

**TOTAL POWER INT.**  
**TPS150LBP SWITCHING MODE 150W LOW COST BOX TYPE POWER SUPPLY**  
**WITH POWER FACTOR CORRECTION**



**KEY FEATURES**

- \*Built-in EMI filter
- \*Optional remote sense on main output
- \*Low Cost
- \*Active PFC
- \*Optional constant current change (for single output)

**APPLICATIONS**

- \*Telecommunications/Business machines
- \*Computer peripherals/Medical instruments
- \*Test & industrial equipments

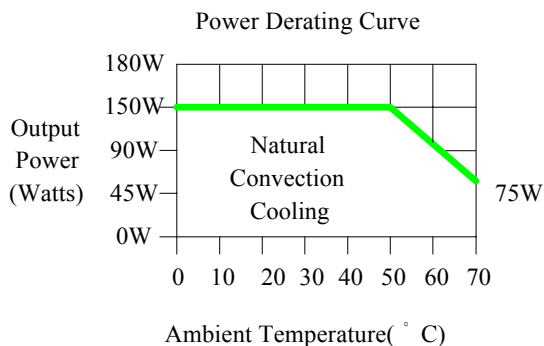
**ELECTRICAL SPECIFICATIONS**

**INPUT**

- Input range-----90~264VAC
- \*Frequency-----47~63Hz
- \*Inrush current-----38A typical, Cold start @25°C, 115VAC
- \*Efficiency-----65%~85% typical at full load
- \*EMI filter-----FCC Class B conducted, CISPR 22  
Class B conducted, EN55022 class B  
Conducted
- \*Line regulation----- +/- 0.5% typical

**OUTPUT**

- \*Maximum power----150W convection (With 17 CFM airflow)
- \*Hold-up time -----10ms typical at full load and 115 VAC  
nominal line
- \*Overload protection-Short circuit protection
- \*Overvoltage  
protection -----Main output 20% to 40% above  
nominal output
- \*Ripple/Noise ----- +/- 1% Max. @full load  
(Optional +/-0.5 % per inquiry)



**EMI & EMC (IN PROCESS)**

- \*FCC part 15, Class B
- \*CISPR 22 / EN55022, Class B
- \*VCCI, Class 2
- \*CE , EN61000-3-2 (Class D) and -3 ; EN61000-4-2,  
-3 , -4 , -5 , -6 and -11

**SAFETY APPROVAL (IN PROCESS)**

- \*UL1950 / c UL
- \*Optional CSA 22.2, LEVEL 3
- \*TUV EN60950
- \*Optional UL 2601(EMI Class A)

**ENVIRONMENTAL**

- \*Operating temperature :  
0 to 50°C ambient; derate each output at 2.5% per  
degree from 50°C to 70°C
- \*Humidity:  
Operating; non-condensing, 5% to 95%
- \*Vibration :  
10~55 Hz at 1G 3 minutes period, 30 minutes along  
X, Y and Z axis
- \*Storage temperature:  
-40 to 85°C
- \*Temperature coefficient:  
+/- 0.05% per degree C
- \*MTBF demonstrated:  
>100,000 hours at full load and 25°C ambient  
conditions

