

DESCRIPTION :

This DC to AC Inverter was developed for many other low LCD Backlight power supply as low profile applications, either for LCD Monitor or Industrial PC.

APPLICABLE LCD:

??? inches quad lamp type

- Lamp Voltage 660V
- Lamp Current 5.5mA
- Lamp Start Up Voltage 1600Vrms (Vin : 12V)



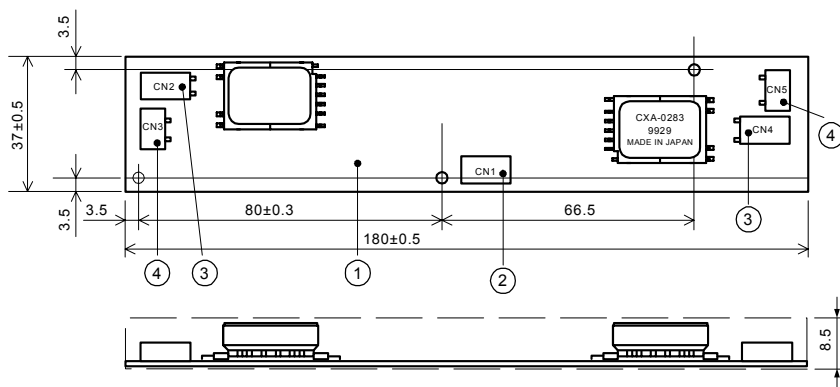
FEATURES :

- Current Feedback Circuit
- High Efficiency
- Low noise with voltage resonant circuit
- Regulated output current

TEMPERATURE & HUMDITY :

- Operating Temperature Range 0 ° C ~ +60° C
- Storage Temperature Range -30 ° C ~ +85° C
- Humidity 95 %RH max

DIMENSIONS :



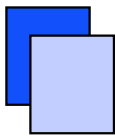
Unit : mm
Weight : 43.0(g) typ.

No.	Part Discription	Qty.	Material	Note
1	PCB	1	UL94V-0 (FR-4 or CEM-3)	t=1mm
2	Connector CN1	1	S7B-PH-SM3	JST
3	Connector CN2,4	2	SM02B-BHSS-1	JST
4	Connector CN3,5	2	SM02(4.0)B-BHS-1	JST

Power Systems – The Power Solution

Web: www.Power-Systems.de
Email: Info@Power-Systems.de

Address: Dörnet 8 ; 74360 Ilsfeld-Auenstein / Germany
Tel. : + 49 / 70 62 / 67 59 - 6
Fax: + 49 / 70 62 / 67 59 - 80



Input Side CN1:

Pin No.	Symbols	Ratings
CN 1-1	Vin	10.8~13.2V
CN 1-2	GND	0V
CN 1-3		
CN 1-4	Vbr	0~2.5V
CN 1-5		
CN 1-6	Vst	0V/5V
CN 1-7	Vrmt	0V/2.5~Vin 0~0.4V: OFF 2.5~Vin V: ON

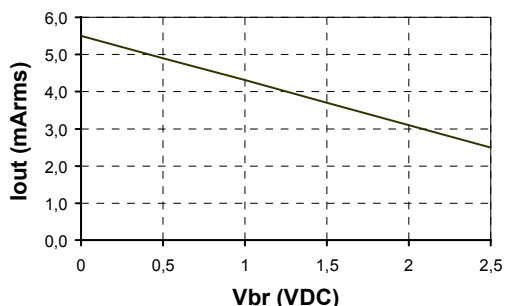
Output Side CN2,3,4,5:

Pin No.	Symbols	Ratings
CN 2-1	VHIGH1	660 Vrms
CN 2-2	VHIGH2	660 Vrms
CN 3-1	VLOW1	(2V)
CN 3-2	VLOW2	(2V)
CN 4-1	VHIGH3	660 Vrms
CN 4-2	VHIGH4	660 Vrms
CN 5-1	VLOW3	(2V)
CN 5-2	VLOW4	(2V)

ELECTRICAL CHARACTERISTICS:

Items	Symbols	Conditions				Specification			Unit	
		Vin (V)	Vrmt (V)	Vbr (V)	Ta (°C)	RL1~4(KΩ) // CL1~4(pF)	Min.	Typ.		Max.
Output Current	Iout	12±1.2	5±0.25	0	0~60	135~145//5	5.0	5.5	6.0	mArms
Input Current	Iin1	12±0.6		0		140//5	-	1.7	2.5	A DC
	Iin2			135~145//5		-	-	1	mA DC	
Frequency	F1	12±0.6		0		135~145//5	40	45	50	kHz
	F2 (Duty)			2.5			120	140	160	Hz
Open Circuit Voltage	Vopen	10.8±1.2		0		∞	1500	1600	-	Vrms
Dimming Function	Iout1/2	12±1.2		2.5		135~145//5	1.8	2.5	3.2	mArms
Warning Signal	Vst	12±1.2	0	135~145//5	4.5	5.0	5.5	VDC		
				135~145//5	-	0	0.5			

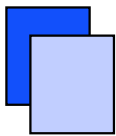
DIMMING CHARACTERISTICS (Reference):



