

### Description

The PT7741 is a high-output 32 Amp “Current Booster” designed to operate with the PT7775 and PT7779 regulators. Up to two PT7741 boosters will operate in parallel with one regulator, boosting output current in increments of 32A. Combinations of one regulator and PT7741 current boosters can supply enough power for virtually any multiple mega-processor application.

The booster adds a parallel output stage that is driven directly by the regulator. Both operate in perfect synchronization for a low noise solution.

The PT7741 only operates with the PT7775 and PT7779 regulators. It is not a stand-alone product. Please refer to the appropriate data sheet for the performance specifications. The current booster has the same package options as the companion regulators.

### 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 <sub>in</sub> | 20  | V <sub>out</sub> |
| 8   | V <sub>in</sub> | 21  | V <sub>out</sub> |
| 9   | V <sub>in</sub> | 22  | V <sub>out</sub> |
| 10  | V <sub>in</sub> | 23  | V <sub>out</sub> |
| 11  | V <sub>in</sub> | 24  | V <sub>out</sub> |
| 12  | Do not connect  | 25  | V <sub>out</sub> |
| 13  | GND             | 26  | Do not connect   |
|     |                 | 27  | Master Sync In   |

### Ordering Information

#### PT7741□

(For dimensions and PC Board layout, see Package Styles 1020 and 1030.)

#### PT Series Suffix (PT1234X)

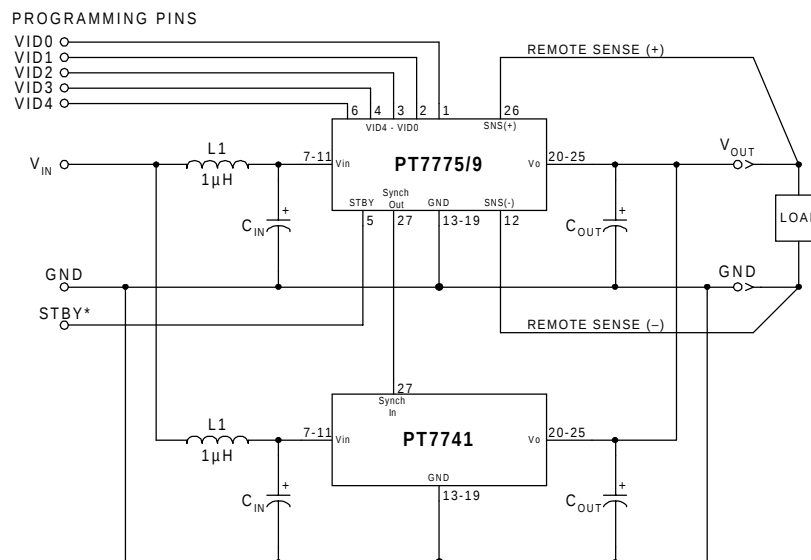
##### Case/Pin Configuration

|                          |   |
|--------------------------|---|
| Vertical Through-Hole    | N |
| Horizontal Through-Hole  | A |
| Horizontal Surface Mount | C |

### Features

- 32A Current Boost
- Tracks V<sub>o</sub> of either a PT7775 or PT7779
- High Efficiency
- Input Voltage Range: 4.5V to 5.5V
- Synchronized with Regulator
- 27-pin SIP Package
- Run up to 2 in Parallel (96A)

### Standard Application



**External Capacitors:** When used with a PT7779, the PT7741 requires a minimum output capacitance of 330µF. The maximum allowable output capacitance is 30,000µF. The PT7741 also requires a minimum input capacitance of 2400µF, which must be rated for a minimum of 2.0Arms of ripple current. For transient or dynamic load applications, additional capacitance may be required. For further information, see the accompanying application note on capacitor selection for this product.

**Input Filter:** An input filter inductor is optional for most applications. The input inductor must be sized to handle 32ADC with a typical value of 1µH.

**PACKAGING INFORMATION**

| Orderable Device | Status<br>(1) | Package Type | Package<br>Drawing | Pins | Package Qty | Eco Plan<br>(2) | Lead/Ball Finish | MSL Peak Temp<br>(3) | Op Temp (°C) | Top-Side Markings<br>(4) | Samples |
|------------------|---------------|--------------|--------------------|------|-------------|-----------------|------------------|----------------------|--------------|--------------------------|---------|
| PT7741A          | LIFEBUY       | SIP MODULE   | EJA                | 27   |             | TBD             | Call TI          | Call TI              |              |                          |         |
| PT7741N          | LIFEBUY       | SIP MODULE   | EJD                | 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.

**OBSELETE:** 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.

<sup>(4)</sup> Only one of markings shown within the brackets will appear on the physical device.

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| DLP® Products                | <a href="http://www.dlp.com">www.dlp.com</a>                                         |
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| Interface                    | <a href="http://interface.ti.com">interface.ti.com</a>                               |
| Logic                        | <a href="http://logic.ti.com">logic.ti.com</a>                                       |
| Power Mgmt                   | <a href="http://power.ti.com">power.ti.com</a>                                       |
| Microcontrollers             | <a href="http://microcontroller.ti.com">microcontroller.ti.com</a>                   |
| RFID                         | <a href="http://www.ti-rfid.com">www.ti-rfid.com</a>                                 |
| OMAP Applications Processors | <a href="http://www.ti.com/omap">www.ti.com/omap</a>                                 |
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### Applications

|                               |                                                                                          |
|-------------------------------|------------------------------------------------------------------------------------------|
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| Computers and Peripherals     | <a href="http://www.ti.com/computers">www.ti.com/computers</a>                           |
| Consumer Electronics          | <a href="http://www.ti.com/consumer-apps">www.ti.com/consumer-apps</a>                   |
| Energy and Lighting           | <a href="http://www.ti.com/energy">www.ti.com/energy</a>                                 |
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| Medical                       | <a href="http://www.ti.com/medical">www.ti.com/medical</a>                               |
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