| MODEL                               | OUTPUT<br>VOLTAGE | ADJUSTMENT<br>RANGE | MAXIMUM OUTPUT<br>CURRENT | PEAK OUTPUT<br>CURRENT(NOTE1) | MINIMUM OUTPUT<br>CURRENT | TOTAL<br>REGULATION(NOTE3) | RIPPLE & NOISE<br>%P-P(NOTE2) | PEAK OUTPUT<br>POWER(NOTE1) |
|-------------------------------------|-------------------|---------------------|---------------------------|-------------------------------|---------------------------|----------------------------|-------------------------------|-----------------------------|
| SINGLE OUTPUT MODEL SELECTION CHART |                   |                     |                           |                               |                           |                            |                               |                             |
| TPS150LBP-10                        | +5V               | ±10% Typical        | 30A                       | 39A                           | 0A                        | ±3%                        | ±1%                           | 195W Typical                |
| TPS150LBP-11                        | +12V              | ±10% Typical        | 12.5A                     | 16.2A                         | 0A                        | ±3%                        | ±1%                           | 195W Typical                |
| TPS150LBP-12                        | +15V              | ±10% Typical        | 10A                       | 13A                           | 0A                        | ±3%                        | ±1%                           | 195W Typical                |
| TPS150LBP-13                        | +24V              | ±10% Typical        | 6.26A                     | 8.1A                          | 0A                        | ±3%                        | ±1%                           | 195W Typical                |
| TPS150LBP-14                        | +48V              | ±10% Typical        | 3.12A                     | 4.06A                         | 0A                        | ±3%                        | ±1%                           | 195W Typical                |
| TPS150LBP-15                        | +3.3V             | ±10% Typical        | 30A                       | 39A                           | 0A                        | ±5%                        | ±1.5%                         | 195W Typical                |
| DUA OUTPUT MODEL SELECTION CHART    |                   |                     |                           |                               |                           |                            |                               |                             |
| TPS150LBP-20                        | +5 V              | ±10% Typical        | 17A                       | 21.6A                         | 1.7A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +12V              | Fixed               | 7A                        | 9A                            | 0.7A                      | ±5%                        | ±1%                           |                             |
| TPS150LBP-21                        | +5 V              | ±10% Typical        | 17A                       | 21.6A                         | 1.7A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +24V              | Fixed               | 3.7A                      | 4.7A                          | 0.37A                     | ±5%                        | ±1%                           |                             |
| TPS150LBP-22                        | +5 V              | ±10% Typical        | 17A                       | 21.6A                         | 0.17A                     | ±5%                        | ±1%                           | 195W Typical                |
|                                     | - 5 V             | Fixed               | 17A                       | 21.6A                         | 0.17A                     | ±5%                        | ±1%                           |                             |
| TPS150LBP-23                        | +12V              | ±10% Typical        | 7A                        | 9A                            | 0.7A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | - 12 V            | Fixed               | 7A                        | 9A                            | 0.7A                      | ±5%                        | ±1%                           |                             |
| TPS150LBP-24                        | +15 V             | ±10% Typical        | 5A                        | 6.5A                          | 0.5A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | - 15 V            | Fixed               | 5A                        | 6.5A                          | 0.5A                      | ±5%                        | ±1%                           |                             |
| TPS150LBP-25                        | +3.3V             | ±10% Typical        | 17A                       | 22A                           | 1.7A                      | ±5%                        | ±1.5%                         | 195W Typical                |
|                                     | +12 V             | Fixed               | 8A                        | 10A                           | 0.8A                      | ±5%                        | ±1%                           |                             |
| TPS150LBP-26                        | + 5 V             | ±10% Typical        | 17A                       | 22A                           | 1.7A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +48V              | Fixed               | 1.8A                      | 2.4A                          | 0.18A                     | ±5%                        | ±1%                           |                             |
| TRIPLE OUTPUT MODEL SELECTION CHART |                   |                     |                           |                               |                           |                            |                               |                             |
| TPS150LBP-30                        | + 5V              | ±10% Typical        | 17A                       | 22A                           | 1.7A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +12V              | Fixed               | 7A                        | 9.1A                          | 0.7A                      | ±5%                        | ±1%                           |                             |
|                                     | - 5 V             | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |
| TPS150LBP-31                        | + 5V              | ±10% Typical        | 17A                       | 22A                           | 1.7A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +12V              | Fixed               | 7A                        | 9.1A                          | 0.7A                      | ±5%                        | ±1%                           |                             |
|                                     | -12V              | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |
| TPS150LBP-32                        | + 5V              | ±10% Typical        | 17A                       | 22A                           | 1.7A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +15V              | Fixed               | 5A                        | 6.5A                          | 0.5A                      | ±5%                        | ±1%                           |                             |
|                                     | -15V              | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |
| TPS150LBP-33                        | + 5V              | ±10% Typical        | 24A                       | 31.2A                         | 2.4A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +15V              | Fixed               | 3A                        | 3.9A                          | 0.3A                      | ±5%                        | ±1%                           |                             |
|                                     | - 5 V             | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |
| TPS150LBP-34                        | + 5V              | ±10% Typical        | 22A                       | 28A                           | 2.2A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +15V              | Fixed               | 3A                        | 3.9A                          | 0.3A                      | ±5%                        | ±1%                           |                             |
|                                     | -12V              | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |
| TPS150LBP-35                        | + 5 V             | ±10% Typical        | 15A                       | 20A                           | 1.5A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +24V              | Fixed               | 3A                        | 3.9A                          | 0.3A                      | ±5%                        | ±1%                           |                             |
|                                     | -12V              | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |
| TPS150LBP-36                        | + 5V              | ±10% Typical        | 10A                       | 13A                           | 1A                        | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +12V              | Fixed               | 8A                        | 10.4A                         | 0.8A                      | ±5%                        | ±1%                           |                             |
|                                     | - 12V             | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |
| PS150LBP-37                         | + 5V              | ±10% Typical        | 15A                       | 20A                           | 1.5A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +12V              | Fixed               | 6A                        | 7.8A                          | 0.6A                      | ±5%                        | ±1%                           |                             |
|                                     | +24V              | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |
| TPS150LBP-38                        | + 5V              | ±10% Typical        | 10A                       | 1.3A                          | 1.0A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +12V              | Fixed               | 4A                        | 5.2A                          | 0.4A                      | ±5%                        | ±1%                           |                             |
|                                     | +48V              | Fixed               | 1.2A                      | 1.6A                          | 0.12A                     | ±10%                       | ±1%                           |                             |
| QUAD OUTPUT MODEL SELECTION CHART   |                   |                     |                           |                               |                           |                            |                               |                             |
| TPS150LBP-40                        | + 5V              | ±10% Typical        | 17A                       | 22A                           | 1.7A                      | ±5%                        | ±1%                           | 195W Typical                |
|                                     | +12V              | Fixed               | 6A                        | 7.8A                          | 0.6A                      | ±5%                        | ±1%                           |                             |
|                                     | - 12V             | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |
|                                     | - 5 V             | Fixed               | 1A                        | 1.3A                          | 0.1A                      | ±10%                       | ±1%                           |                             |

