![Chipsmall logo]

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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CUI INC®

**SERIES:** VLD24 | **DESCRIPTION:** LED DRIVER

FEATURES

- up to 700 mA constant current
- wide input (5.5~36 V)
- compact package
- PWM or analog dimming capable
- short circuit protection
- remote on/off control
- efficiency up to 96%

RoHS

V-Infinity

| MODEL | input voltage | | output voltage | output current | | dimming control | efficiency |
	typ (Vdc)	range (Vdc)	range (Vdc)	min (mA)	max (mA)		typ (%)
VLD24-300	24	6.5~36.0	2~30	0	300	digital + rheostat	96
VLD24-350	24	6.5~36.0	2~30	0	350	digital + rheostat	96
VLD24-500	24	6.5~36.0	2~30	0	500	digital + rheostat	96
VLD24-600	24	6.5~36.0	2~30	0	600	digital + rheostat	96
VLD24-700	48	6.5~36.0	2~30	0	700	digital + rheostat	96

PART NUMBER KEY

VLD24 - XXX

Base Number   Input Voltage
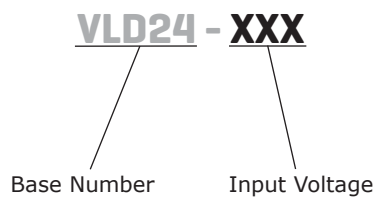
INPUT

parameter	conditions/description	min	typ	max	units
maximum input voltage	for ≤ 10 seconds	5.5		40	Vdc
operating input voltage		6.5	24	36	Vdc
quiescent input current in off mode	Vin = 24 V, V_r < 0.6 V			400	µA
input filter	capacitor				
remote on/off	ON (V_r on pin 3) open or 2.8 V < V_r < 6 V OFF V_r < 0.6 V				
remote pin current	V_r = 5 V			1	mA
PWM frequency			0.2	10	kHz

OUTPUT

parameter	conditions/description	min	typ	max	units
output voltage range	Vin = 36 V	2		30	Vdc
current accuracy	Vin = 24 V, 5 LEDs		±7	±12	%
current stability	Vin = 24 V, 1~5 LEDs		±8	±15	%
temperature coefficient			±0.03		%/°C
capacitive load				470	µF

PROTECTIONS

parameter	conditions/description	min	typ	max	units
short circuit protection	continuous				

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	for 1 minute at 1 mA max.	1,500			Vdc
isolation resistance	at 500 Vdc	1,000			MΩ
MTBF		1,000,000			hours
RoHS compliant	yes				

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	300 and 350 mA 500, 600, and 700 mA	-40 -40		85 71	°C °C
storage temperature		-55		125	°C
case temperature				100	°C
storage humidity	non-condensing			95	%
temperature rise	at full load		15		°C
lead temperature	1.5 mm from case for 10 seconds			300	°C

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	0.897 x 0.401 x 0.374 (22.80 x 10.2 x 9.5 mm)				inch
case material	plastic (UL94-V0)				
weight			3.5		g

MECHANICAL DRAWING

units: mm [inches]
tolerance: ±0.25 [±0.010]
pin section tolerance: ±0.05 mm [±0.002]

22.80(0.897)
0.50 (0.020)
17.78(0.700)
4.10(0.161)

10.20 (0.401)
9.00 (0.354)
7.62 (0.300)

Top view,grid:2.54mm(0.1inch), diameter:1.00mm(0.039inch)

4   5
3
2   Bottom View
1   6
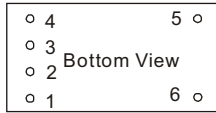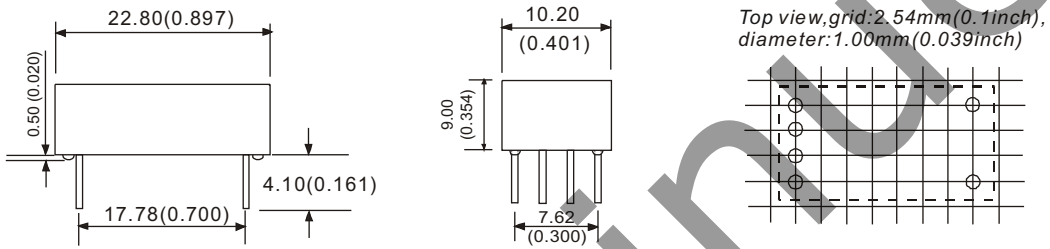
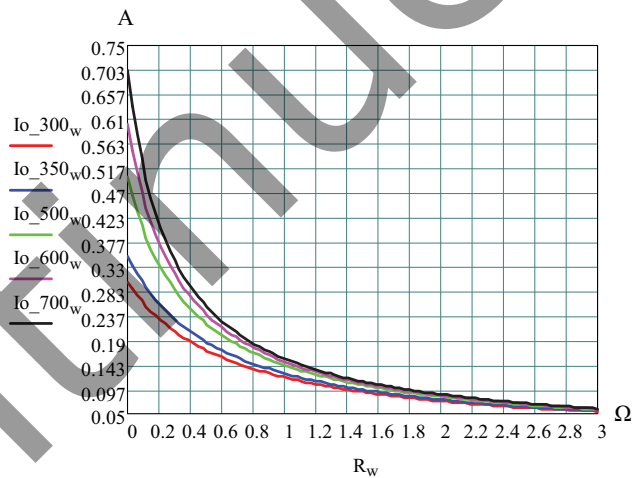| PIN CONNECTIONS		
PIN	FUNCTION	COMMENTS
1	Vin	DC supply
2	Rheostat Dim	must connect to Vin if not in use
3	On/Off/PWM	leave open if not in use
4	GND	do not connect to -Vo
5	-Vo	LED cathode connection
6	+Vo	LED anode connection

