT	POWER ON with dimming : DIM ~ -Vin > 0.5 ~ 2.5VDC or open circuit				
	POWER OFF : DIM ~ -Vin < 0.4VDC or short				
	SHORT CIRCUIT				
EMC	Regulated at rated output current				
	PROTECTION type: Can be continued, recovers automatically after fault condition is removed				
OTHERS	WORKING TEMP.	-40 ~ + 71°C (Refer to derating curve)			
	WORKING HUMIDITY	20% ~ 90% RH non-condensing for LDD-1000~1500L/LW ; 20%~85% RH non-condensing for LDD-1000~1500LS			
	STORAGE TEMP., HUMIDITY	-55 ~ +125°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03% / °C			
	VIBRATION	10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes			
	OPERATING CASE TEMP. (max.)	100°C			
	SAFETY STANDARDS	EAC TP TC 004 approved			
EMC	EMC EMISSION	Compliance to BS EN/EN55015, FCC part 15 class B, EAC TP TC 020			
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,6,8, light industry level, criteria A, EAC TP TC 020			
	MTBF	1000Khrs min. MIL-HDBK-217F (25°C)			
NOTES	DIMENSION	31.8*20.3*12.2mm or 1.25" * 0.8" * 0.48" inch (L*W*H) for LDD-1000~1500L/LW ; 31.8*20.3*10.9mm or 1.25" * 0.8" * 0.43" inch (L*W*H) for LDD-1000~1500LS			
	WEIGHT	LDD-1000~1500L:15.6g ; LDD-1000~1500LW:18g ; LDD-1000~1500LS:12.8g			
	POTTING MATERIAL	Epoxy(UL94-V0) for LDD-1000~1500L/LW ; without potted for LDD-1000~1500LS			
NOTE <ol style="list-style-type: none"> All parameters are specified at normal input(24VDC), rated load, 25°C 70% RH ambient. Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uF capacitor. Test condition: 36VDC input. Output voltage will always step down by 3 volts from input DC voltage. The output of LDD-L should not be connected to the input of the same unit or output from other sources. 					
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx					

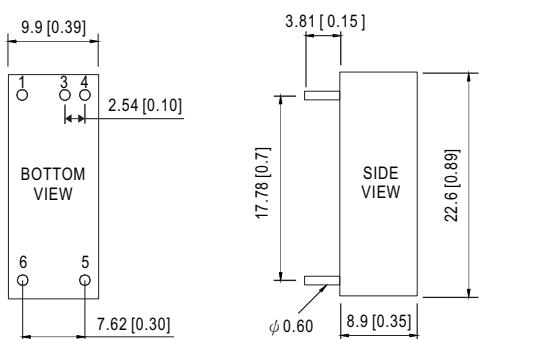


DC-DC Constant Current Step-Down LED driver

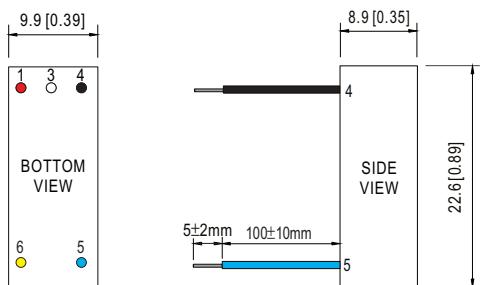
LDD-L series

■ Mechanical Specification

Blank type(LDD-300~700L):

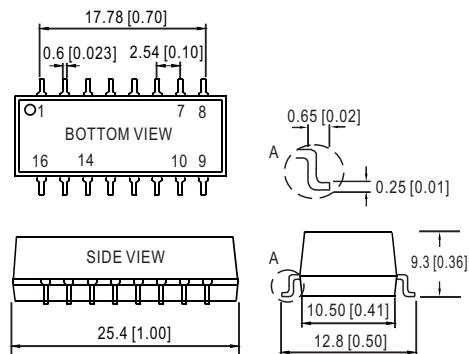
NOTE: Pin tolerance ± 0.05 mm

W type(LDD - 300~700LW):



