

Features

Regulated Converters

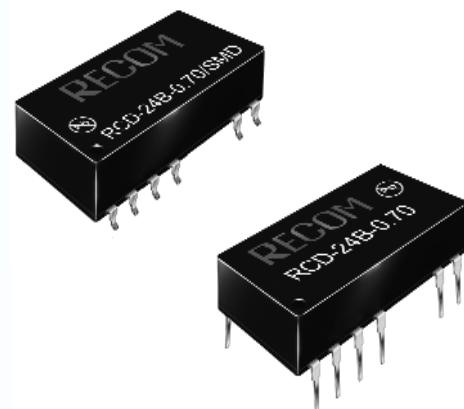
Rev.2

- Constant Current Output
- Power LED Driver
- Wide Input Voltage Range
- PWM/Digital Dimming, Analogue Voltage and Potentiometer Dimming
- Short Circuit Protected
- 96% Efficiency
- SMD Option

INNOLINE
DC/DC-Converter

RCD-24B Series

Constant Current Single Output



RECOM

Specifications

(typical at 25°C, nominal input voltage, rated output current unless otherwise specified)

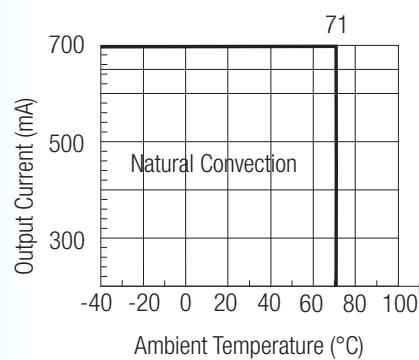
Input Voltage (absolute maximum)	36VDC max.	
Recommended Input Voltage	5V min. / 24V typ. / 36VDC max.	
Input Filter	Capacitor	
Output Voltage Range	Vin=36V	2V min. / 32V max.
Output Current Range	Vin - Vout >1.5~4V	700mA
Output Current Accuracy	700mA	±2% typ. / ±3% max.
Internal Power Dissipation	Load of 5 LEDs	700mW
Output Current Stability	Vin=36V, Vout =2~28V	±1% max
Output Ripple and Noise (20MHz limited)	Vin=36V	120mVp-p max
Temperature Coefficient	-40~+85°C ambient	±0.015%/°C max.
Maximum Capacitive Load		100µF
Operating Frequency	210 kHz min/ 250kHz typ./ 300kHz max	
Efficiency at Full Load	96% max.	
Short Circuit Protection	Regulated at rated output current	
Operating Temperature Range	Natural Convection	-40°C to +71°C
Storage Temperature Range		-55°C to +125°C
Maximum Case Temperature		100°C
Thermal Impedance	Natural Convection	55°C/Watt
Case Material	Non Conductive Black Plastic	
Potting Material	Epoxy (UL94-V0)	
Dimensions	24.2 x 14.5 x 9.7mm	
Weight	6.5g	
Wave Soldering Profile	Max. 265°C/10 sec.	

IMPORTANT INFORMATION: The RCD-24B-0.70/SMD series are not suitable to be soldered using vapour phase soldering, they are only guaranteed to be safe in IR or convection reflow ovens and by hand soldering. Reflow conditions should not exceed the limits of the Jedec STD-020C profile. This restriction applies to the product series R-78Ax.x-0.5SMD, R-78Ax.x-1.0SMD and RCD-24B-0.70/SMD only and does not affect any other RECOM products. For more details regarding this matter please contact info@recom-development.at

Derating Graph

(Ambient Temperature)

RCD-24B-0.70



Specifications -Continued

PWM Dimming and ON/OFF Control (Leave open if not used)

Remote ON/OFF	DC/DC ON	Open or $0V < Vr < 0.6V$
	DC/DC OFF (Standby)	$0.6 < Vr < 2.9V$
	DC/DC OFF (Shutdown)	$2.9V < Vr < 6V$
Remote Pin Drive Current	$Vr=5V$	1mA max.
Quiescent Input Current in Shutdown Mode	$Vin=36V, Vr>2.9V$	$200\mu A$ max.
PWM Frequency Range for Linear Operation (measured over 10%~90% brightness)	50Hz-200Hz	
Maximum PWM Frequency	2kHz	

Analogue Dimming Control (leave open if not used)

Input Voltage Range	0 - 15V	
Control Voltage Range Limits (see Graph)	Full On	$0.13V \pm 50mV$
	Full Off	$4.5V \pm 50mV$

Analogue Pin Drive Current

$Vc=5V$ 0.2mA max.