| MODEL | OUTPUT<br>VOLTAGE | ADJUSTMENT<br>RANGE | MAXIMUM OUTPUT<br>CURRENT | PEAK OUTPUT<br>CURRENT(NOTE1) | MINIMUM OUTPUT<br>CURRENT | TOTAL<br>REGULATION(NOTE3) | RIPPLE & NOISE<br>%P-P(NOTE2) | PEAK OUTPUT<br>POWER(NOTE1) |
|-------|-------------------|---------------------|---------------------------|-------------------------------|---------------------------|----------------------------|-------------------------------|-----------------------------|
|-------|-------------------|---------------------|---------------------------|-------------------------------|---------------------------|----------------------------|-------------------------------|-----------------------------|

**QUAD OUTPUT MODEL SELECTION CHART**

|              |        |              |      |       |       |      |       |              |
|--------------|--------|--------------|------|-------|-------|------|-------|--------------|
| TPS150LBP-41 | + 5V   | ±10% Typical | 17A  | 21.6A | 1.7A  | ±5%  | ±1%   | 195W Typical |
|              | +12V   | Fixed        | 5A   | 6.5A  | 0.5A  | ±5%  | ±1%   |              |
|              | - 12V  | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
|              | - 5 V  | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
| TPS150LBP-42 | + 5V   | ±10% Typical | 17A  | 22A   | 1.7A  | ±5%  | ±1%   | 195W Typical |
|              | +12V   | Fixed        | 3.5A | 4.5A  | 0.35A | ±5%  | ±1%   |              |
|              | - 15V  | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
|              | +15V   | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
| TPS150LBP-43 | + 5V   | ±10% Typical | 10A  | 13A   | 1A    | ±5%  | ±1%   | 195W Typical |
|              | +12V   | Fixed        | 4A   | 5.2A  | 0.4A  | ±5%  | ±1%   |              |
|              | -15V   | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
|              | - 12V  | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
| TPS150LBP-44 | + 5V   | ±10% Typical | 10A  | 13A   | 1A    | ±5%  | ±1%   | 195W Typical |
|              | +12V   | Fixed        | 2A   | 2.6A  | 0.2A  | ±5%  | ±1%   |              |
|              | - 12V  | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
|              | +48V   | Fixed        | 1.5A | 2A    | 0.15A | ±10% | ±1%   |              |
| TPS150LBP-45 | + 5V   | ±10% Typical | 10A  | 13A   | 1A    | ±5%  | ±1%   | 195W Typical |
|              | +12V   | Fixed        | 3A   | 3.9A  | 0.3A  | ±5%  | ±1%   |              |
|              | - 12V  | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
|              | +24V   | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
| TPS150LBP-46 | +3.3V  | ±10% Typical | 20A  | 26A   | 2A    | ±5%  | ±1%   | 195W Typical |
|              | + 5V   | Fixed        | 10A  | 13A   | 1A    | ±5%  | ±1%   |              |
|              | +12V   | Fixed        | 2A   | 2.6A  | 0.2A  | ±10% | ±1%   |              |
|              | - 12V  | Fixed        | 1A   | 1.3A  | 0.1A  | ±10% | ±1%   |              |
| TPS150LBP-47 | + 3.3V | ±10% Typical | 10A  | 13A   | 1A    | ±5%  | ±1.5% | 195W Typical |
|              | +5V    | Fixed        | 10A  | 13A   | 1A    | ±5%  | ±1%   |              |
|              | +12V   | Fixed        | 4A   | 5.2A  | 0.4A  | ±10% | ±1%   |              |
|              | -12V   | Fixed        | 1A   | 1.3A  | 0.1A  | ±10% | ±1%   |              |

**NOTES:** 1) Peak loads for lasting <30 seconds with a maximum 10% duty cycle are acceptable. Please contact us if need special peak load.  
2) Maximum peak to peak noise expressed as a percentage of output voltage, 20MHz bandwidth, 0.1  $\mu$ F and 47  $\mu$ F Cap. on outputs.  
3) Loading test conditions are set for all outputs at minimum, middle and maximum of loads. Special cross loading requirement is welcomed.  
4) Detailed engineering specification of each model is available for inquiry.  
5) Special output voltage/current inquiry is welcomed.  
6) Specifications subject to change without notice.

TPS150LBP

