



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

■ GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>



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

SPECIFICATION

ORDER NO.	LDD-300L <input type="checkbox"/>	LDD-350L <input type="checkbox"/>	LDD-500L <input type="checkbox"/>	LDD-600L <input type="checkbox"/>	LDD-700L <input type="checkbox"/>		
OUTPUT	CURRENT RANGE	300mA	350mA	500mA	600mA	700mA	
	VOLTAGE RANGE <small>Note.4</small>	2 ~ 32VDC for LDD-300~700L/LW ; 2~ 28VDC for LDD-300~700LS					
	CURRENT ACCURACY (Typ.)	±5% at 24VDC input					
	RIPPLE & NOISE(max.) <small>Note.2</small>	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	
	SWITCHING FREQUENCY	40KHz ~ 1000KHz					
EXTERNAL CAPACITANCE LOAD (max.)	2.2uF						
INPUT	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 <small>Note.3</small>	300mA	350mA	500mA	600mA	700mA
		No load	5mA				
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	Tj 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					
OPERATING CASE TEMP. (max.)	100°C						
EMC	SAFETY STANDARDS	EAC TP TC 020/2011 approved					
	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					
OTHERS	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					
	POTTING MATERIAL	Epoxy(UL94-V0) for LDD-300~700L/LW ; without potted for LDD-300~700LS					
NOTE	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
 - 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
 - Order No.: LDD-~~1000~~
 - Compact size
 - Low cost, high reliability
 - Suitable for driving illumination LED
 - 3 years warranty



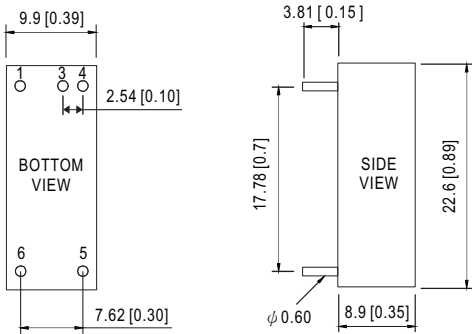
SPECIFICATION

ORDER NO.		LDD-1000L	
OUTPUT	CURRENT RANGE	1000mA	
	VOLTAGE RANGE <small>Note.4</small>	2 ~ 30VDC	
	CURRENT ACCURACY (Typ.)	±5% at 24VDC input	
	RIPPLE & NOISE(max.) <small>Note.2</small>	1.5Vp-p	
	SWITCHING FREQUENCY	1000KHz	
	EXTERNAL CAPACITANCE LOAD (max.)	2.2uF	
INPUT	VOLTAGE RANGE	6 ~ 36VDC	
	EFFICIENCY (max.)	95% at full load and 24VDC/36VDC input	
	DC CURRENT	Full load <small>Note.3</small>	990mA
		No load	5mA
FILTER	Capacitor		
PWM DIMMING & ON/OFF CONTROL	REMOTE ON/OFF	Leave open if not use Power ON with dimming: DIM ~ -Vin >2.6 ~ 5.5VDC or open circuit Power OFF : DIM ~ -Vin <0.4VDC or short	
	PWM FREQUENCY	100 ~ 500Hz	
	QUIESCENT INPUT CURRENT IN SHUTDOWN MODE(max.)	1mA at PWM dimming OFF and 24VDC input	
ANALOG DIMMING & ON/OFF CONTROL	REMOTE ON / OFF	Leave open if not use Power ON with dimming : DIM ~ -Vin>0.5~2.5VDC or open circuit Power OFF : DIM ~ -Vin<0.4VDC or short	
	SHORT CIRCUIT	Regulated at rated output current Protection type: Can be continued, recovers automatically after fault condition is removed	
	ENVIRONMENT	WORKING TEMP.	-40 ~ +71°C (Refer to derating curve)
WORKING HUMIDITY		20% ~ 90% RH	
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	
EMC	SAFETY STANDARDS	EAC TP TC 020/2011 approved	
	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	
OTHERS	MTBF	1000Khrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	31.8*20.3*12.2mm or 1.25**0.8**0.48" inch (L*W*H)	
	WEIGHT	15.6g	
	POTTING MATERIAL	Epoxy(UL94-V0)	
NOTE	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: 36VDC 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		

Mechanical Specification

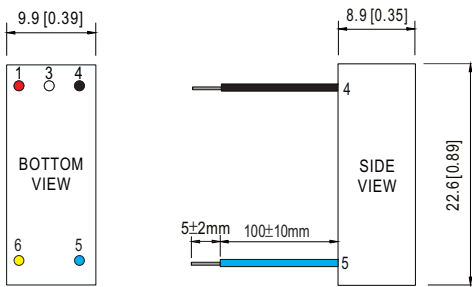
Blank type(LDD-300~700L):

