



SPECIFICATION

ESD08042870

INV16-2001

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1.0 Application & Notice

This DC to AC inverter is designed for the backlight of LCD Panel with 2 CCFLs (Cold Cathode Fluorescent Lamp). And, it is used in CMO 15.6" (M156B1-L01) and other low profile application.

Notice:

- 1.1 For Safety Issue, please keep 4.0mm at least from the metal parts of the system to the inverter. Or, put a high-voltage insulator between the inverter and the metal parts to avoid the situation of Hi-POT failure or arcing---etc.
- 1.2 Don't twist , deform , drop or knock the inverter during assembly.
- 1.3 The inverter is usually designed without the case. Please take care about ESD at anytime.
- 1.4 Due to the characteristic of Panels, the brightness is sensitive about Temperature. You must measure it in the same condition and waiting for power on 10~30 minutes.

2.0 Environment Characteristics

2.1 Temperature:

Storage : 0°C ~ 60°C.
Operating : 0°C ~ 60°C
Transport Temp.: -25°C ~ 60°C

2.2 Humidity:

Storage : 10% ~ 95% RH , non-condensing
Operating : 10% ~ 95% RH , non-condensing

2.3 MTBF: 60'000 Hrs @ 25°C

3.0 General Requirements

3.1 Input characteristics

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	REMARK
INPUT VOLTAGE	Vin	17.1	19	20.9	V	
INPUT CURRENT	Iin	-	0.6	0.7	A	Vin=19V,Von/off=5V Vadj=100% duty LOAD:Panel
INPUT POWER	Pin	-	11.4	13.3	W	Vin=19V,Von/off=5V Vadj=100% duty LOAD: Panel
INPUT VOLTAGE	Von/off	0	--	0.8	V	Off State
		2.5	--	5.0		On State
INPUT VOLTAGE	Vadj	30	-	100	%	duty
EFFICIENCY	η	75	-	-	%	Vin=19V,Von/off=5V Vadj=100% duty LOAD:Panel

3.2 Output Characteristics (RL=CMO 15.6" (G156B1-L01) Panel)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	REMARK	
LAMP CURRENT	IL	7.0	7.5	8.0	mA	Vin=19V,Von/off=5V Vadj=100% duty LOAD: Panel	
LAMP CURRENT	IL	3.0	3.5	4.0	mA	Vin=19V,Von/off=5V Vadj=30% duty LOAD: Panel	
LAMP VOLTAGE	VL(REF.)	585	650	715	Vrms	Vin=19V,Von/off=5V Vadj=100% duty LOAD: Panel	
FREQUENCY	FL	40	55	60	KHz	Vin=19V,Von/off=5V Vadj=100% duty LOAD: Panel	
OUTPUT OPEN VOLTAGE	Vs	--	1200	--	Vrms	Vin=19V,Von/off=5V Vadj=100% duty LOAD: ∞	
OUTPUT OPEN	VL	LATCH					Vin=19V,Von/off=5V Vadj=100% duty When CN2 LOAD = ∞
OUTPUT SHORT	VL	LATCH					Vin=19V,Von/off=5V Vadj=100% duty High Voltage short to GND

3.2.1 Output Characteristics (RL=90KΩ//15P)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	REMARK	
LAMP CURRENT	IL	6.7	7.4	8.1	mA	Vin=19V,Von/off=5V Vadj=100% duty LOAD: 90KΩ//15P	
LAMP CURRENT	IL	3.2	3.8	4.4	mA	Vin=19V,Von/off=5V Vadj=30% duty LOAD: 90KΩ//15P	
LAMP VOLTAGE	VL(REF.)	--	600	--	Vrms	Vin=19V,Von/off=5V Vadj=100% duty LOAD: 90KΩ//15P	
FREQUENCY	FL	40	55	65	KHz	Vin=19V,Von/off=5V Vadj=100% duty LOAD: 90KΩ//15P	
OUTPUT OPEN VOLTAGE	Vs	--	1200	--	Vrms	Vin=19V,Von/off=5V Vadj=100% duty LOAD: ∞	
OUTPUT OPEN	VL	LATCH					Vin=19V,Von/off=5V Vadj=100% duty LOAD: ∞
OUTPUT SHORT	VL	LATCH					Vin=19V,Von/off=5V Vadj=100% duty High Voltage short to GND

3.3 Pin Assignments

DC Input : Location: CN1

Connector type: JST B7B-PH-K-S or Equivalent

Pin No.	Symbol	Description
5,6	Vin	19V
1	Von/off	On/off Control
2	Vadj	Brightness
3,4	Gnd	Power return

AC Output: Location: CN2,CN3

Connector type: JST SM02B-BHSS-1-TB or Equivalent

Pin No.	Symbol	Description
1	Vout -H	High Voltage
2	Vout -L	RETURN

3.4 Test Equipment

Oscilloscope : Tektronix TDS3012B , High Voltage Probe : Tektronix P6015A

Multi-Meter : FLUKE45

4.0 Mechanical Characteristics

Item	L*W*H (mm)	For use with
Dimension	130 x 32 x 10.6	15.6" LCD's

5.0 The spec. change list

Item	Revision	Descriptions	Date
	01	Initial spec. release	2008/08/12
	02	From 6.9mA~8.1mA change to 6.7mA~8.1mA	2008/09/11