

LDD-HS Series

DC-DC Constant Current Step-Down LED Driver



Case No: 8910AW
31.8 x 20.3 x 11.4 mm

Features

- DC/DC step-down converter
- Constant Current Output: 300mA to 1000mA
- Wide input voltage: 9 ~ 56 VDC
- Wide output LED string voltage: 2 ~ 52VDC
- High efficiency up to 97%
- Built-in EMI filter, comply with EN55015 and FCC part 15 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 for SMD style (order No: LDD-350 HSC)
- Suitable for driving illumination LED
- 3 years warranty



Specification

INPUT	Voltage	9 ~ 56VDC						
	Efficiency	97% at full load and 36VDC/48VDC						
	DC Current	Full load:	270mA	320mA	450mA	550mA	650mA	900mA
		No Load:	5mA					
	Filter	Capacitor						
OUTPUT	MODEL No.	LDD-300HS	LDD-350HS	LDD-500HS	LDD-600HS	LDD-700HS	LDD-1000HS	
	Voltage	2 ~ 52VDC						
	Current Accuracy	±3% at 24VDC input; ±5% at 48VDC input						
	Current Range	300mA	350mA	500mA	600mA	700mA	1000mA	
	Ripple Noise MAX.	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	350mVp-p	
	Voltage Adj. Range	2.9~3.6V	4.75~5.5V	10.8~13.2V	13.5~16.5V	22~27.6V	43.2~52.8V	
	Switching Frequency	40KHz ~ 1000KHz						
	External Capacitance Load	2.2uF						
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	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% ~ 85% RH non-condensing						
	Storage Temp., Humidity	-55 ~ +125°C, 10~95%RH						
	Temp. Co-efficient	±0.03%/°C						
	Vibration	10~500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
	Operating Case Temp.	100 °C						
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	M.T.B.F.	2000K hrs min. MIL-HDBK-217F (25°C)						
	Potting Material	Without Potted						

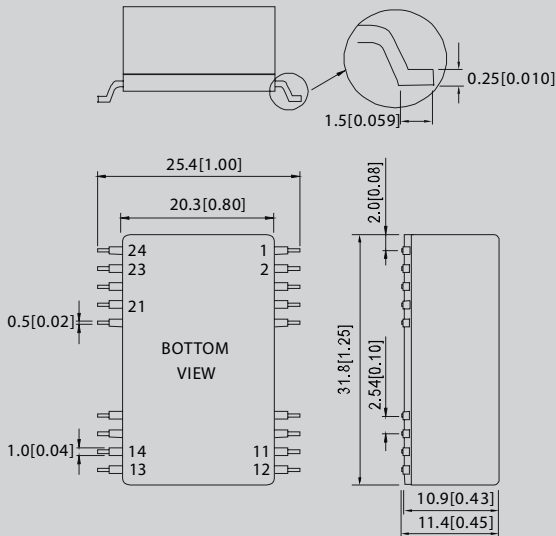
1. All parameters are specified at normal input (48VDC), rated load, 25°C 70% of RH ambient.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF capacitor.
3. Test condition: 48VDC input.
4. Output voltage will always step down by 3 volts from input DC voltage.

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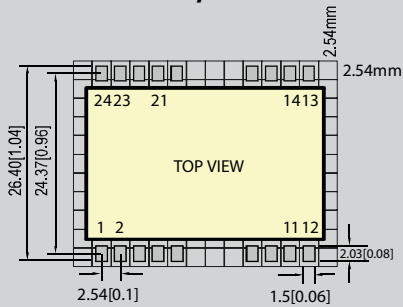
Mechanical Specification



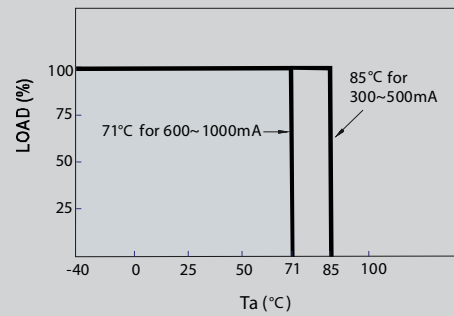
Pin Configuration

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
others	N.C	No connection

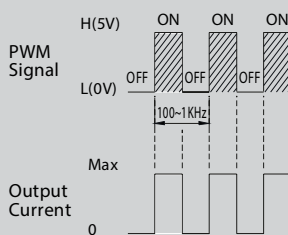
Recommended PCB Layout



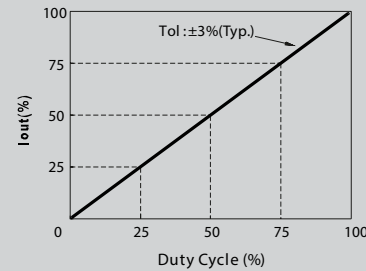
Derating Curve



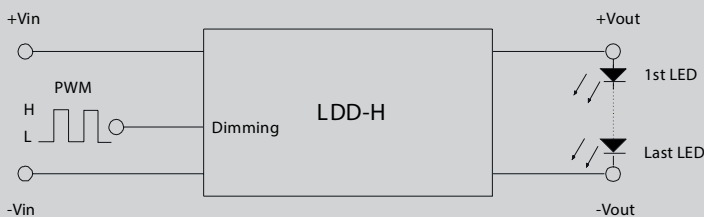
PWM Dimming Control



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



Standard Application



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Efficiency VS Output Voltage (Number of LEDs)