Unit: mm (inch)



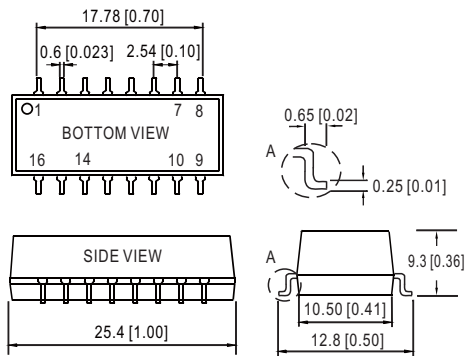
NOTE: Pin tolerance $\pm 0.05\text{mm}$

W type(LDD-300~700LW):

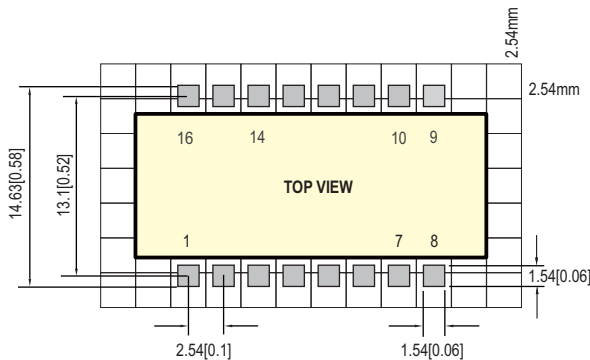


NOTE: All wires UL3385 22AWG

S type(LDD-300~700LS):



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



Pin Configuration

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

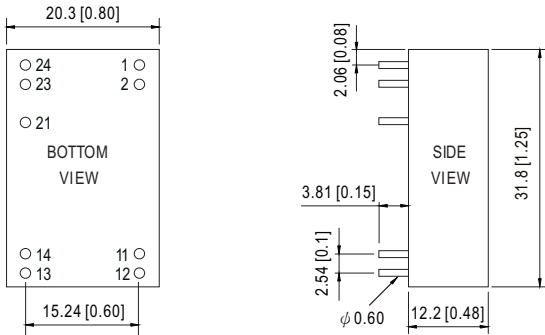
Pin No.	Comment
1	+Vin (Red) DC Supply
3	PWM DIM (White) ON/OFF and PWM Dimming (Leave open if not used)
4	-Vin (Black) Don't connect to -Vout
5	-Vout (Blue) LED - Connection
6	+Vout (Yellow) LED + Connection

Pin No.	Comment
1	+Vin DC Supply
7,8	+Vout LED + Connection
9,10	-Vout LED - Connection
14	PWM DIM ON/OFF and PWM Dimming (Leave open if not used)
16	-Vin Don't connect to -Vout
others	N.C LED - Connection

■ **Mechanical Specification**

Blank type(LDD-1000L):

Unit: mm (inch)

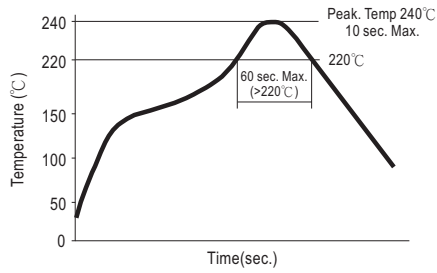


NOTE: Pin tolerance $\pm 0.05\text{mm}$

■ **Pin Configuration**

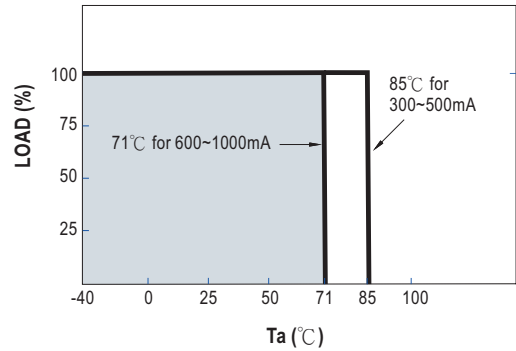
Pin No.		Comment
1,2	-Vin	Don't connect to -Vout
11,12	-Vout	LED - Connection
13,14	+Vout	LED + Connection
21	PWM +analog DIM	ON/OFF and PWM / analog Dimming (Leave open if not used)
23,24	+Vin	DC Supply

