LCD Backlight Driver

Model SIPF150

5 Volt Input

Industrial Grade Single Tube CCFT Inverter

Brightness Control

Physical Specifications

Dimensions:	22.7mm x 96.5mm x 7.3mm (0.894" x 3.79" x 0.287")
Weight:	18g (0.634 oz.)
Operating Temp:	0 to 55°C
Relative Humidity:	20% to 90%, non-condensing
Storage:	-20 to 85°C/5-95% RH
Impact Resistance:	50G half wave per 2 msec
Vibration Resistance:	10-55-10 Hz/min @ 1.5mm

Input Specifications*

Item	Condition	Standard
Input Voltage		
Rated	—	5.0 Vdc
Tolerance	Continuous Operation	4.5 Vdc - 7.0 Vdc
	Starting Condition (Discharge Starting Voltage)	4.5 Vdc - 7.0 Vdc
Max. Input Current	V_{IN} = 4.5 Vdc Luminance @ Max.	1.3 A
Input Leak Current	V_{IN} = 7.0 Vdc Control terminal = H(V_{IN}) On/Off	4.0 µA (Lamp Off)
Max. Rush Current	V_{IN} = 7.0 Vdc Luminance @ Max.	6.5 $A_{zero\text{-}p}$/50 µS
Max. Input Power	V_{IN} = 4.5 Vdc Luminance @ Max.	5.85 W
On/Off Control Terminal Input Current	Control Terminal L = 0.0 - 0.4 Vdc V_{IN} = 7.0 Vdc	I_{LOW} = 2.0 mA (Lamp Lighting)
	Control Terminal H = Open or V_{IN}	— (Lamp Off)

*Above specifications occur @ 25 ± 5°C.

Output Specifications*

Item	Condition	Standard MIN	TYP	MAX
Output Voltage (Vrms)	V_{IN} = 4.5 Vdc	1500	—	—
Tube Current (mArms)	Luminance @ Max.	5.5	6.0	6.5
	Luminance @ Min.	2.5	—	—
Max. Power Output (W)	V_{IN} = 5.0 Vdc/Luminance @ Max.	—	—	4.0
Ignition Frequency (kHz)	Luminance @ Max.	—	45	—
DC/DC Converter Frequency (kHz)	Luminance @ Max.	—	80	—

*Above specifications occur @ 25 ± 5°C & V_{IN} = 4.5 - 7.0 Vdc.

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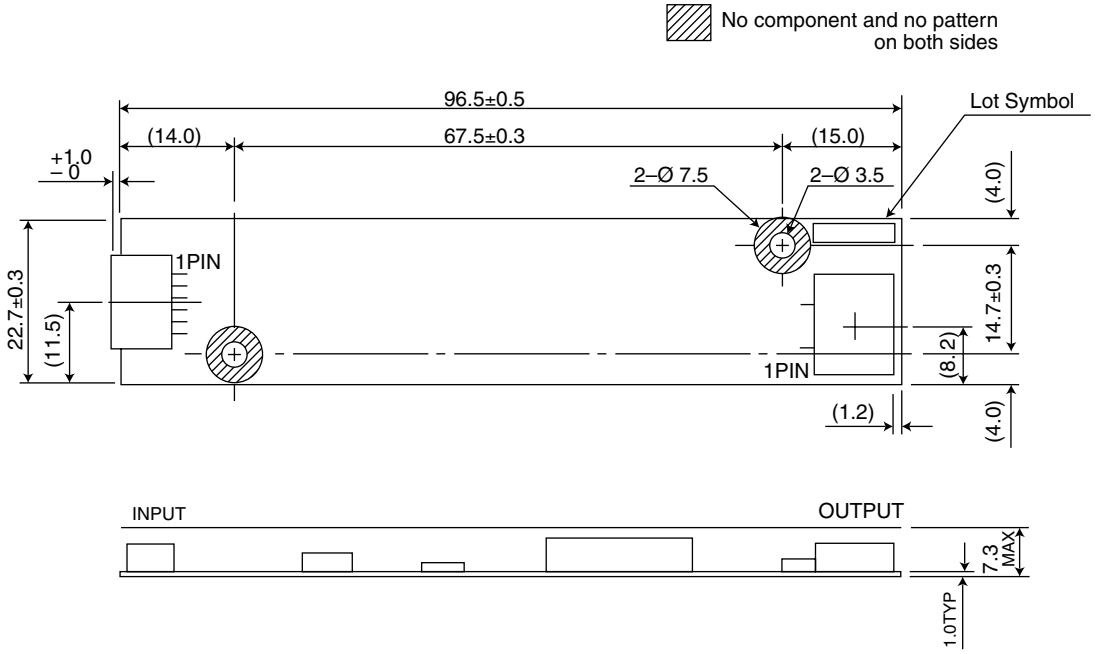
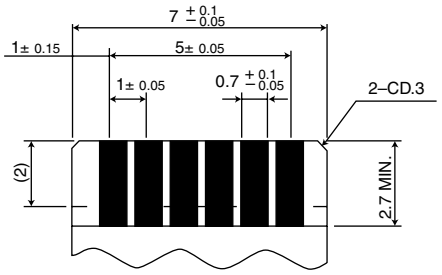
Luminance Variance

