



SKC24 Series

CONSTANT CURRENT SINGLE OUTPUT REGULATED CONVERTER

FEATURES

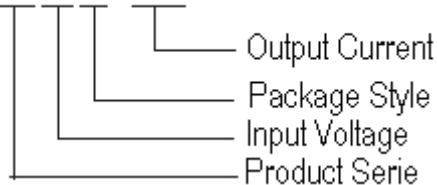
- High efficiency up to 95%
- Constant current output
- Power LED driver
- Wide input voltage range
- PWM dimming and Rheostat Dimming
- Remote ON/OFF
- Short circuit protection

APPLICATIONS

The SKC24H/W Series is a step-down constant current source designed for driving high power LEDs. The output currents available are 300mA, 350mA, 500mA, 600mA, 700mA. Despite its compact size, the KC24H/W series is fully featured with very high efficiency, wide input voltage range, high ambient operating temperature, PWM dimming, Rheostat dimming and Remote ON/OFF. The two means of LED dimming are independent and can be combined.

MODEL SELECTION

SKC24AH-350



SELECTION GUIDE

Part Number	Input Voltage(V)		Output		Dimming control	Efficiency (% max)
	Normal	Range	Voltage (VDC)	Current (mA)		
SKC24H-300	24	5.5-36	2-32	0-300	Digital+Rheostat	95
SKC24H-350	24	5.5-36	2-32	0-350	Digital+Rheostat	95
SKC24H-500	24	5.5-36	2-32	0-500	Digital+Rheostat	95
SKC24H-600	24	5.5-36	2-32	0-600	Digital+Rheostat	95
SKC24H-700*	24	5.5-36	2-32	0-700	Digital+Rheostat	95
SKC24W-300*	24	5.5-36	2-32	300	none	95
SKC24W-350*	24	5.5-36	2-32	350	none	95
SKC24W-500*	24	5.5-36	2-32	500	none	95
SKC24W-600*	24	5.5-36	2-32	600	none	95
SKC24W-700*	24	5.5-36	2-32	700	none	95

* Designing

SPECIFICATIONS

Item	Test condition	Min	Typ	Max	Units
Input Voltage	absolute maximum			40	VDC
Recommended input voltage		5.5	24	36	
Input filter		Capacitor			
Output voltage range	Vin=36V	2		32	VDC
Output current range	See the selection guide, while Vin-Vout>1.5-4V				
Output current accuracy	Vin=24V, 5 LEDs		± 8	±12	%
Output current stability	Vin=24V, 1 to 5 LEDs		±10	±18	
Temperature coefficient	-40 °C to +71 °C ambient			± 0.03	%/°C
Efficiency at full load				95	%
Short circuit protection		Continue			
Operating temperature range	300mA / 350mA	-40		85	°C
	500mA/ 600mA/ 700mA	-40		71	
Storage temperature range		-55		125	°C
Maximum case temperature				100	
Maximum capacitive Load		470			µF
Case Material		Plastic (UL94-V0)			
Dimensions	(L*W*H) SKC24H series	22.8*10.2*9.5			mm
	(L*W*H) SKC24W series	22.8*10.2*8.5			
Weight			3.5		g

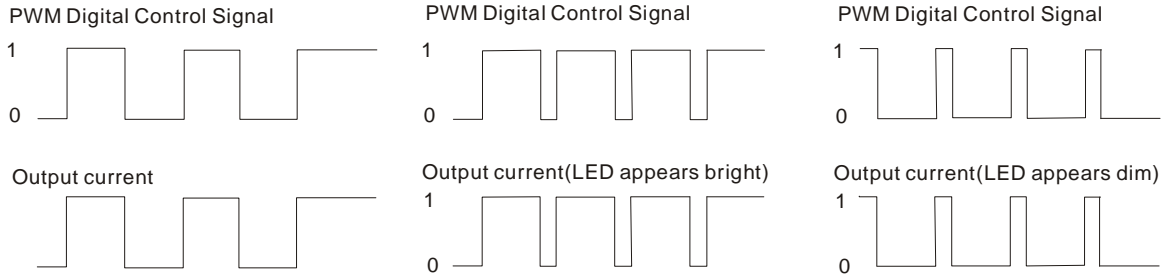
PWM Dimming and ON/OFF Control (let it open if not use)

Remote ON/OFF	ON	Open or 2.8V<Vc<6V			
	OFF(shutdown)	Vc<0.6V			
Remote pin current	Vc=5V			1	mA
Quiescent input current in Shutdown mode	Vin=24V, Vc <0.6V			400	µA
PWM frequency			0.2	10	KHz

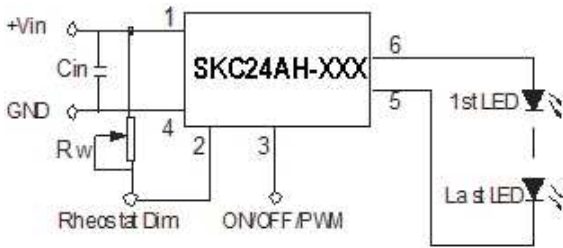
Rheostat dimming Control (connect to Vin if not use)