■ Reflow Soldering Curve (for LDD-300~700LS)



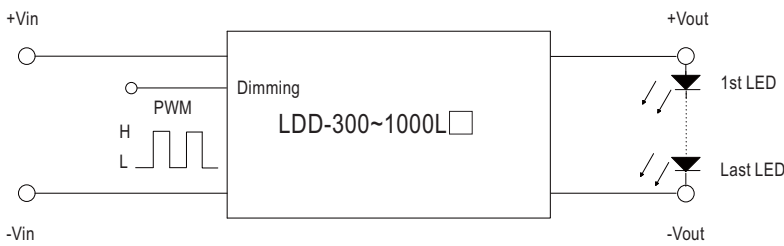
Remark : The curve applies only to the " Hot Air Reflow Soldering"

■ Derating Curve



■ PWM Dimming Control (for 300~1000mA)

To Adjustment by PWM signal :

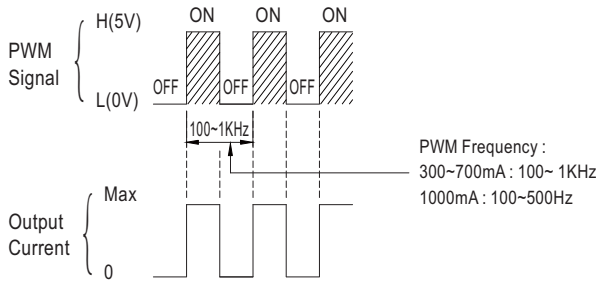


300 ~ 700mA :

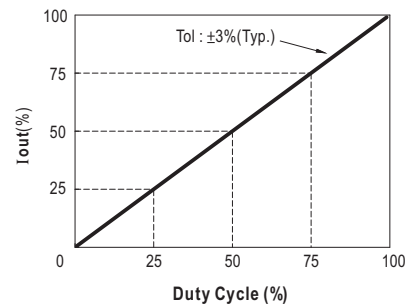
- H: > 3.5~8VDC or open circuit
- L: < 0.5VDC or short

1000mA :

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

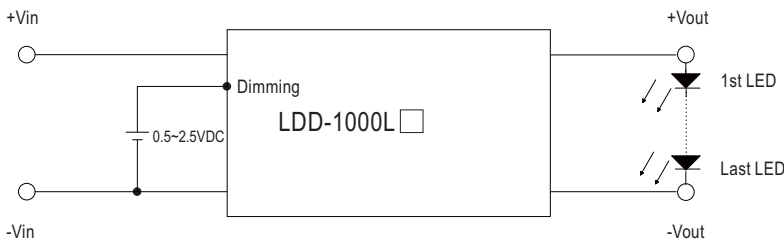


© During PWM dimming operation, the output current will change to PWM style.

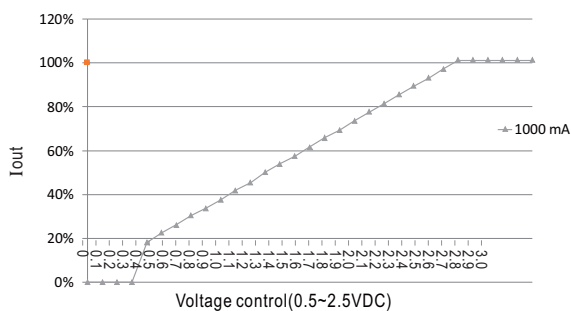


■ Analog Dimming Control for 1000~ 1500mA only

To Adjustment by DC voltage :



24Vdc input



■ Efficiency VS Output Voltage(Number of LEDs)

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

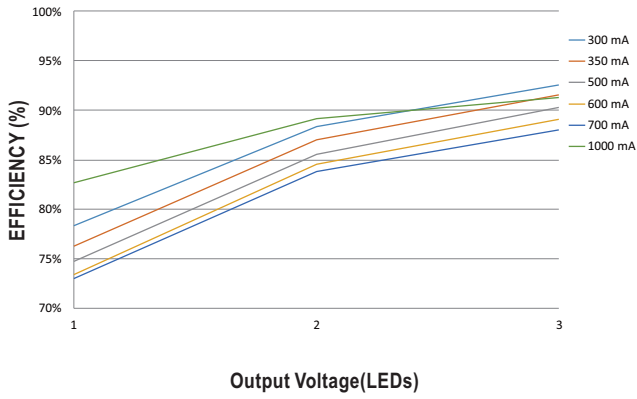


Fig-2 24VDC input, 1~7 LEDs(Vf=3V)

