



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



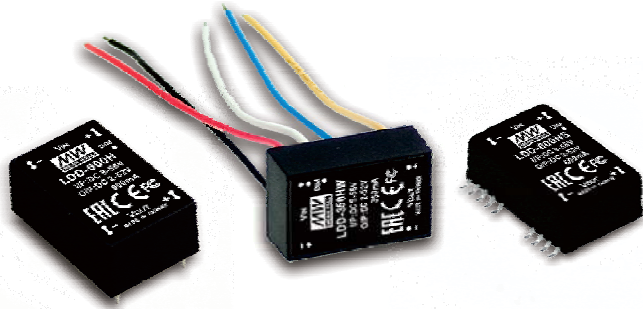
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■ Features :

- DC/DC step-down converter
- Constant current output: 300mA to 1500mA
- Wide input voltage: 9 ~ 56VDC
- Wide output LED string voltage: 2 ~ 52VDC
- High efficiency up to 97%
- 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 for pin and wire style
- Non-potted, optional conformal coating for SMD style (Order No.: LDD-350-1000-HSC)
- Compact size
- Low cost, high reliability
- Suitable for driving illumination LED
- 3 years warranty



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

LDD-1200H Blank : pin style
 W : wire style

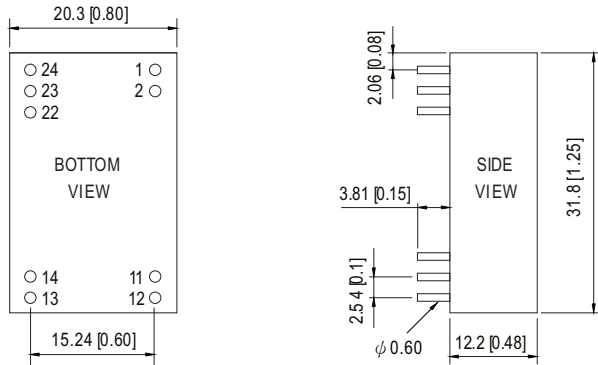
SPECIFICATION

ORDER NO.	LDD-300H <input type="checkbox"/>	LDD-350H <input type="checkbox"/>	LDD-500H <input type="checkbox"/>	LDD-600H <input type="checkbox"/>	LDD-700H <input type="checkbox"/>	LDD-1000H <input type="checkbox"/>	LDD-1200H <input type="checkbox"/>	LDD-1500H <input type="checkbox"/>		
OUTPUT	CURRENT RANGE	300mA	350mA	500mA	600mA	700mA	1000mA	1500mA		
	VOLTAGE RANGE <small>Note.4</small>	2 ~ 52VDC						2 ~ 46VDC		
	CURRENT ACCURACY (Typ.)	±3% at 24VDC input ; ±4% at 48VDC input for LDD-H/HW ; ±5% for LDD-HS								
	RIPPLE & NOISE(max.) <small>Note.2</small>	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	350mVp-p	350mVp-p	350mVp-p	
	SWITCHING FREQUENCY	40KHz ~ 1000KHz								
EXTERNAL CAPACITANCE LOAD (max.)	2.2uF									
INPUT	VOLTAGE RANGE	9 ~ 56VDC						9 ~ 52VDC		
	EFFICIENCY (max.)	97% at full load and 36VDC/48VDC input for LDD-H/HW ; 96% at full load and 36VDC/48VDC input for LDD-HS								
	DC CURRENT	Full load <small>Note.3</small>	270mA	320mA	450mA	550mA	650mA	900mA	1100mA	1360mA
		No load	5mA							
FILTER	Capacitor									
PWM DIMMING & ON/OFF CONTROL	REMOTE ON/OFF	Leave open if not use Power ON with dimming: DIM ~ -Vin >2.5 ~ 6VDC or open circuit Power OFF : DIM ~ -Vin < 0.8VDC 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-H/HW ; 20%~85% RH non-condensing for LDD-HS								
	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 004 approved								
	EMC EMISSION	Compliance to EN55015, FCC part 15 class B, EAC TP TC 020								
	EMC IMMUNITY	Compliance to 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) for LDD-H/HW ; 31.8*20.3*11.4mm or 1.25**0.8**0.45" inch (L*W*H) for LDD-HS								
	WEIGHT	LDD-H:15.6g ; LDD-HW:18g ; LDD-HS:12.8g								
	POTTING MATERIAL	Expoxy(UL94-V0) for LDD-H/HW ; without potted for LDD-HS								
NOTE	1.All parameters are specified at normal input(48VDC), 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: 48VDC input. 4.Output voltage will always step down by 3 volts from input DC voltage. 5.The output of LDD-H should not be connected to the input of the same unit or output from other sources.									

