Light-Based Technologies

www.lightbasedtechnologies.com

Power Supplies – Frequently Asked Questions

1) Does Light-Based Technologies own the technology?

Yes, Light-Based Technologies is the owner of this innovative, revolutionary technology.

2) Is the technology patented?

Yes. For more information on our patent pending applications and status, please contact us direct at info@lightbasedtechnologies.com.

3) How do your power supplies work?

LBT power supplies use a new technology that enable companies and users to increase the voltage supplied to what is required for any number of LEDs or other solid state devices in a Series arrangement. For more details, please contact us direct at info@lightbasedtechnologies.com. Light-Based Technologies requires non-disclosure agreements for additional information on how our power supplies work.

4) Does the LBT Power Supply eliminate the need for Series Blocks in Parallel driver technologies?

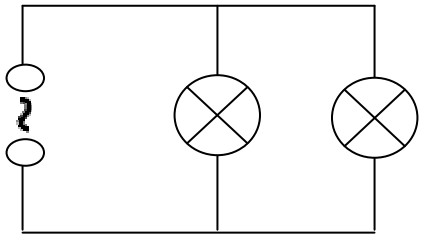
Yes. There is no longer a need to put multiple series blocks in parallel. In fact, with LBT power supplies, the more Series Blocks you add in Series, the more efficient our technology becomes.

Some information to compare traditional technologies to LBT technologies are noted below:

Series Blocks of X Number of LEDs

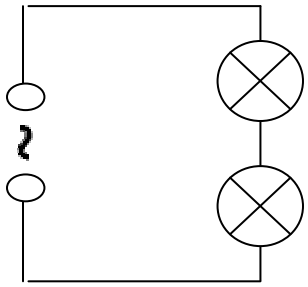
Series Blocks in Parallel Methodology

- Series LEDs drawing 20 mA is common in industry
- Commonly use a full wave rectifier for AC where 120V X 1.4 = 168V for greater series length
- With 168V, you can drive 48 LEDs in series at approximately 20 mA
- With each bank of 48 LEDs paralleled, current draw increases by 20 mA
- Some techniques use Op or Comparator Amplifier on the return side of the LED string to modulate the current flow



LBT Power Supply Methodology

- Use a new technique where you can increase the voltage to what is required for ANY number of LEDs in series
- Simple components required to add regulation and modulation
- No solid state technologies required in the LBT power supply
- Many variations and options relative to your specific requirements



5) Is there a limit to the number of LEDs you can add in Series?

With the right version of LBT power supply, the number of LEDs you can add in Series is almost limitless. For more information, please contact us direct at info@lightbasedtechnologies.com.

6) Is your technology energy efficient?

Yes, LBT power supplies far exceed the best known power supply efficiencies today.

7) Do you have technical support to backup your claims?

Yes.

Table 1 outlines a direct comparison of the best known Series Parallel technologies and LBT Series technologies:

Table 1: Technology Comparison

Stage	Series Parallel *Series Block of 25 LEDs Paralleled in Stages*	LBT Series *Series Blocks of 25 LEDs Connected in Series Stages*	Percentage of Energy Consumption
Stage 1	20 mA	18 -20 mA (or less)	100% (or less)
Stage 2	40 mA	36 mA	90%
Stage 3	60 mA	50.4 mA	84%
Stage 4	80 mA	63.4 mA	79.8%

As you can see, the more Series Blocks you add, the more efficient the supply and LED arrays become.

8) Have you reached your full potential for performance and efficiency?

No. The more tuning we do, the more efficient our supplies get. There are many options and variables that you can control with our technologies, all of which directly affect the efficiency and performance of the supply and associated peripheral components.

Table 2 outlines two versions of our power supply with a significant decrease in mA draw for the entire array of LEDs.

Table 2: Recent Improvements

Current Draw	Version 1: 25 LEDs, 76 volts **8.6 mA**	Version 2: 25 LEDs, 76 volts **8.8 mA**
Parallel Current Draw	215 mA	220 mA
Series Parallel Current Draw *	71.36 mA	73.3 mA
LBT Current Draw	59 mA	41 mA
Conclusion	Total of **12.6 mA less** than Series Parallel and a factor of **1.21** efficiency quotient.	Total of **32.3 mA less** than Series Parallel and a factor of **1.78** efficiency quotient.

* Series Parallel Current Draw is calculated by Parallel Current Draw divided by 3 where 3 banks of 8 LEDs equal 24 LEDs in total.

9) What are your target sizes and price points for your power supplies?

Size and price are directly reflective of SMT versus discrete and quality, respectively. Our aim is to offer power supply technologies that compete with current price points in the market, but with the added features of efficiency and more. Our power supply technology can range anywhere from under $1USD to more than $20USD depending on the size, components and application you are using.

10) Are there optimal features that affect the performance of your power supplies?

To date, the most apparent optimal performance feature is to have voltage supply just above or equal to the voltage drop of the LEDs in series. As new optimal performance variables come available, we will be sure to integrate them into our developments.

If you have questions and they are not answered here, please feel free to contact us directly at info@lightbasedtechnologies.com.