### PRELIMINARY SPECIFICATIONS LCD Backlight Driver

# SIPF200A-RH



12 Volt Input

Industrial Grade Single Tube CCFT Inverter

### **Brightness** Control

### Physical Specifications

Dimensions: Weight: Operating Temp: Relative Humidity: Storage: Impact Resistance: Vibration Resistance: 22.7mm x 96.5mm x 7.3mm (0.894" x 3.79" x 0.287") 20g (0.704 oz.) 0 to 55°C, convection cooling 20% to 90%, non-condensing -20 to 85°C/5-95% RH non-condensing 50G half wave per 2 msec 10-55-10 Hz/min @ 1.5mm

### Input Specifications\*

Item	Condition	Standard	
Input Voltage Rated Tolerance	— Continuous Operation Starting Condition (Discharge Starting Voltage)	12.0 Vdc 8.0 Vdc - 20.0 Vdc 8.0 Vdc - 20.0 Vdc	
Max. Input Current	V <sub>IN</sub> = 8.0 Vdc Luminance @ Max.	0.75 A	
Input Leak Current	V <sub>IN</sub> = 20.0 Vdc Control terminal = H(V <sub>IN</sub> ) On/Off	12.0 µA (Lamp Off)	
Max. Rush Current	V⊪ = 20.0 Vdc Luminance @ Max.	20.0 A <sub>zero-p</sub> /15 μS Max.	
Max. Input Power	V⊪ = 8.0 Vdc Luminance @ Max.	5.1 W Typical	
On/Off Control Terminal Input Current	Control Terminal L = 0.0 - 0.4 Vdc Viℕ = 20.0 Vdc	I∟ow = -2.0 mA (Lamp Lighting)	
	Control Terminal H = Open or V⊪	 (Lamp Off)	

\*Above specifications occur @ 25  $\pm$  5°C.

### Output Specifications\*

Item	Condition	Stand	Standard		
		MIN	ТҮР	MAX	
Non-Loaded Output Voltage (Vrms)	V <sub>IN</sub> = 8.0 Vdc	1500		<u> </u>	
Tube Current (mArms)	Luminance @ Max. Luminance @ Min.	5.5 2.5	6.0 —	6.5 —	
Max. Power Output (W)	V <sub>IN</sub> = 12.0 Vdc/Luminance @ Max.	<u> </u>	_	4.0	
Ignition Frequency (kHz)	Luminance @ Max.	_	50		
DC/DC Converter Frequency (kHz)	Luminance @ Max.	_	220		

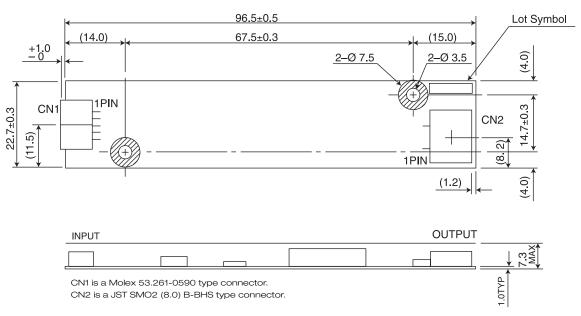
\*Above specifications occur @  $25 \pm 5^{\circ}$ C & VIN = 8.0 - 20.0 Vdc.

## Model SIPF200A-RH

### Luminance Variance

Item	Condition	Applied Voltage	<b>Output Current</b>
Luminance @ Max.	Btwn. pin 4 & pin 5	0.0 Vdc	6.0 mA
Luminance @ Min.	Btwn. pin 4 & pin 5	4.5 Vdc	2.5 mA

No component and no pattern on both sides



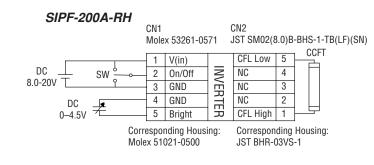
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### Model SIPF200A-RH Tech Notes

### **Connection Diagram**



#### **Output Current Optimization Method**

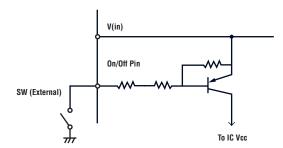
Maximum output current can be adjusted by applying bias voltage between brightness control pins as shown below.

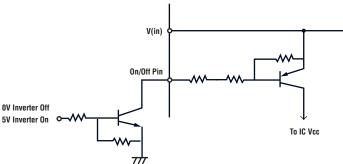


### **On/Off Control**

The on/off control is achieved by using the on/off pin on the input side of SIPF200A-RH. The circuit for the remote on/off circuitry consists of an active low TTL switch. When the circuit is open, the IC Vcc is act off. When the circuit is closed, IC Vcc is activated. A mechanical switch or a TTL/CMOS gate needs to be placed between the remote on/off pin and ground creating a condition where the circuit is closed to activate the inverter. Either one of the following will be required for the inverter to operate:

One recommended use of logic switch for remote on/off is shown in the diagram below. Electrical specification for on/off terminal is Low 0 to 0.4V, -0.4 mA or higher when switch is closed.





1. Tie on/off pin to ground.

2. Add mechanical switch between on/off pin and ground, close switch.

 Add TTL/CMOS switch between on/off and ground. Circuit must be closed for unit to operate (as shown above right).