■ Mechanical Specification

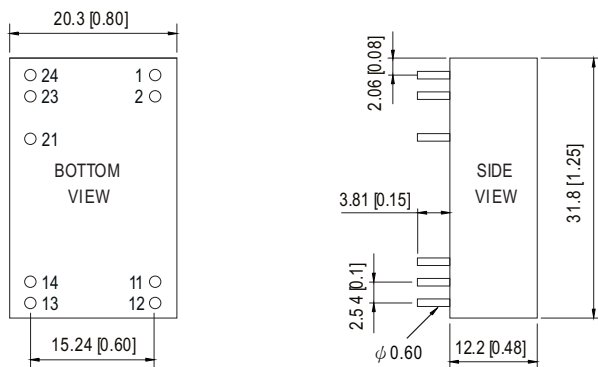
◎ Blank type(LDD- 300~1000H):

Unit: mm (inch)



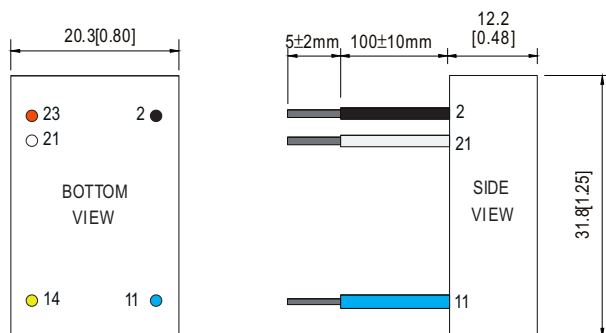
NOTE: Pin tolerance ± 0.05 mm

◎ Blank type(LDD- 1200~1500H):



NOTE: Pin tolerance ± 0.05 mm

◎W type(LDD- 300~1500HW):



NOTE: All wires UL3385 22AWG

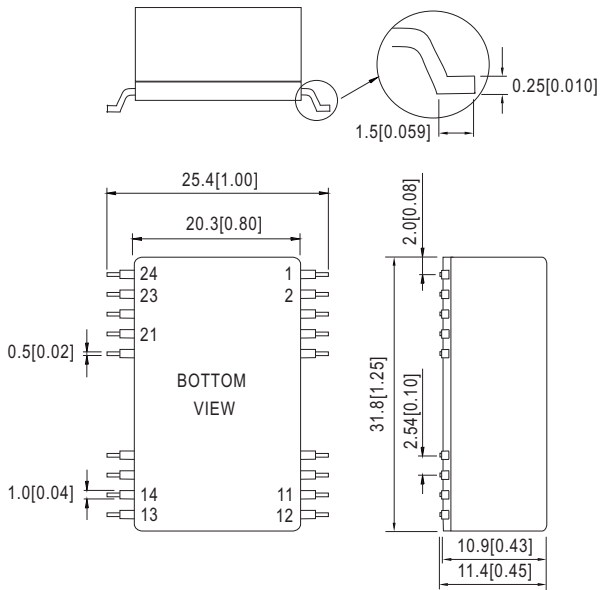
■ Pin Configuration

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

Pin No.		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
others	N.C	No connection

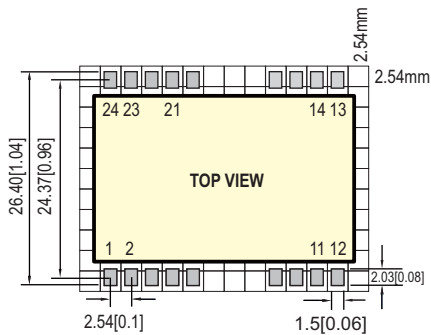
Pin No.		Comment
2	-Vin (Black)	Don't connect to -Vout
11	-Vout (Blue)	LED - Connection
14	+Vout (Yellow)	LED + Connection
21	PWM DIM (White)	ON/OFF and PWM Dimming (Leave open if not used)
23	+Vin (Red)	DC Supply
others	N.C	No connection

◎S type(LDD – 300~1000HS):

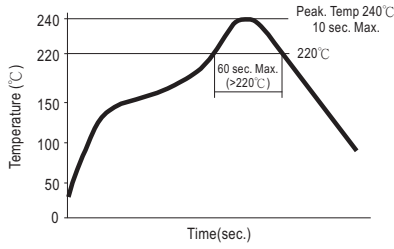


Pin No.		Comment
1,2	-Vin	Don't connect to -Vout
11,12	-Vout	LED - Connection
13,14	+Vout	LED + Connection
21	PWM DIM	ON/OFF and PWM Dimming (Leave open if not used)
23,24	+Vin	DC Supply
others	N.C	No connection

■ Recommended PCB layout (for LDD-300~1000HS)

