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.

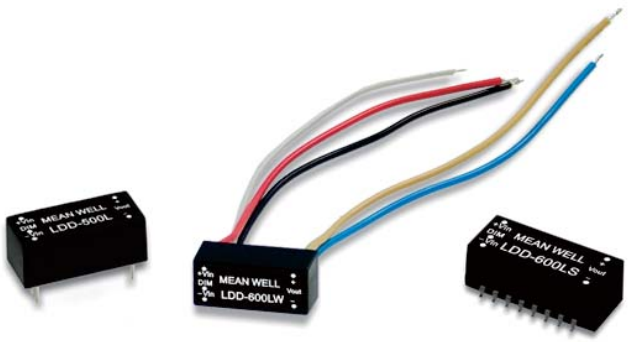
We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

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 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

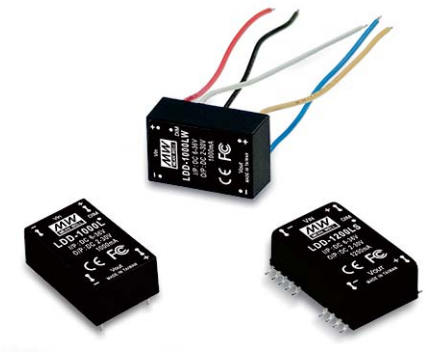
FC EAC CE

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	700mA
	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	200mVp-p
	SWITCHING FREQENCY		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 Note.3	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℃ typically(IC1) detect on main control IC				
			Protection type : Shut down, recovers automatically after temperature goes down				
ENVIRONMENT	WORKING TEMP.		-40 ~ + 85℃(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℃, 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.)		100℃				
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℃)				
	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		Expoxy(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℃ 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.						

DC-DC Constant Current Step-Down LED driver LDD-L series



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 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

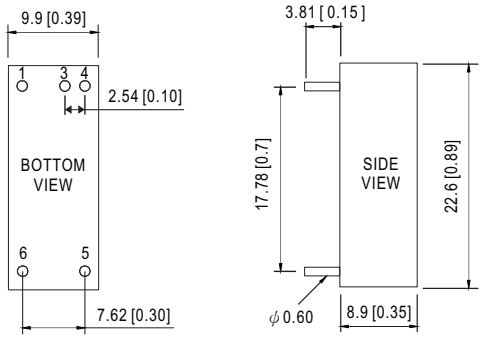
SPECIFICATION

ORDER NO.			LDD-1000L	LDD-1200L	LDD-1500L
OUTPUT	CURRENT RANGE		1000mA	1200mA	1500mA
	VOLTAGE RANGE Note.4		2 ~ 30VDC		
	CURRENT ACCURACY (Typ.)		±5% at 24VDC input		
	RIPPLE & NOISE(max.) Note.2		1.5Vp-p	1.5Vp-p	1.5Vp-p
	SWITCHING FREQENCY		1000KHz		
	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	1160mA	1450mA
		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		
PROTECTION	SHORT CIRCUIT		Regulated at rated output current		
			Protection type: Can be continued, recovers automatically after fault condition is removed		
ENVIRONMENT	WORKING TEMP.		-40 ~ + 71℃(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℃, 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.)		100℃		
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℃)		
	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		Expoxy(UL94-V0) for LDD-1000~1500L/LW ; without potted for LDD-1000~1500LS		
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.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.				

■ Mechanical Specification

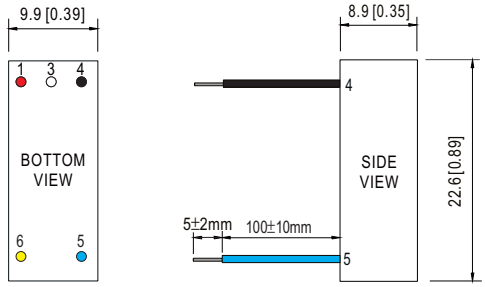
Blank type(LDD－300~700L):

Unit: mm (inch)