NOTE: All wires UL3385 22AWG

S type(LDD - 300~700LS):

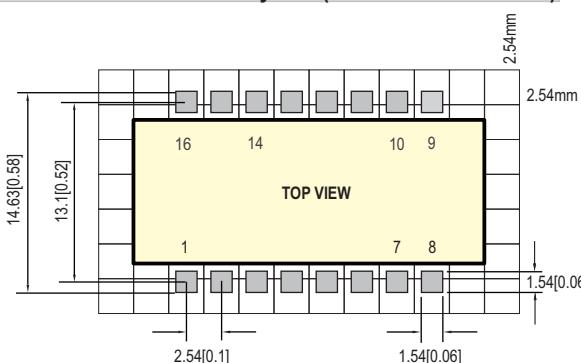


■ Pin Configuration

Pin No.	Comment
1	+Vin
3	DC Supply
3	PWM DIM
4	ON/OFF and PWM Dimming (Leave open if not used)
4	-Vin
5	Don't connect to -Vout
5	-Vout
6	LED - Connection
6	+Vout
6	LED + Connection

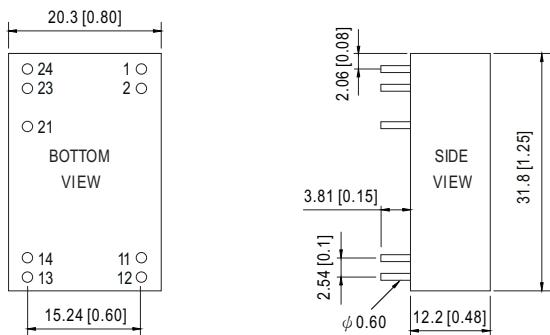
Pin No.	Comment
1	+Vin (Red)
3	DC Supply
3	PWM DIM (White)
4	ON/OFF and PWM Dimming (Leave open if not used)
4	-Vin (Black)
5	Don't connect to -Vout
5	-Vout (Blue)
6	LED - Connection
6	+Vout (Yellow)
6	LED + Connection

■ Recommended PCB layout (for LDD-300~700LS)

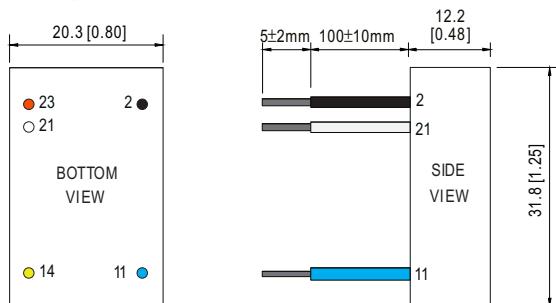


■ Mechanical Specification
Blank type(LDD-1000~1500L):

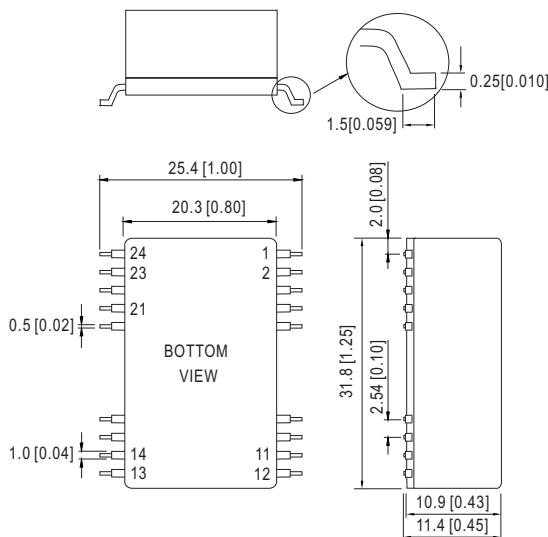
Unit: mm (inch)



NOTE: Pin tolerance ±0.05mm

W type(LDD-1000~1500LW):