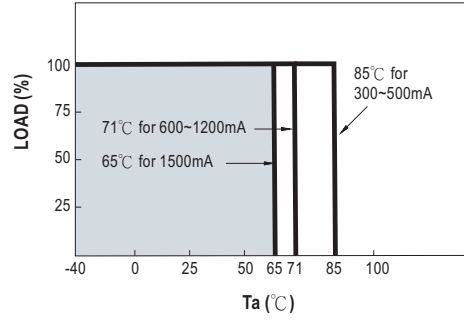


Reflow Soldering Curve (for LDD-300~1000HS)

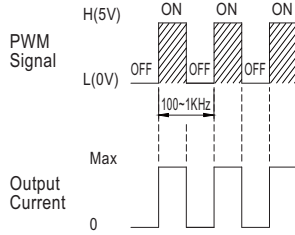


Remark : The curve applies only to the " Hot Air Reflow Soldering"

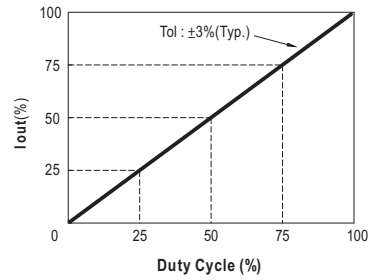
Derating Curve



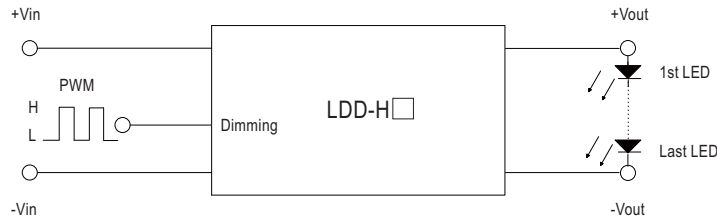
PWM Dimming Control



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



Standard Application



H: >2.5~6VDC or open circuit
L: <0.8VDC or short

Efficiency VS Output Voltage(Number of LEDs)

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

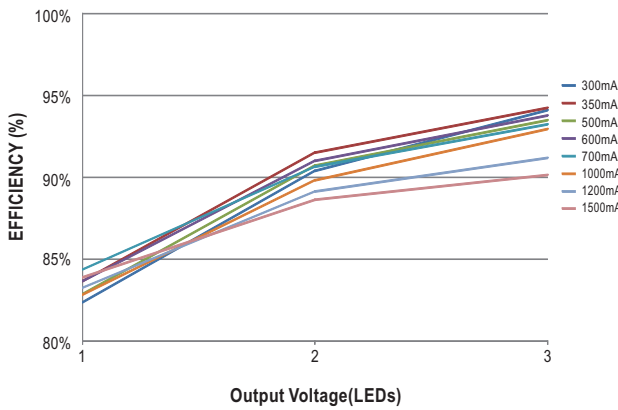


Fig-2 24VDC input, 1~7 LEDs(Vf=3V)

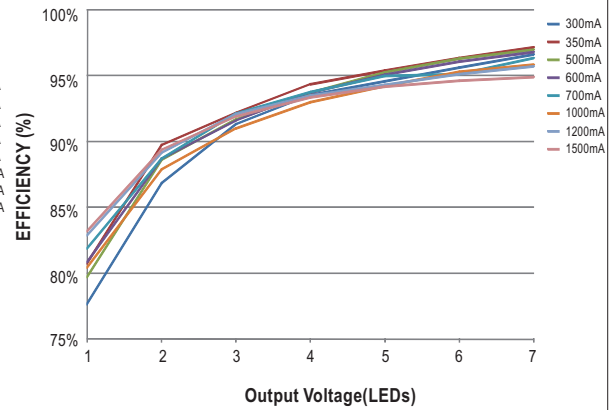


Fig-3 36VDC input, 1~10 LEDs(Vf=3V)

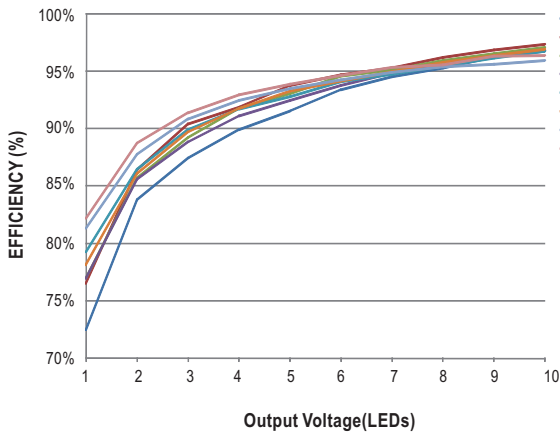


Fig-4 48VDC input, 1~14 LEDs(Vf=3V)