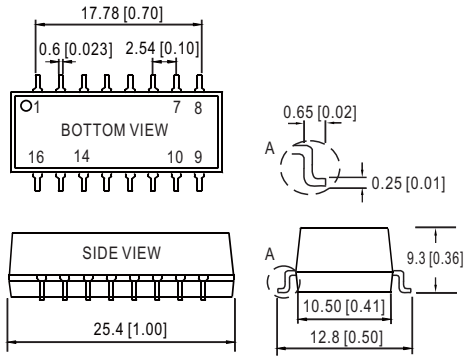
NOTE: Pin tolerance ±0.05mm

W type(LDD－300~700LW):

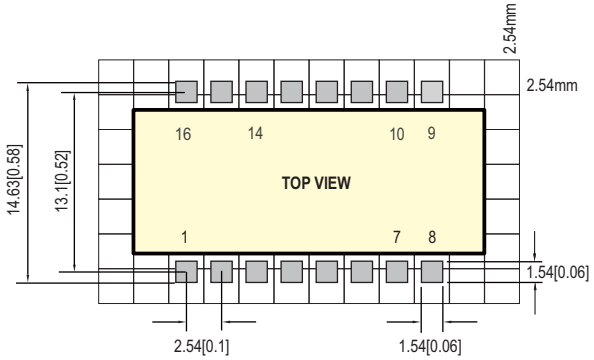


NOTE: All wires UL3385 22AWG

S type(LDD－300~700LS):



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



■ Pin Configuration

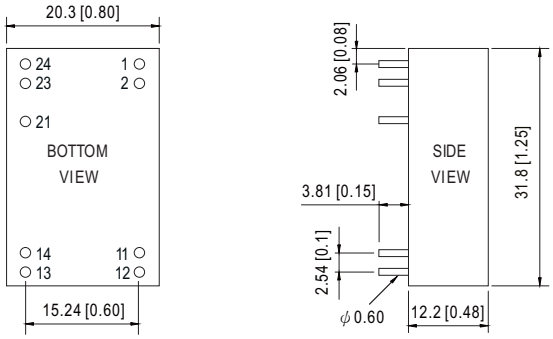
Pin No.		Comment
1	+Vin	DC Supply
3	PWM DIM	ON/OFF and PWM Dimming (Leave open if not used)
4	-Vin	Don't connect to -Vout
5	-Vout	LED - Connection
6	+Vout	LED + Connection

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

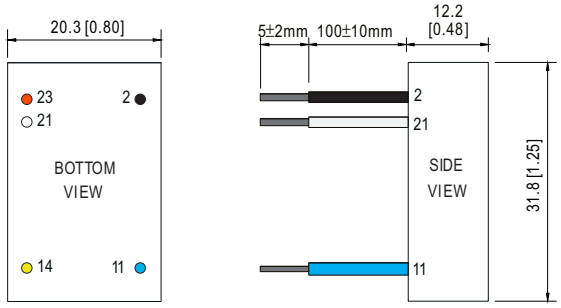
■ Mechanical Specification

Blank type(LDD－1000~1500L): Unit: mm (inch)



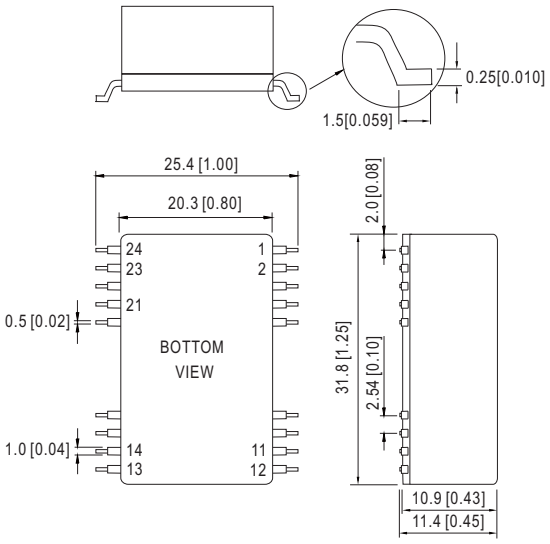
NOTE: Pin tolerance ±0.05mm

W type(LDD－1000~1500LW):