NOTE: All wires UL3385 22AWG

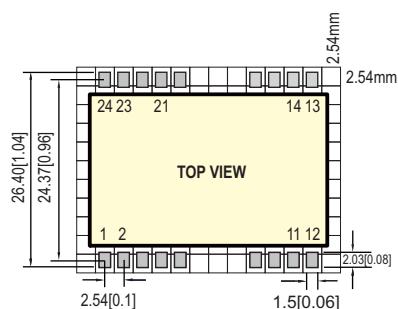
S type(LDD-1000~1500LS):

■ Pin Configuration

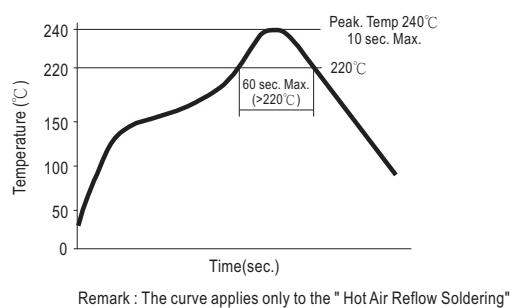
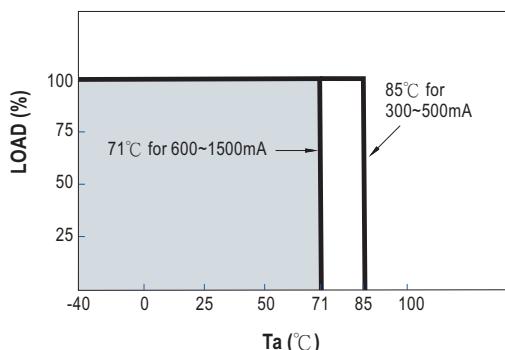
Pin No.	Comment
1,2	-Vin
11,12	-Vout
13,14	+Vout
21	PWM +analog DIM
23,24	+Vin

ON/OFF and PWM / analog Dimming (Leave open if not used)

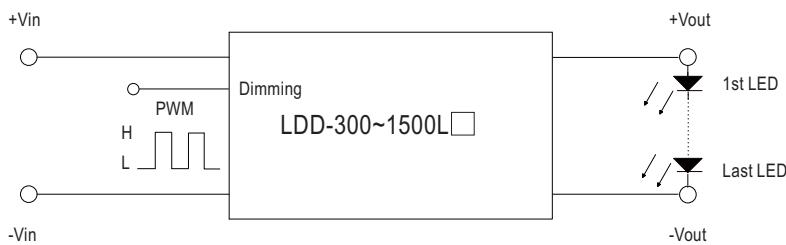
Pin No.	Comment
2	-Vin (Black)
11	-Vout (Blue)
14	+Vout (Yellow)
21	PWM +analog DIM (White)
23	+Vin (Red)

ON/OFF and PWM / analog Dimming (Leave open if not used)

■ Recommended PCB layout (for LDD-1000~1500LS)


Reflow Soldering Curve (for LDD-300~1500LS)

Derating Curve

PWM Dimming Control (for 300~1500mA)

Io Adjustment by PWM signal :

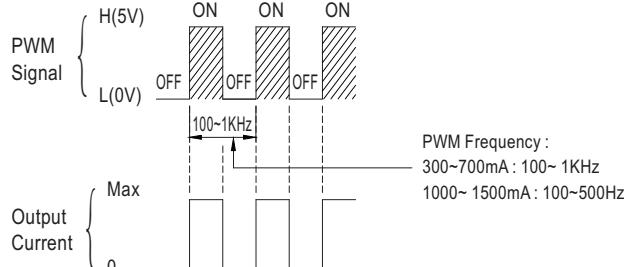


300 ~ 700mA :

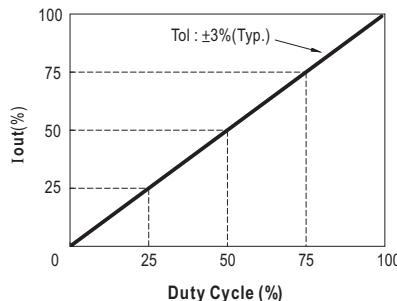
H: > 3.5~8VDC or open circuit
L: < 0.5VDC or short