Power Systems – The Power Solution

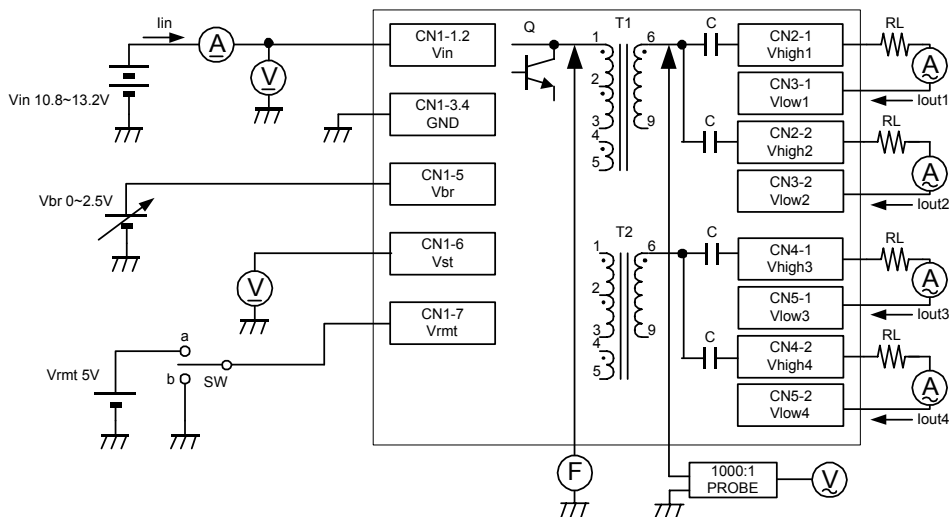
Web: www.Power-Systems.de
 Email: Info@Power-Systems.de

Address: Dörnet 8 ; 74360 Ilfeld-Auenstein / Germany
 Tel. : + 49 / 70 62 / 67 59 - 6
 Fax: + 49 / 70 62 / 67 59 - 80

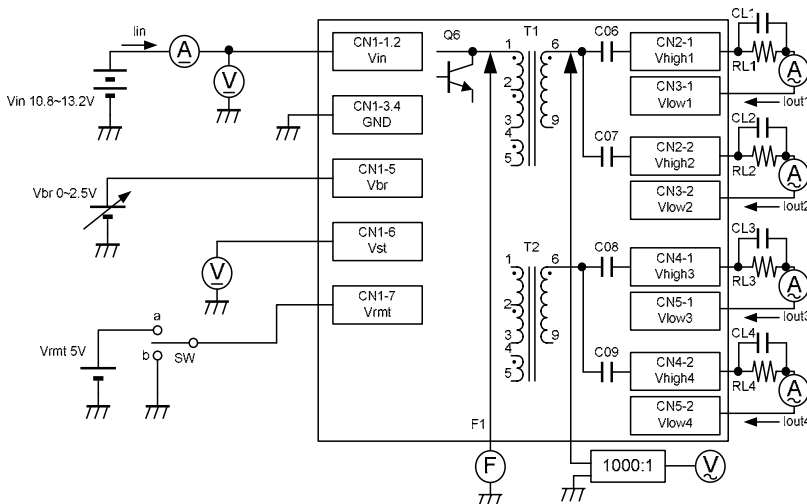


APPLICATION (for example)

Voltage Dimming Type



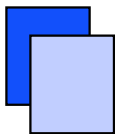
TEST CIRCUIT:



Power Systems – The Power Solution

Web: www.Power-Systems.de
Email: Info@Power-Systems.de

Address: Dörnet 8 ; 74360 Ilfeld-Auenstein / Germany
Tel. : + 49 / 70 62 / 67 59 - 6
Fax: + 49 / 70 62 / 67 59 - 80



- Note 1. For circuit connection, please refer to test circuit diagram
- Note 2. Please use minimum of 2mm clearance (all directions) between inverter high voltage area and any conductors. Please refer to mechanical drawing for marking of high voltage area.
- Note 3. Open voltage (strike voltage) is measured across the transformer secondary winding at no load as the reading at the output connector would be less than the actual value.
- Note 4. If the start voltage falls below Cold Cathode Tube strike voltage, the CCFL will not light up easily specially at lower ambient temperature. Please review mounting instruction to avoid any abnormal operation due to coupling/leakage capacitance of inverter high voltage area to any surrounding conductor.
- Note 5. Please check your lamp characteristic for minimum operational current and set the limit point in your design to avoid flickering and/or abnormal operation.
- Note 6. For proper operation of circuit protection (FUSE or IC PROTECTOR), please use minimum of 4A capacity for input power supply.
- Note 7. The recommendation range of V_{br} is 0 to 1.3V and normal dimming range is 1.3 to 1.5V. However each lamp has different characteristics, therefore care must be taken to check brightness with using lamp and DC to AC Inverter units combination to avoid flickering or other problems.
- Note 8. The test circuits added 5pF capacitor across the load resistor for LCD backlight stay capacitor.
- Note 9. If the inverter detects open circuit all lamps for more than 3 seconds it will shut down.
- Note 10. In the test circuit, if anyone of loads open, then the warning signal will be activated (+5V).
- Note 11. The warning output 5V in abnormal circumstances.