Endicott Research Group, Inc.
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8m053167

Specifications and Applications Information

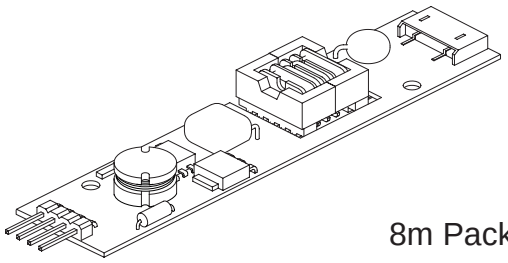
08/16/04 Preliminary

8m Class
DC to AC Inverter

The ERG 8m053167 **(8m Class)** low profile dc to ac inverter is specifically designed to power the Kyocera TCG057QV1AA-G00 LCD display module to a moderate brightness level from a +5 volt dc source.

This low profile inverter features:

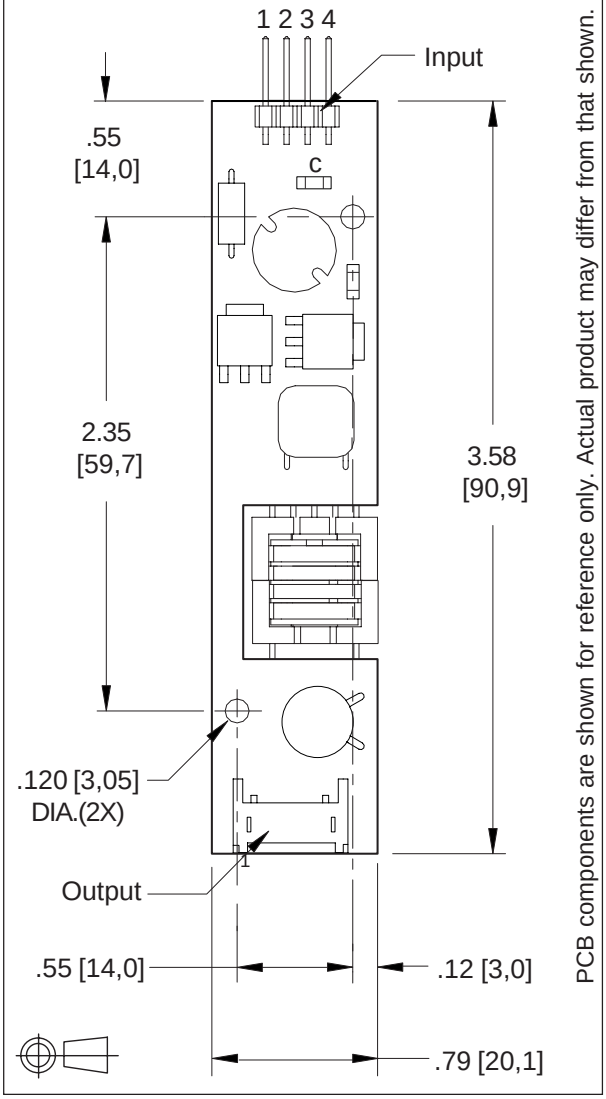
- ✓ Less Than 8 mm in Height
- ✓ LCD Module Specific
- ✓ Display Compatible Output Connector
- ✓ Firm Specifications
- ✓ Application Information
- ✓ Designed, Manufactured and Supported in the USA
- ✓ Custom Input and Output Voltages
- ✓ Flexible System Interface
- ✓ Notebook Display Head Compatible



8m Package

PCB components are shown for reference only. Actual product may differ from that shown.

Package Configuration



Connectors	
Input Connector	**Output Connector**
4 pins are 0.315" [8,00] Long, 0.025" [0,63] Square and are on 0.100" [2,54] Centers.	JST SM02(8.0)B-BHS-1-TB
J1-1 Vin(+) J1-2 GND J1-3 Control * J1-4 N/C * Valid when the "C" jumper is removed	J2-1 ACout J2-2 N/C J2-3 ACout

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Absolute Maximum Ratings

Rating	Symbol	Value	Units
Input Voltage Range	Vin	-0.3 to +5.5	Vdc
Operating Temperature	To	-10 to +70	°C
Storage Temperature	Tstg	-40 to +85	°C

Recommended Operating Conditions

Rating	Symbol	Value	Units
Input Voltage	Vin	+4.50 to 5.25	Vdc

Electrical Characteristics

Unless otherwise noted Vin = 5.00 Volts dc and Ta = 25°C

Characteristic	Symbol	Min	Typ	Max	Units
Input Current (note 1)	Iin	-	.70	.81	Adc
Operating Frequency	Fo	35	40	45	KHz
Minimum Output Voltage	Vout (min)	1550	-	-	Vrms
Efficiency	-	-	82	-	%
Output Current (per tube)	Iout	-	4.2	-	marms
Output Voltage (When powering a load simulating the referenced display)	Vout	-	685	-	Vrms
Pin3 Input Current Requirement	-	-	9	-	madc

After tube has been allowed to warm-up for 5 minutes
External Disable Circuit shown on page 3.

Specifications subject to change without notice.

(Note 1) Input current in excess of maximum may indicate a load/inverter mismatch condition, which can result in reduced reliability. Please contact ERG technical support.

Application Notes:

1) The minimum distance from high voltage areas of the inverter to any conductive material should be .12 inches per kilovolt of starting voltage.
2) Mounting hardware should be non-conductive.
3) Open framed inverters should not be used in applications at altitudes over 10,000 feet.
4) Contact ERG for possible exceptions.