1000 ~ 1500mA :

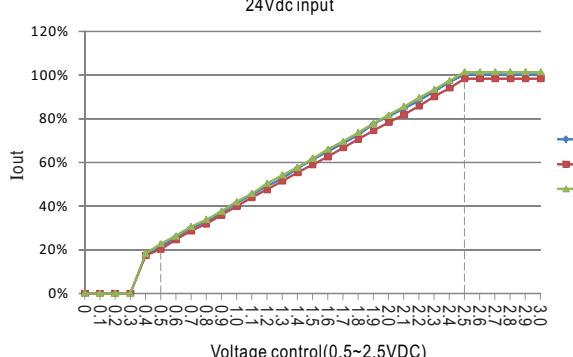
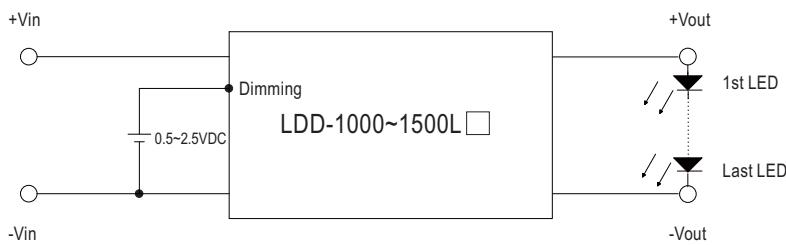
H: > 2.6~5.5VDC or open circuit
L: < 0.4VDC or short



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

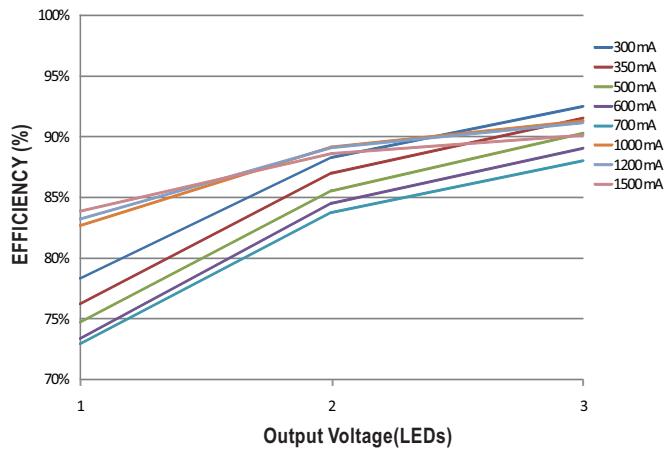

Analog Dimming Control for 1000~ 1500mA only

Io Adjustment by DC voltage :

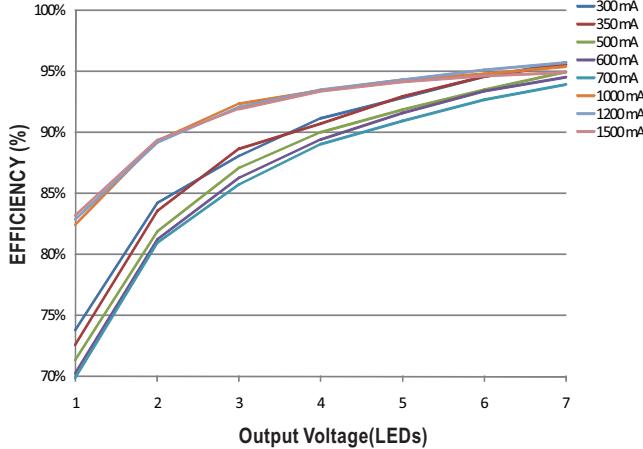


■ Efficiency VS Output Voltage(Number of LEDs)
Fig-1

12VDC input, 1~3 LEDs(Vf=3V)


Fig-2

24VDC input, 1~7 LEDs(Vf=3V)


Fig-3

36VDC input, 1~10 LEDs(Vf=3V)

