



**DESCRIPTION**

Microsemi's LX1692A is a cost reduced, third generation Direct Drive CCFL (Cold Cathode Fluorescent Lamp) controller. The integrated controller is optimized to drive CCFL's using resonant full bridge inverter topology.

Resonant full bridge topology provides near sinusoidal waveforms over a wide supply voltage range in order to maximize the life of CCFL lamps, control EMI emissions, and maximize efficiency. This new architecture also provides a wide dimming range.

The LX1692A includes safety features that limit the transformer secondary voltage and protect against fault conditions which include open lamp, broken lamp and short-circuit faults.

The LX1692A regulates the CCFL brightness in three ways: analog dimming, digital dimming, or combined analog and digital dimming methods simultaneously to achieve the widest dimming range (> 60 to 1).

The LX1692A can accept a brightness control signal that is either an analog voltage or a direct low frequency PWM.

The LX1692A also features integrated gate drivers for the four external power MOSFETs.

An integrated 4V LDO powers all internal control circuitry greatly simplifying supply voltage requirements.

The LX1692A is available in a 20-Pin TSSOP.

**IMPORTANT:** For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>  
Protected by U.S. Patents: 5,615,093; 5,923,129; 5,930,121; 6,198,234; Patents Pending

**KEY FEATURES**

- For Wide Voltage Range Inverter Application (7V to 22V)
- Patent resonant strike for unsurpassed striking power combined with best efficiency
- Low Stress to transformers
- Excellent open circuit voltage regulation reduces transformer breakdown voltage requirements while striking higher voltage lamps
- One inverter for multiple panel types
- Wide Dimming Range  
Analog Dimming: >3 to 1  
Digital Dimming : >20 to 1  
Combined: >60 to 1
- Fool-Proof Striking
- Programmable Burst Dimming Frequency
- Programmable Time Out Protection
- Fixed Operating Frequency
- Open lamp voltage protection, Short lamp protection, Arc Protection<sup>1</sup>
- Compatible with Existing Transformers

**BENEFITS**

- Even Display Light Distribution
- Longer Lamp Life with Optimized Lamp Current Amplitude
- Reduced Operating Voltage  
Lowers Corona Discharge and Prolongs Module Life
- High "Nits / Watt" Efficiency  
Makes Less Heat and Brighter Displays

**APPLICATIONS**

- Notebook PC

**PACKAGE ORDER INFO**

T <sub>A</sub> (°C)	<b>PW</b> Plastic TSSOP 20-Pin
	RoHS Compliant / Pb-free
-20 to +85	<b>LX1692AIPW</b>

Note: Available in Tape & Reel. Append the letters "TR" to the part number. (i.e. LX1692AIPW-TR)

<sup>1</sup> Arc protection is provided if the arcing level is enough to be triggered.



**Microsemi**<sup>®</sup>

## INFORMATION

*Thank you for your interest in Microsemi<sup>®</sup> IPG products.*

The full data sheet for this device contains proprietary information.

To obtain a copy, please contact your local Microsemi sales representative. The name of your local representative can be obtained at the following link

<http://www.microsemi.com/contact/contactfind.asp>

**or**

Contact us directly by sending an email to:

[IPGdatasheets@microsemi.com](mailto:IPGdatasheets@microsemi.com)

Be sure to specify the data sheet you are requesting and include your company name and contact information and or vcard.

*We look forward to hearing from you.*