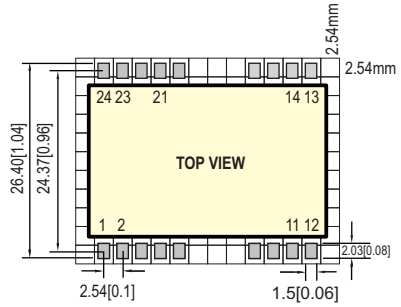


NOTE: All wires UL3385 22AWG

S type(LDD －1000~1500LS):



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



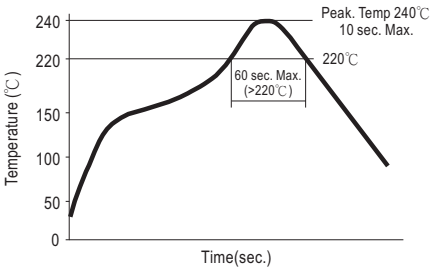
■ Pin Configuration

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

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

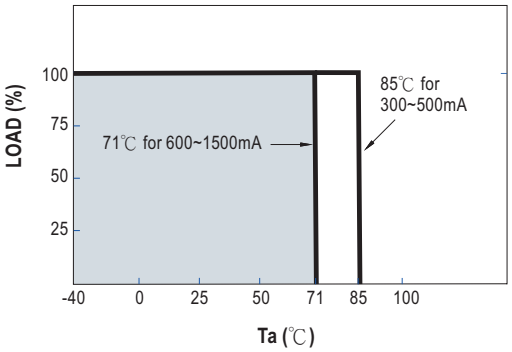
Pin No.		Comment
1,2	-Vin	Don't connect to -Vout
11,12	-Vout	LED - Connection
13,14	+Vout	LED + Connection
21	PWM +analog DIM	ON/OFF and PWM / analog Dimming (Leave open if not used)
23,24	+Vin	DC Supply
others	N.C	No connection

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



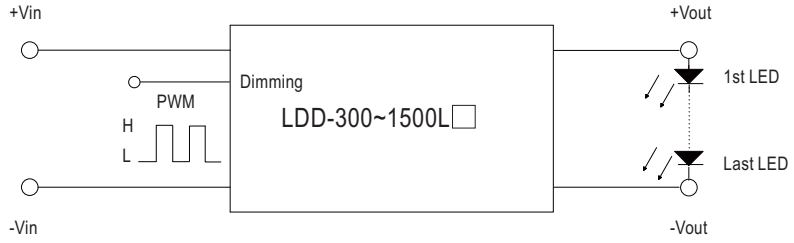
Remark : The curve applies only to the " Hot Air Reflow Soldering"

■ Derating Curve



■ PWM Dimming Control (for 300~1500mA)

Io Adjustment by PWM signal :



300 ~ 700mA :

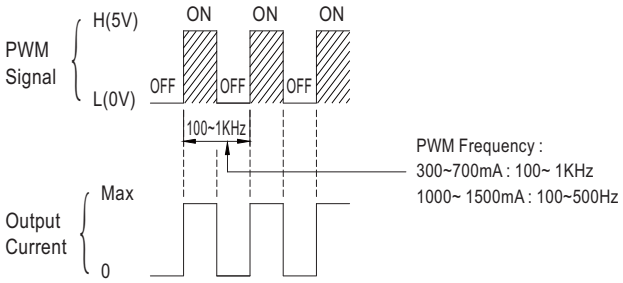
H: > 3.5~8VDC or open circuit

L: < 0.5VDC or short

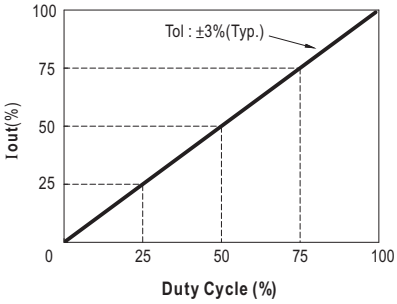
1000 ~ 1500mA :

