

### 15 Amp "Current Booster" for PT7750 Series



## Power Trends Products from Texas Instruments

**SLTS050A**

**(Revised 6/30/2000)**

The PT7747 is a high-performance 15 Amp “Current Booster” for the PT7750 Series housed in a 27-pin SIP package. Multiple PT7747 boosters will operate in parallel with the PT7750 Series boosting output current in increments of 15A . Combinations of PT7750s and PT7747 current boosters can easily supply enough power for virtually any multiple megaprocessor application.

A PT7747 current booster adds a parallel output stage driven by the PT7750. As such, the system runs in perfect synchronization providing a low noise solution.

The PT7747 only operates in combination with the PT7750 series and is not a stand-alone product. Therefore please refer the PT7750 series data sheet for performance specifications. The PT7747 also has the same mechanical dimensions and package options as the PT7750 series.

## Features

- 15A Current Boost
- Automatically Tracks Vout of PT7750
- High Efficiency
- Input Voltage Range:  
20V to 28V
- Synchronized with PT7750
- 27-pin SIP Package
- Run up to 4 in Parallel - 75 Amps

## Pin-Out Information

| Pin | Function       | Pin | Function       |
|-----|----------------|-----|----------------|
| 1   | Do not connect | 14  | GND            |
| 2   | Do not connect | 15  | GND            |
| 3   | Do not connect | 16  | GND            |
| 4   | Do not connect | 17  | GND            |
| 5   | Do not connect | 18  | GND            |
| 6   | Do not connect | 19  | GND            |
| 7   | $V_{in}$       | 20  | $V_{out}$      |
| 8   | $V_{in}$       | 21  | $V_{out}$      |
| 9   | $V_{in}$       | 22  | $V_{out}$      |
| 10  | $V_{in}$       | 23  | $V_{out}$      |
| 11  | $V_{in}$       | 24  | $V_{out}$      |
| 12  | Do not connect | 25  | $V_{out}$      |
| 13  | GND            | 26  | Do not connect |
|     |                | 27  | Sync In        |

## Ordering Information

PT77470

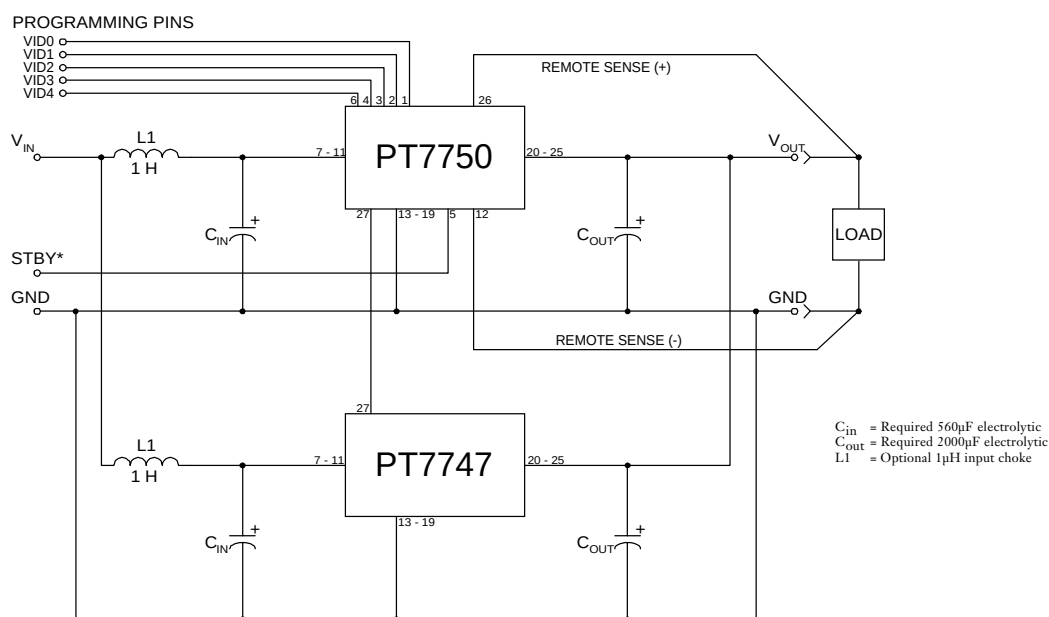
**PT Series Suffix (PT1234X)**

### Case/Pin Configuration

|                          |          |
|--------------------------|----------|
| Vertical Through-Hole    | <b>N</b> |
| Horizontal Through-Hole  | <b>A</b> |
| Horizontal Surface Mount | <b>C</b> |

(For dimensions and PC board layout,  
see Package Styles 1000 and 1010.)

## Standard Application



**Output Capacitors:** The PT7750/PT7747 series requires a minimum output capacitance of 2000µF for proper operation. Do not use Oscon type capacitors. The maximum allowable output capacitance is  $(42,000 + V_{out})\mu F$  for the PT7751,  $(96,000 + V_{out})\mu F$  for the PT7756, or 15,000µF whichever is less.

**Input Filter:** An input inductor is optional for most applications. The input inductor must be sized to handle 9ADC with a typical value of 1 $\mu$ H. The input capacitance must be rated for a minimum of 8.0 Arms of ripple current when operated at maximum output current and maximum output voltage. Contact an applications engineer for input capacitor selection for applications at other output voltages and output currents.



## PACKAGING INFORMATION

| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| PT7747N          | ACTIVE                | SIP MOD ULE  | EJE             | 27   | 8           | TBD                     | Call TI          | Level-1-215C-UNLIM           |

<sup>(1)</sup> The marketing status values are defined as follows:

**ACTIVE:** Product device recommended for new designs.

**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

**NRND:** Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

**PREVIEW:** Device has been announced but is not in production. Samples may or may not be available.

**OBSOLETE:** TI has discontinued the production of the device.

<sup>(2)</sup> Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check <http://www.ti.com/productcontent> for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Pb-Free (RoHS Exempt):** This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

<sup>(3)</sup> MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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### Applications

|                    |                                                                          |
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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
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