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Made in USA

3 Dimming Options

(Valid when the "C" jumper is removed)

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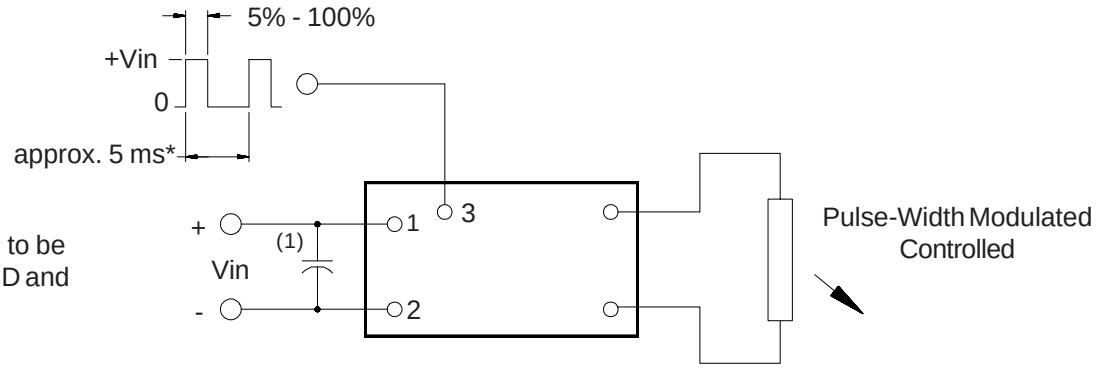
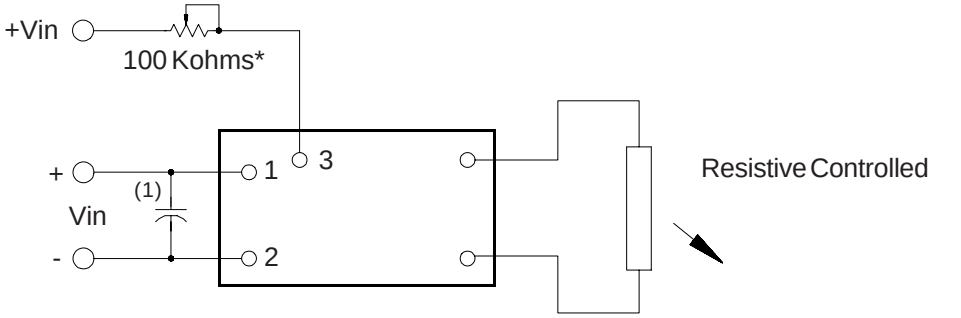


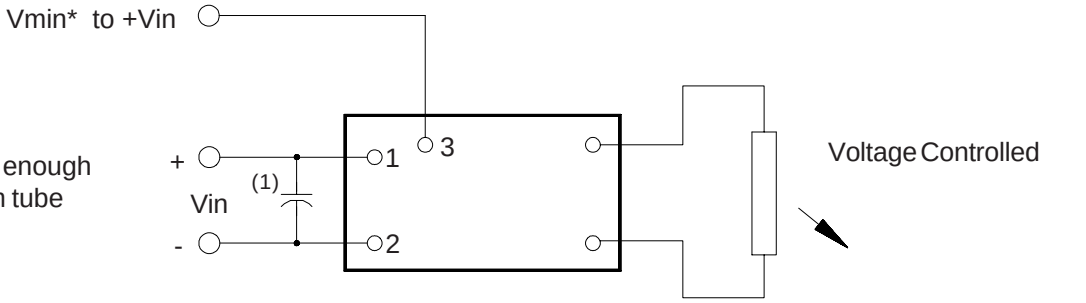
* should be selected to be compatible with LCD and display driver

Pulse-Width Modulated Controlled



* value should be low enough to maintain minimum tube current at minimum brightness

Resistive Controlled

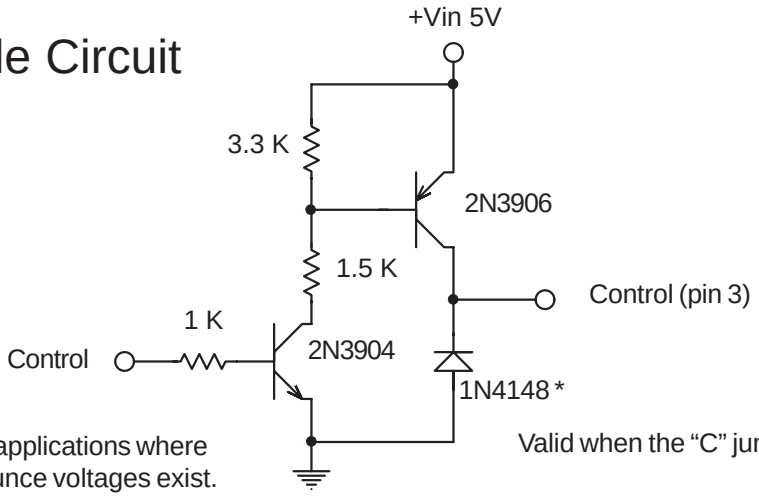


* Vmin should be high enough to maintain minimum tube current

Voltage Controlled

Note 1 Low ESR type Input by-pass capacitor (22 uf - 100uf) may be required to reduce reflected ripple.

Disable Circuit



* Remove 1N4148 in applications where excessive ground bounce voltages exist.

Valid when the "C" jumper is removed