

## Big Chip LED™ Development Kit Brief

### DK-114N Series



#### Overview

DK-114N series development kits are a comprehensive solution designed specifically to support development of Big Chip LED based solutions. The kit includes high-current drivers, efficient thermal management solutions, clean interfaces, and cabling for use with standard laboratory equipment. The inclusion of these components ensures Big Chip LEDs can be operated optimally at any drive condition. Whether this is low power for maximum efficiency, high power for maximum brightness or anywhere in between, the Big Chip DK-114N Development Kit ensures the right performance.

This plug and play solution can easily be connected to standard laboratory equipment through standard connectors and allows system designers to save weeks in their development cycles.

#### Key Features

- Compatibility with all CBT and PT series Big Chip products, with optimization for devices with an emitting area less than 9mm<sup>2</sup>
- Driver board supply currents of 14A with overdrive currents up to 17A
- Available in a single channel or three channel versions

#### Main Features

- Driver circuitry based off of the National Semiconductor LM3433 IC
- Can be operated either in pulsed or continuous waveform (CW) modes
- Static current control via on board dial knob
- Optional dynamic current control by user-supplied external device
- Pulse width modulation input supports pulsed mode operation with duty cycle ranging from 0% - 100%
- Pulse frequencies greater than 40kHz supported
- Fast rise and fall times - less than 1 microsecond
- Fast current level switching - less than 5 microseconds
- Typical thermal resistance of 0.6 °C/W from heat sink to ambient
- Grounded common anode configuration - no electrical isolation between multiple devices is required

## Development Kit Contents

- 1 or 3 driver cards capable of providing 14A
- 1 or 3 compact, high performance, air-cooled heat sinks
- Clean interface board
- Electrical wiring between all boards and Big Chip devices
- Thermal interface materials and mounting hardware
- User manual including step-by-step instructions for set-up and operation of the kit

## User Equipment Required

- Standard 12V laboratory power supply
- Standard instrumentation - Volt meter, Oscilloscope, Photodetector
- Pulse generator for PWM dimming

*Note: Big Chip LED products are not included in the development kits and must be purchased separately.*

## Product Compatibility

Development Kit Part Number	Compatible Big Chip LEDs
DK-114N-1, DK-114N-3	CBT-40*, CBT-90*, CST-90*, SSR-90*, CBT-120† PT-39*, PT-54*, PT-85†, PT-120†
<i>Note *: Recommended product for optimal use</i>	
<i>Note †: Product can be used, but not operated at full power</i>	

## Ordering Information

Ordering Part Number	Product	Description
DK-114N-1	DK-114N Big Chip Development Kit, Single Channel	Single channel development kit, with 14A driver board, heat sink, interface board, cable assemblies and user manual
DK-114N-3	DK-114N Big Chip Development Kit, Triple Channel	Three channel development kit, with 14A driver board, heat sink, interface board, cable assemblies and user manual

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