H: > 2.6~5.5VDC or open circuit

L: < 0.4VDC or short

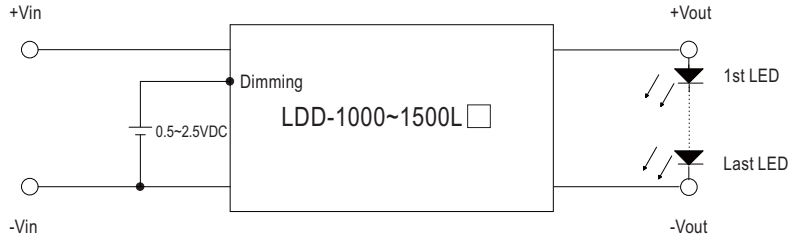


◎ During PWM dimming operation, the output current will change to PWM style.

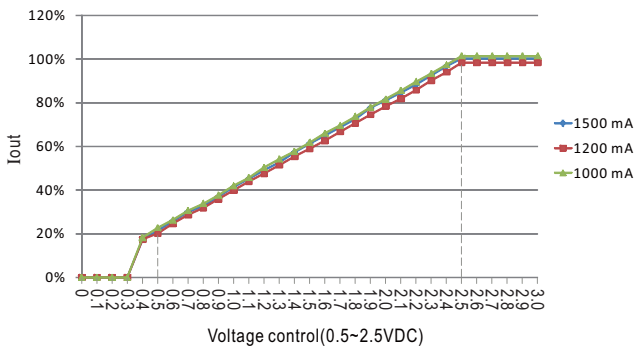


■ Analog Dimming Control for 1000~ 1500mA only

Io Adjustment by DC voltage :



24Vdc input



■ Efficiency VS Output Voltage(Number of LEDs)

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

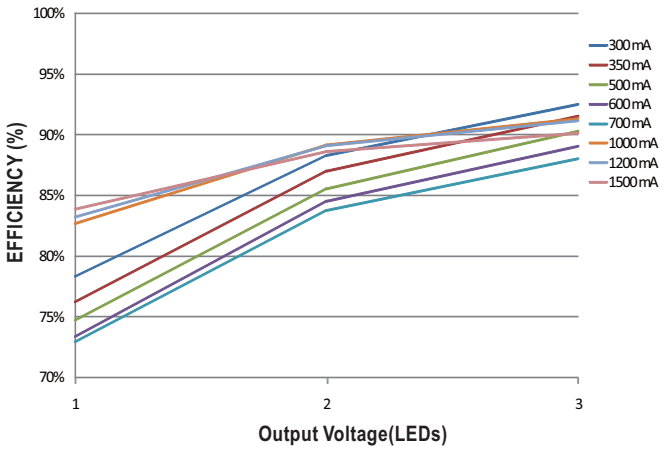


Fig-2 24VDC input, 1~7 LEDs(Vf=3V)

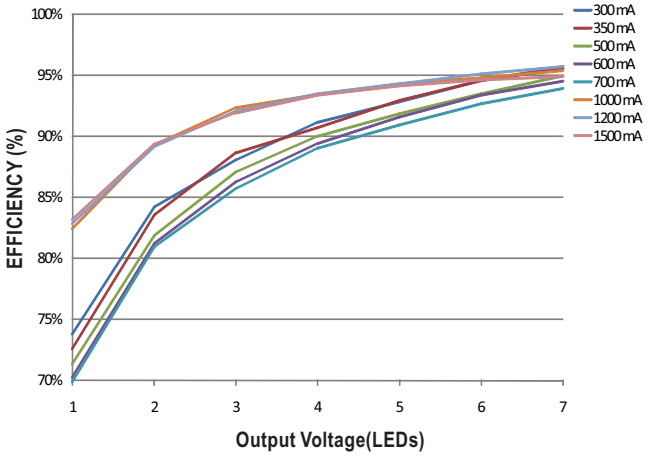


Fig-3 36VDC input, 1~10 LEDs(Vf=3V)