

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

FEATURES

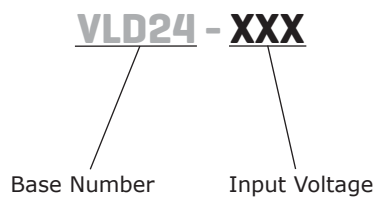
- up to 700 mA constant current
- wide input (5.5~36 V)
- compact package
- PWM or analog dimming capable
- short circuit protection
- remote on/off control
- efficiency up to 96%



MODEL

MODEL	input voltage		output voltage	output current		dimming control	efficiency
	typ (Vdc)	range (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



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	$V_{in} = 24\text{ V}, 5\text{ LEDs}$		± 7	± 12	%
current stability	$V_{in} = 24\text{ V}, 1\sim 5\text{ LEDs}$		± 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			$\text{M}\Omega$
MTBF		1,000,000			hours
RoHS compliant	yes				

ENVIRONMENTAL

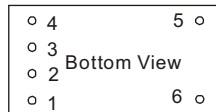
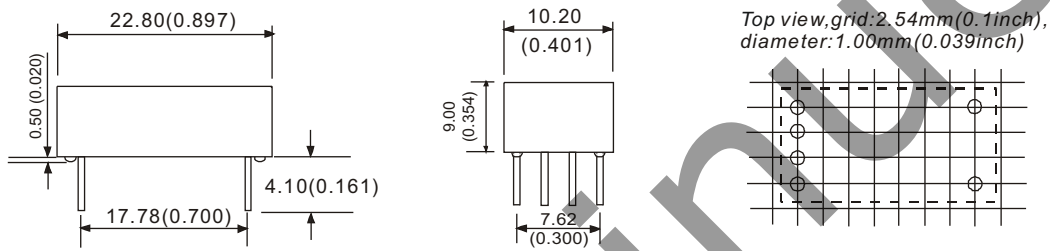
parameter	conditions/description	min	typ	max	units
operating temperature	300 and 350 mA	-40		85	$^{\circ}\text{C}$
	500, 600, and 700 mA	-40		71	$^{\circ}\text{C}$
storage temperature		-55		125	$^{\circ}\text{C}$
case temperature				100	$^{\circ}\text{C}$
storage humidity	non-condensing			95	%
temperature 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

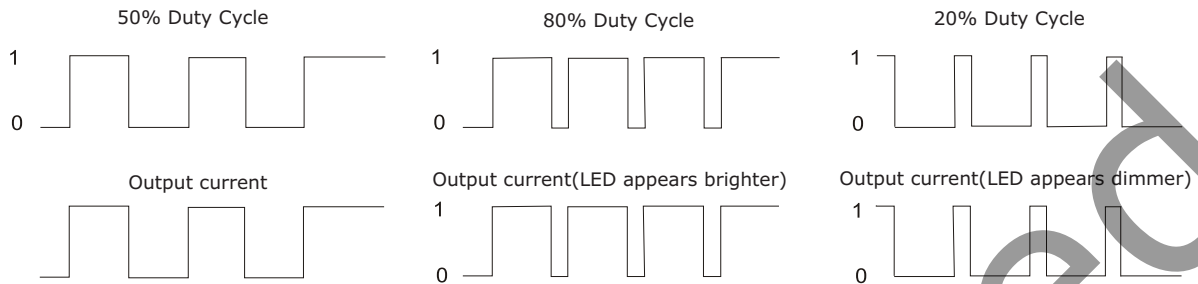
units: mm [inches]
 tolerance: ± 0.25 [± 0.010]
 pin section tolerance: ± 0.05 mm [± 0.002]



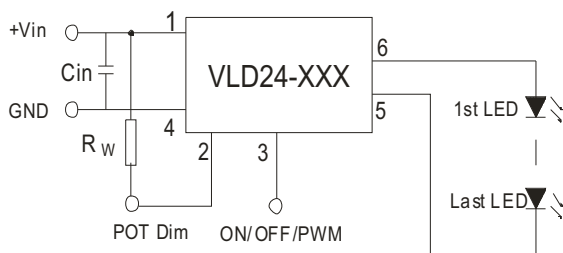
PIN CONNECTIONS		
PIN	FUNCTION	COMMENTS
1	Vin	DC supply
2	Rheostat Dim	must connect to Vin if not in use
3	On/Off/PWM	leave open if not in use
4	GND	do not connect to -Vo
5	-Vo	LED cathode connection
6	+Vo	LED anode connection

APPLICATION NOTES

1. Digital Dimming Control

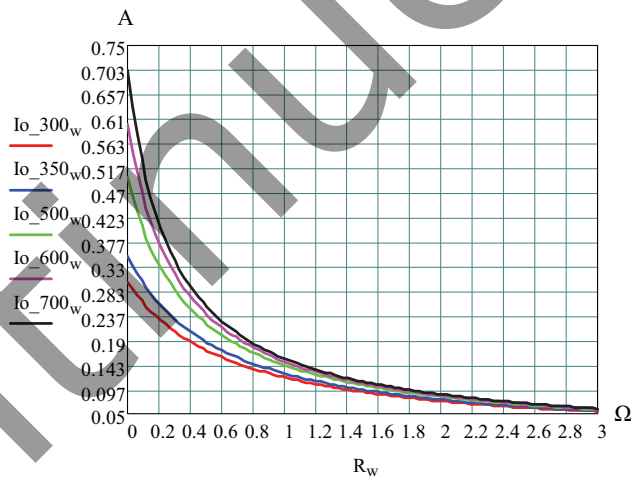


2. Analog Dimming Control

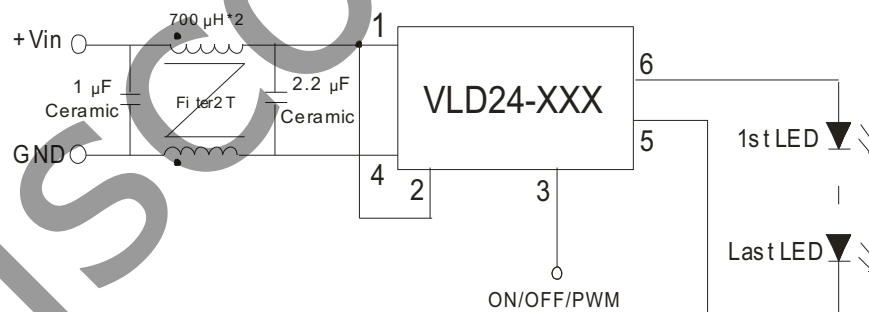


General:
Cin: 47 μ F for best performance

I_o can be set between 0A and $I_o(\text{max})$ 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.

Discontinued



CUI INC[®]

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

Fax 503.612.2383
cui.com
techsupport@cui.com

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