Output current VS Rheostst	Rheostat Dimming application
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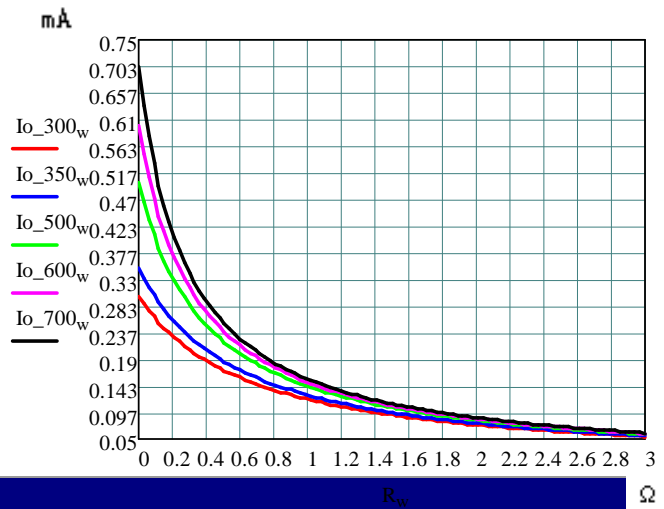
DIGITAL DIMMING CONTROL



RHEOSTAT DIMMING CONTROL

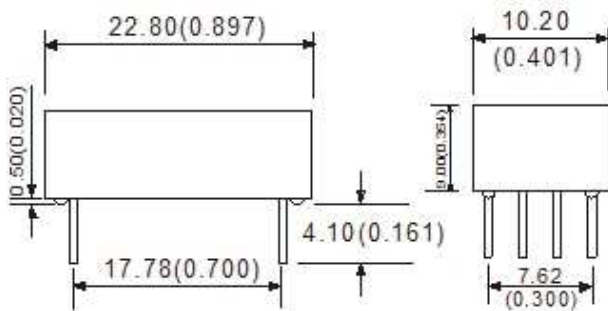


$C_{in} = 47\mu F$ for best performance. I_o can be set between 0A and $I_o(max)$ with the resistance R_w . In other words, it can use to setting maximal output current. For example, use the SKC24H-350 set the I_{o_max} to 200mA we can choose $R_w=0.4\Omega$. The R_w should be place close to 1 and 2 pins, with shortest possible traces.



PACKAGE STYLE AND PINNING

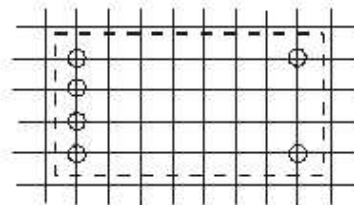
SKC24AH Series



Note:
 Unit:mm(inch)
 Pin diameter:0.50mm(0.020inch)
 Pin tolerances:±0.10mm(±0.004inch)
 General tolerances:±0.25mm(±0.010inch)

Third Angle Projection

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



FOOTPRINT DETAILS

Pin	Function	Comments
1	Vin	DC Supply
2	Rheostat Dim	Connect to Vin if not use
3	ON/OFF/PWM	Leave open if not use
4	GND	Do not connect to -Vout
5	-Vout	LED Cathode connection
6	+Vout	LED Anode connection

TYPICAL APPLICATION CIRCUITS

Figure 1:
Output current setting

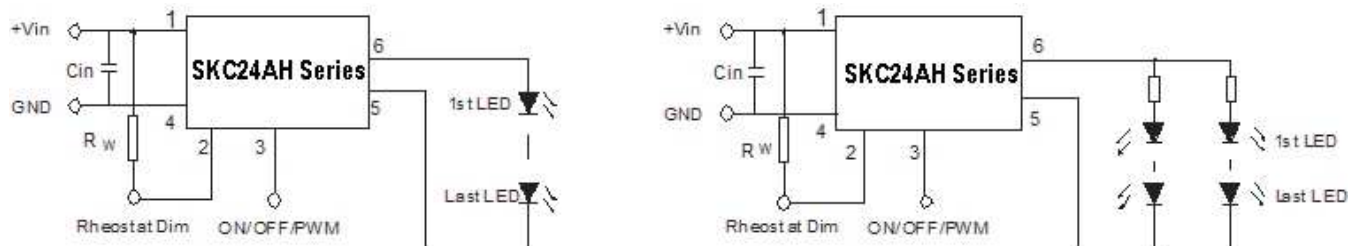


Figure 1 shows the connections for setting the maximal output current. Select the proper resistance of the RW base on the maximal output current. Where can see the graph of rheostat dimming control application.

Figure 2:
PWM Dimming control circuit

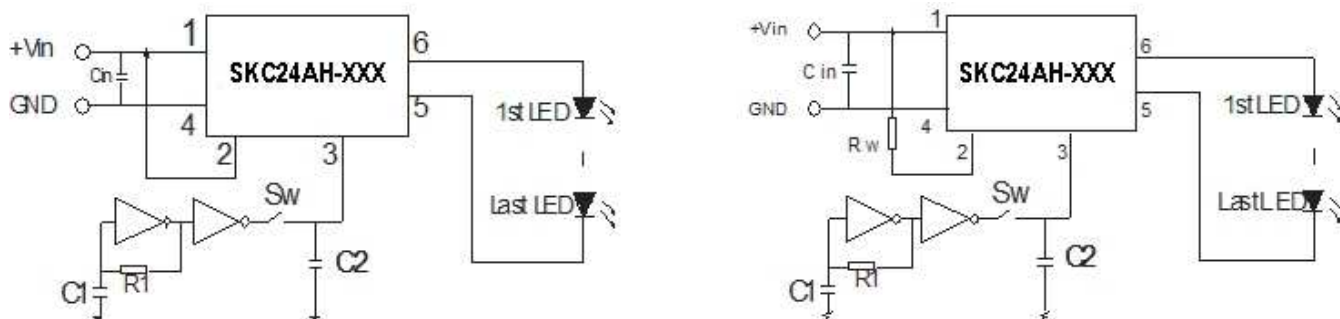


Figure 3:
Reduce emissions filter circuit suggest