Potentiometer Dimming Control (leave open if not used)

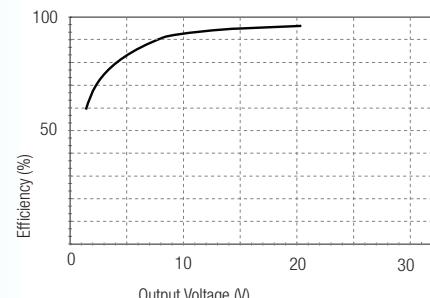
Resistor Value 10kOhm

Environmental

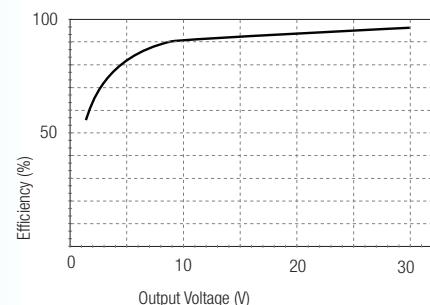
Relative Humidity	5% to 95% RH, non-condensing	
Conducted Emissions (see note)	EN55022	Class A
Radiated Emissions	EN55022	Class A
ESD	EN61000-4-2	Class A
Radiated Immunity	EN61000-4-3	Class A
Fast Transient	EN61000-4-4	Class A
Conducted Immunity	EN61000-4-6	Class A
MTBF (RCD-24-0.70, Nominal Vin, Full Load) using MIL-HDBK 217F	+25°C +71°C	TBD x 10^3 hours TBD x 10^3 hours

Note: Requires an input filter to meet EN55022 Class A and Class B conducted emissions.

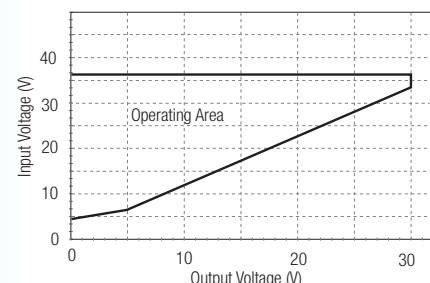
Vin = 24V, Iout = 700mA



Vin = 36V, Iout = 700mA

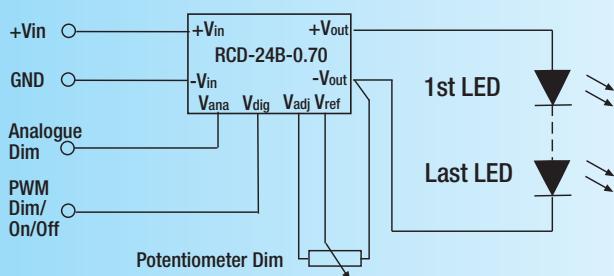


Minimum Dropout Voltage

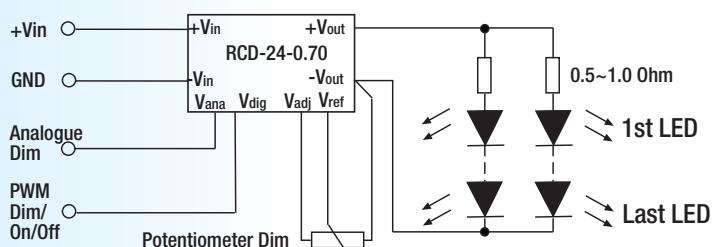


Standard Application Circuits

LED DRIVER

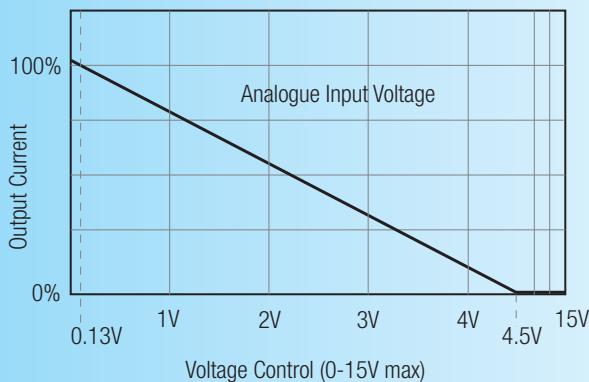


MULTIPLE LED DRIVER (up to 20 LEDs)

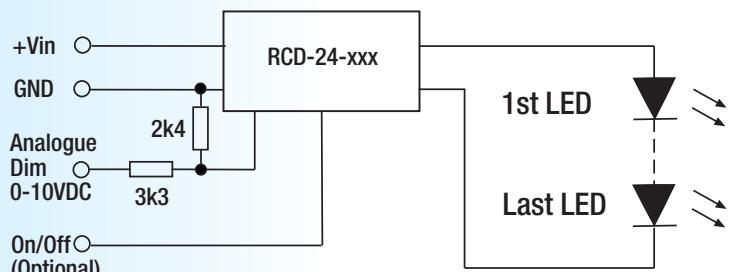


Driving Two Strings of 350mA LEDs with one 700mA Driver.

