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**DMC42541**

**Specifications and Applications Information**

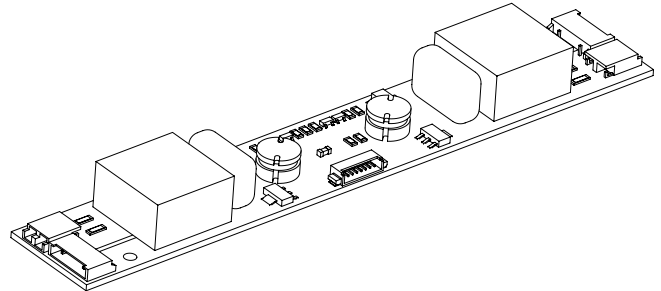
05/01/04

Preliminary

**Four Tube  
 DC to AC Inverter**

The ERG DMC42541 (DMC4 Series) DC to AC inverter features onboard connectors and can be easily dimmed using an external pulse-width modulated control signal. This unit is less than 13mm in height and the two mounting holes makes installation very straight forward.

Powered by a regulated 12 volt DC source the DMC42541 is specially designed to power the Sharp LQ150V1DG11 backlights.

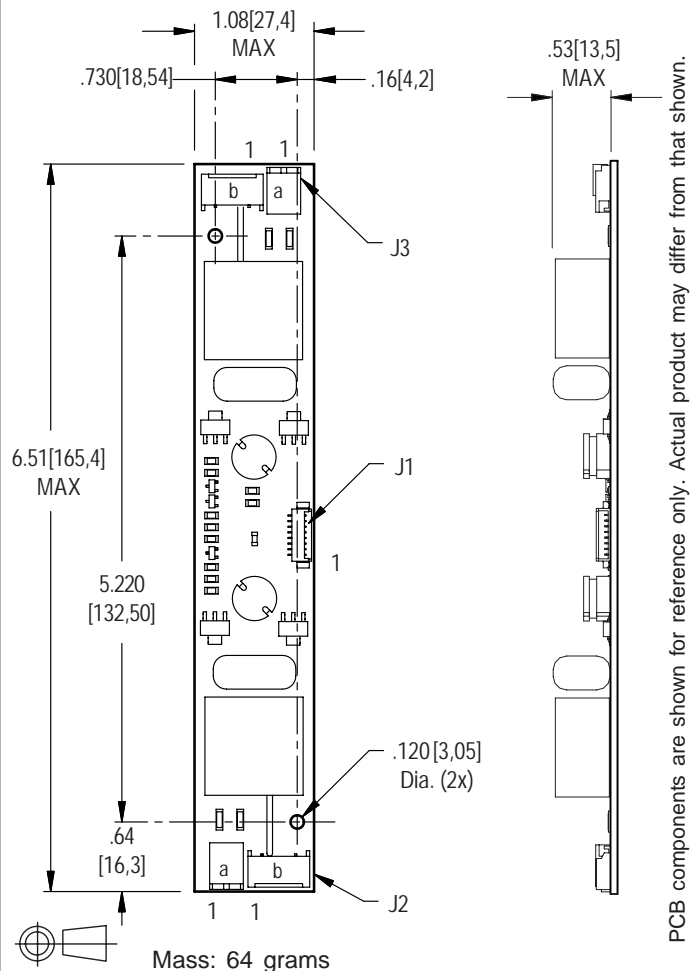


**DMC4 Package**

**Product Features**

- ✓ Small Package Size, less than 13mm in height.
- ✓ High Efficiency
- ✓ Made in U.S.A.

**Package Configuration**



**Connectors**

<b>J1 - (Input)</b> MOLEX 532-61-0890	<b>J2a,J3a - (Outputs)</b> JST SM02B-BHSS-1-TB	
	J2a,J3a-1 J2a,J3a-2	AC <sub>out</sub> AC <sub>out</sub>
J1-1 V <sub>in</sub> J1-2 V <sub>in</sub> J1-3 GND J1-4 GND J1-5 Enable J1-6 N/C J1-7 N/C J1-8 N/C	<b>J2b,J3b - (Outputs)</b> JST SM02(4.0)B-BHS-1-TB	
	J2b,J3b-1 J2b,J3b-2	AC <sub>com</sub> AC <sub>com</sub>



## Absolute Maximum Ratings (Note 1)

Rating	Symbol	Value	Units
Input Voltage	$V_{in}$	-0.3 to +13.2	Vdc
Enable	$V_{Enable}$	-0.3 to +13.2	Vdc
Operating Temperature	$T_a$	-0 to +85	°C
Storage Temperature	$T_s$	-40 to +85	°C

## Recommended Operating Conditions

Rating	Symbol	Value	Units
Input Voltage	$V_{in}$	+10.8 to 12.6	Vdc
Operating Temperature <small>(Note 2)</small>	$T_a$	0 to +50	°C

## Electrical Characteristics

Unless otherwise noted  $V_{in} = 12.00$  Volts dc and  $T_a = 25^\circ\text{C}$

Characteristic	Symbol	Min	Typ	Max	Units
Input Current	$I_{in}$	-	1.6	2.0	$A_{DC}$
Input Ripple Current	$I_{rip}$	-	-	-	$mA_{pk-pk}$
Operating Frequency	$F_o$	34	39	44	KHz
Efficiency	$\eta$	-	86	-	%
Output Voltage (no load) <small>(Note 3)</small>	$V_{start}$	1500	-	-	V
Output Voltage (with lamp)	$V_{out}$	-	690	-	V
Output Current (per tube)	$I_{out}$	-	6.1	-	$mA_{rms}$
<b>Enable (pin J1-5)</b>					
Turn-off Threshold	$V_{thoff}$	-	-	.7	V
Turn-On Threshold	$V_{thon}$	2	-	-	V

**(Note 1)** Reliable and predictable operation of the device are not guaranteed with applied stresses at or beyond those listed in "Absolute Maximum Ratings". Operation at these limits may reduce device reliability and is therefore not recommended. Please refer to "Recommended Operating Conditions" for reliable operation of the device.

**(Note 2)** Operation above 50°C is possible if airflow is provided.

**(Note 3)** Provided data is not tested but guaranteed by design.

Input voltage specification modified for clarity on 5/2004.