Item	Condition	Applied Voltage	Output Current
Luminance @ Max.	Btwn. pin 5 & pin 6	0.0 Vdc	6.0 mA
Luminance @ Min.	Btwn. pin 5 & pin 6	4.5 Vdc	2.5 mA





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ISO 9001

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FM 32227

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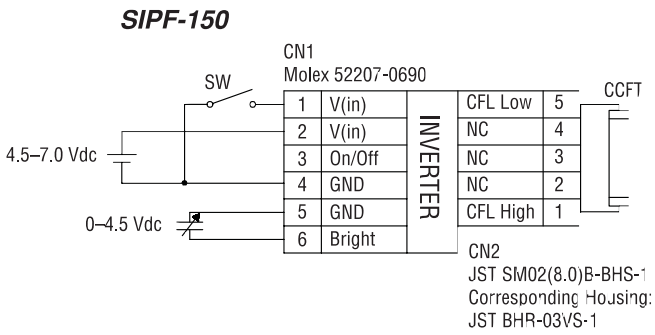
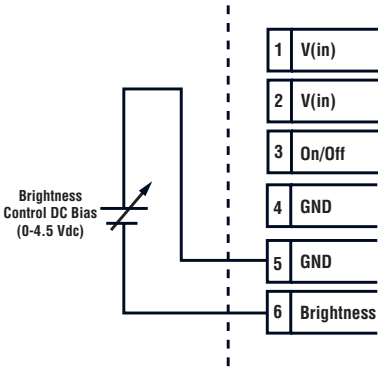
Tech Notes

Connection Diagram



Output Current Optimization Method

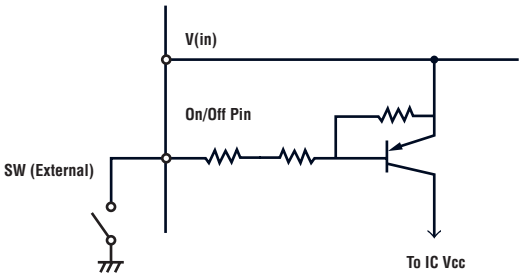
Maximum output current can be adjusted by applying bias voltage between brightness control pins as shown below.



	DC Bias Voltage	Output Current
Luminance Max.	0 Vdc	6.0 mA
Luminance Min.	4.5 Vdc	2.5 mA

On/Off Control

The on/off control is achieved by using the on/off pin on the input side of SIPF150. The circuit for the remote on/off circuitry consists of an active low TTL switch. When the circuit is open, the IC Vcc is cut 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:



1. Tie on/off pin to ground.
2. Add mechanical switch between on/off pin and ground, close switch.
3. Add TTL/CMOS switch between on/off and ground. Circuit must be closed for unit to operate (as shown above right).

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.