APPLICATION NOTES

1. **Digital Dimming Control**

50% Duty Cycle

80% Duty Cycle

20% Duty Cycle

Output current

Output current(LED appears brighter)

Output current(LED appears dimmer)
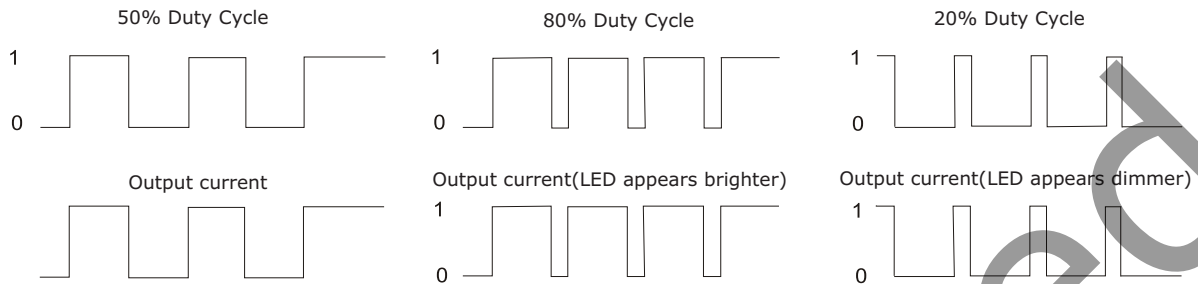
2. **Analog Dimming Control**

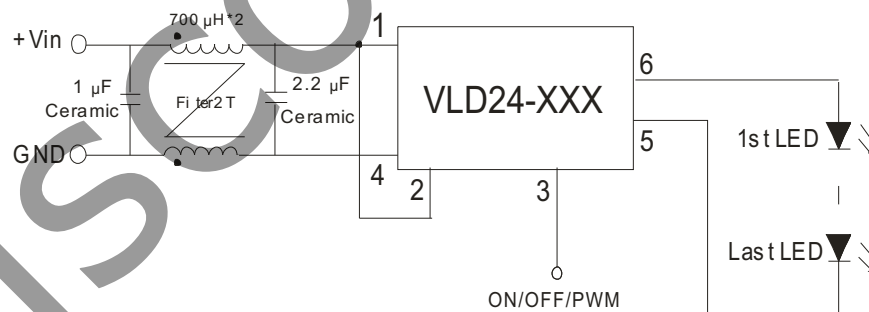+Vin

Cin

GND

R W

VLD24-XXX

POT Dim   ON/OFF/PWM

1st LED

Last LED
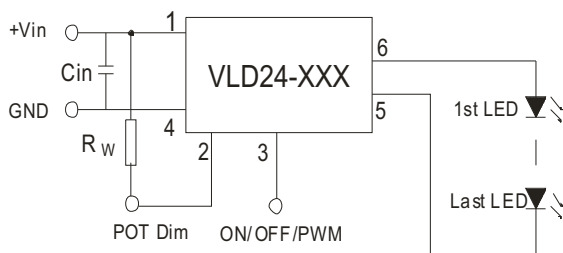
General:
Cin: 47 μF for best performance

Io can be set between 0A and Io(max) with trim pot Rw.
For example, to set the output current (Io) to 200mA
using the VLD24-350, choose Rw=0.4Ω. The trim pot
should be placed close to pins 1 and 2 with shortest
possible leads.

A

0.75
0.703
0.657
0.61
0.563
0.517
0.47
0.423
0.377
0.33
0.283
0.237
0.19
0.143
0.097
0.05

Io_300_w
Io_350_w
Io_500_w
Io_600_w
Io_700_w

0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2 2.2 2.4 2.6 2.8 3

Ω

R_w

3. **EMS Filter Circuits**

+Vin

700 μH*2

1 μF
Ceramic

Filter2 T

2.2 μF
Ceramic

GND

VLD24-XXX

ON/OFF/PWM

1st LED

Last LED

REVISION HISTORY

rev.	description	date
1.0	initial release	07/18/2008
1.01	new template applied	09/02/2011

The revision history provided is for informational purposes only and is believed to be accurate.

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