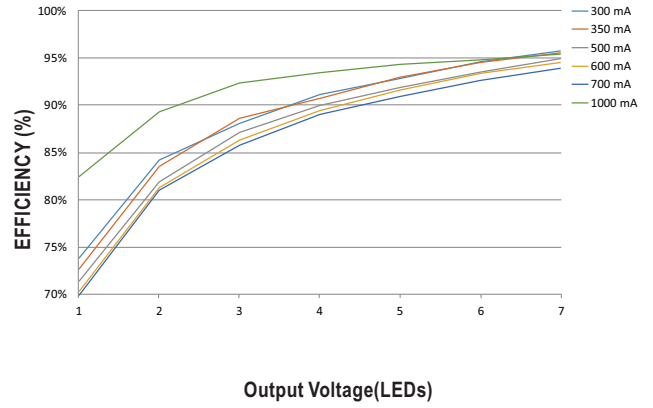
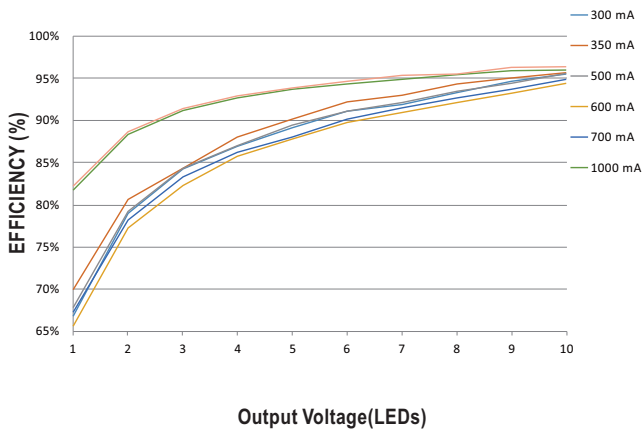


Fig-3 36VDC input, 1~10 LEDs(Vf=3V)



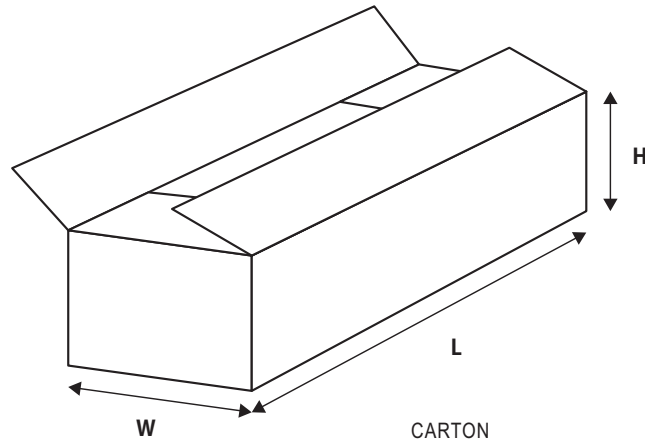
■ Packing

Standard Tube Packing	LDD-L			
	MPQ Per Tube (PCS)	One Tube G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
<p>Unit : mm</p> <p>Product</p> <p>Tube Plugs</p> <p>520</p> <p>25.2</p> <p>21.4</p> <p>8.3 8.6</p> <p>Tube pattern</p>	50	280g	2500	14.8Kg
<p>Unit : mm</p> <p>4 pcs inside</p> <p>Product</p> <p>Box</p> <p>220</p> <p>45</p> <p>195</p> <p>Antistatic Foam</p> <th colspan="4">LDD-LW</th>	LDD-LW			
	MPQ (Box)	One Box G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
48	430g	576	5.96Kg	

Standard Tube Packing	LDD-LS			
	MPQ Per Tube (PCS)	One Tube G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
<p>Unit : mm</p> <p>Product</p> <p>Tube Plugs</p> <p>520</p> <p>14.7</p> <p>10.7</p> <p>16.5</p> <p>3.85 1.2</p> <p>Tube pattern</p>	19	100g	2280	12.8Kg
<p>Unit : mm</p> <p>Product</p> <p>Tube Plugs</p> <p>520</p> <p>24</p> <p>21.3</p> <p>8.472</p> <p>Tube pattern</p>	LDD-1000L			
	MPQ Per Tube (PCS)	One Tube G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
	15	260g	750	13.8Kg

Standard Tube Packing

Unit : mm



CARTON
L620 x W230 x H230

■ **Installation Manual**

Please refer to : <http://www.meanwell.com/manual.html>