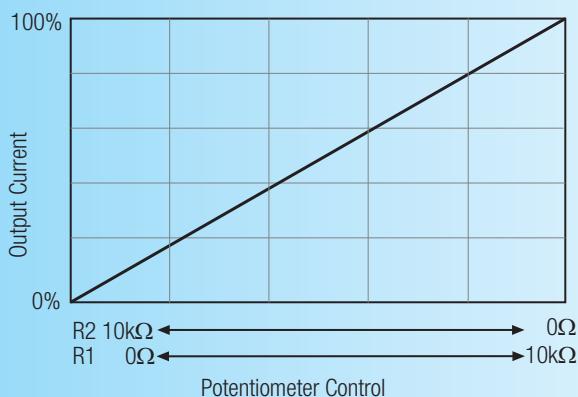
Analogue Dimming Control and Application Circuit Examples



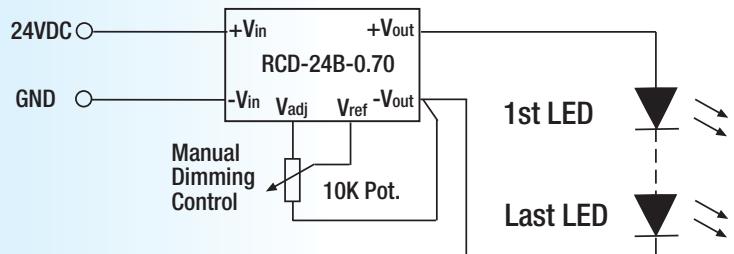
LED DRIVER with 0-10V Interface



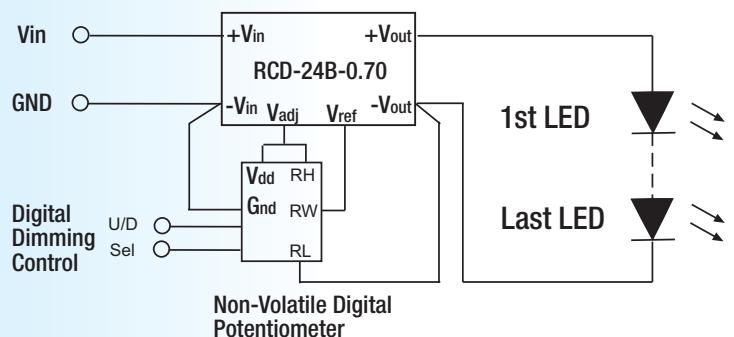
Potentiometer Dimming Control and Application Circuit Examples



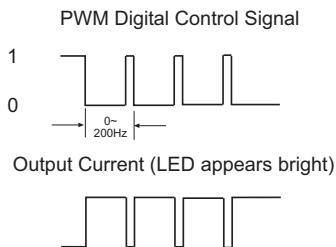
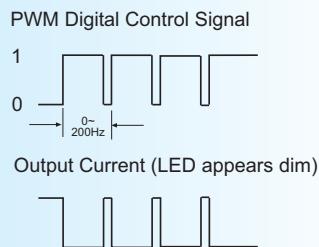
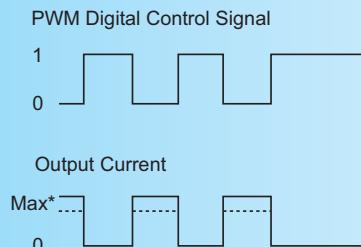
LED DIMMER for up to 7 white 2W LEDs



LED DIMMER with Digital Potentiometer Interface

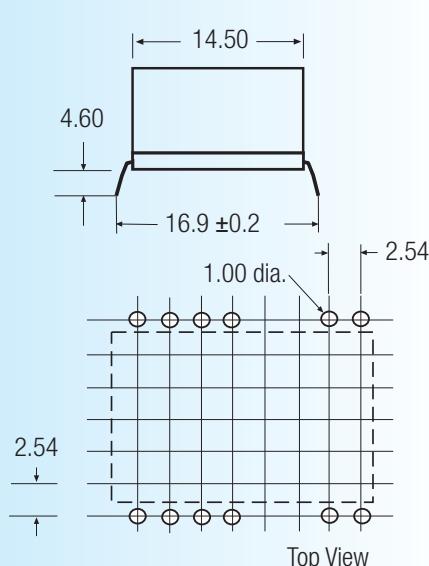
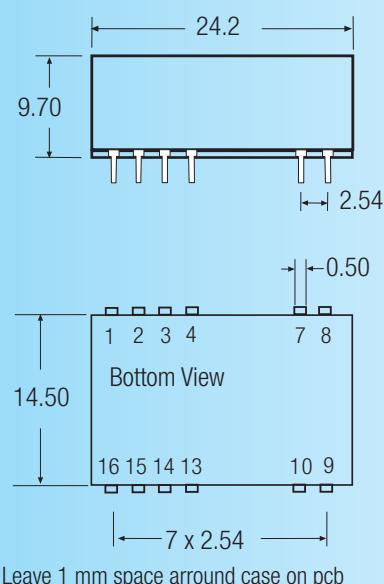


Digital Dimming Control



Package Style and Pinning

Through Hole Case Style



3rd angle projection

SMD Case Style

