

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%



V-Infinity

MODEL	input voltage		output voltage range (Vdc)	output current		dimming control	efficiency typ (%)
	typ (Vdc)	range (Vdc)		min (mA)	max (mA)		
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	$V_{in} = 24\text{ V}$, $V_r < 0.6\text{ V}$			400	μA
input filter	capacitor				
remote on/off	ON (V_r on pin 3) OFF	open or $2.8\text{ V} < V_r < 6\text{ V}$ $V_r < 0.6\text{ V}$			
remote pin current	$V_r = 5\text{ V}$			1	mA
PWM frequency			0.2	10	kHz

OUTPUT

parameter	conditions/description	min	typ	max	units
output voltage range	$V_{in} = 36\text{ V}$	2		30	Vdc
current accuracy	$V_{in} = 24\text{ V}$, 5 LEDs		± 7	± 12	%
current stability	$V_{in} = 24\text{ V}$, 1~5 LEDs		± 8	± 15	%
temperature coefficient			± 0.03		%/ $^{\circ}\text{C}$
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			M Ω
MTBF		1,000,000			hours
RoHS compliant	yes				

ENVIRONMENTAL

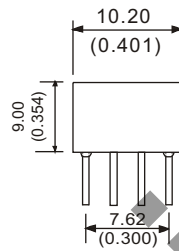
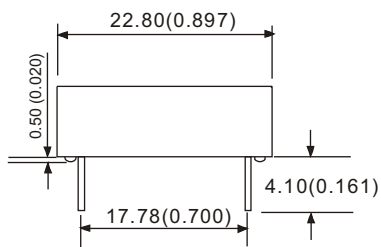
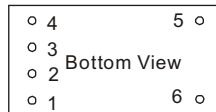
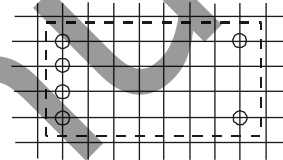
parameter	conditions/description	min	typ	max	units
operating temperature	300 and 350 mA	-40		85	$^{\circ}\text{C}$
	500, 600, and 700 mA	-40		71	$^{\circ}\text{C}$
storage temperature		-55		125	$^{\circ}\text{C}$
case temperature				100	$^{\circ}\text{C}$
storage humidity	non-condensing			95	%
temperature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

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

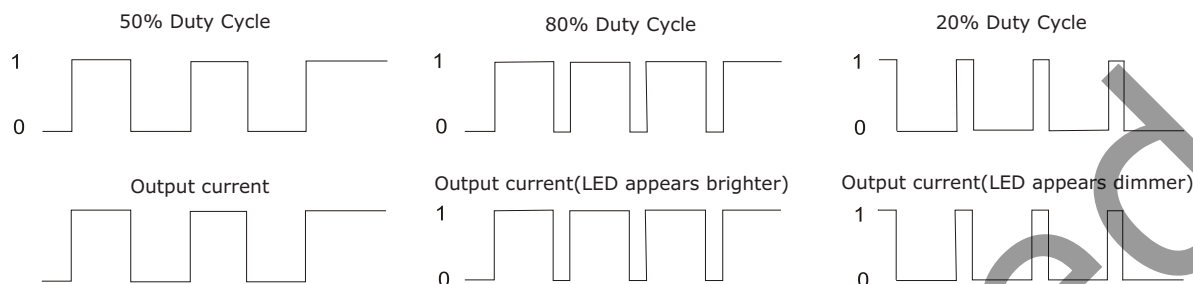
units: mm [inches]

tolerance: ± 0.25 [± 0.010]pin section tolerance: ± 0.05 mm [± 0.002]Top view, grid: 2.54mm (0.1inch),
diameter: 1.00mm (0.039inch)

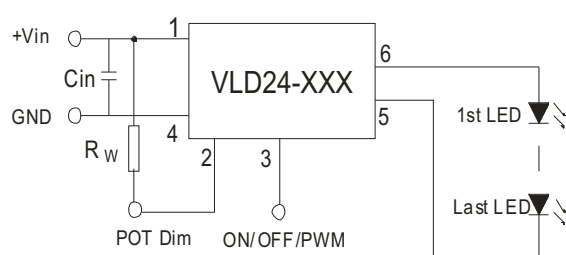
PIN CONNECTIONS		
PIN	FUNCTION	COMMENTS
1	Vin	DC supply
2	Rheostat Dim	must connect to Vin if not in use
3	On/Off/PWM	leave open if not in use
4	GND	do not connect to -Vo
5	-Vo	LED cathode connection
6	+Vo	LED anode connection

APPLICATION NOTES

1. Digital Dimming Control



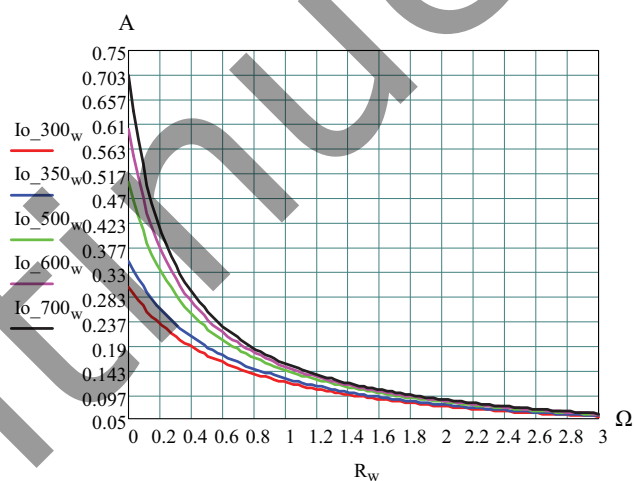
2. Analog Dimming Control



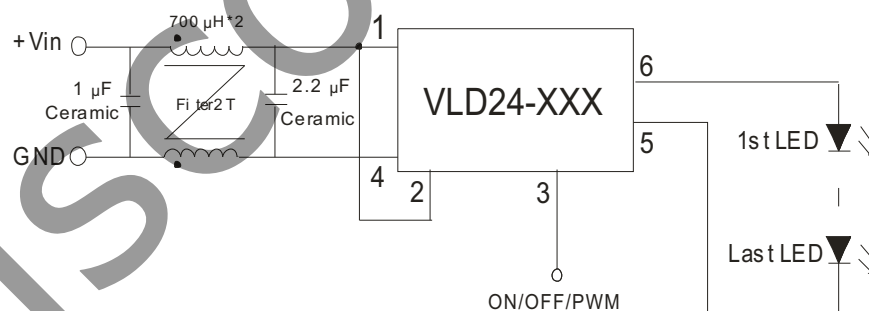
General:

C_{in} : 47 μF for best performance

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



3. EMS Filter Circuits



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.

**CUI INC®**

Headquarters
20050 SW 112th Ave.
Tualatin, OR 97062
800.275.4899

Fax 503.612.2383
cui.com
techsupport@cui.com

CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.