

The QL48T30 family of low output voltage through-hole DC-DC converters offers unprecedented performance in the industry-standard quarter-brick format. This is accomplished through the use of patent pending circuit and packaging techniques to achieve ultra-high efficiency, excellent thermal performance, and a very low body profile.

Designed specifically to power low voltage silicon devices, the QL48T30 converters provide high-efficiency single stage conversion directly from a 48 V bus to sub volt levels, eliminating the need for secondary conversion. Low body profile and the preclusion of heat sinks minimize airflow shadowing, thus enhancing cooling for downstream devices. The use of 100% surface-mount technologies for assembly, coupled with Power-One's advanced electric and thermal circuitry and packaging, result in products with extremely high quality and reliability.



**QL48T30 Converter**

**Features**

- RoHS lead-free solder and lead-solder-exempted products are available
- Delivers 30 A output
- High efficiency
- No minimum load required
- No heat sink required
- Low profile: 0.28" (7.2 mm)
- Low weight: 28g (1oz)
- Industry-standard footprint: 1.45 "x 2.30"
- Meets Basic Insulation requirements of EN60950
- Withstands 100 V input transient for 100 ms
- On-board LC input filter
- Fixed-frequency operation
- Fully protected
- Remote output sense
- Output voltage trim range:  $\pm 10\%$
- Output trim via external resistor
- High reliability: calculated MTBF 2.6 million hours per Telcordia TR-332, Method I Case 1
- Positive or negative logic ON/OFF option
- UL 60950 Recognized in U.S. & Canada, and DEMKO certified per IEC/EN60950
- Meets conducted emissions requirements of FCC Class B and EN55022 Class B with external filter

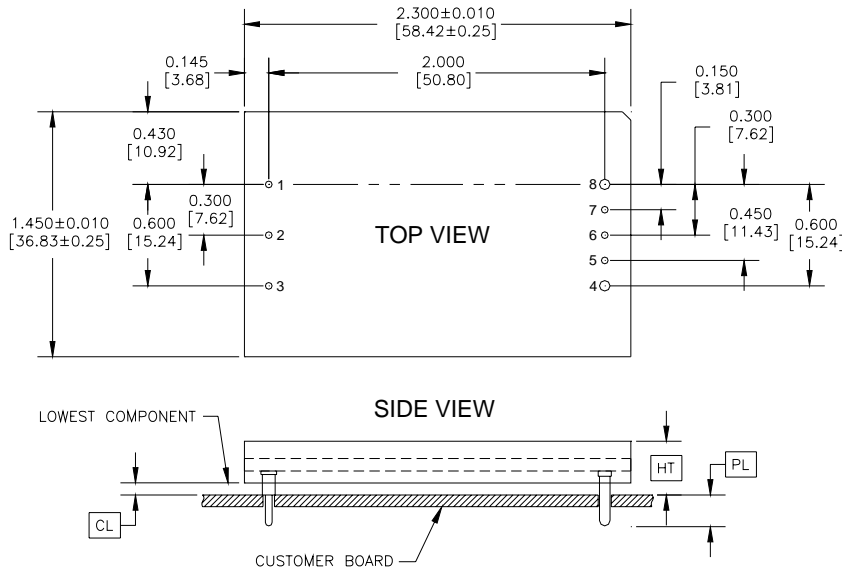
Output Voltage	Efficiency <sup>1</sup>		Output Current	
	15 A Load	30 A Load	40°C 100 LFM	70°C 100 LFM
1.2 V	82.0%	81.0%	30.0 A	28.0 A
1.0 V	80.0%	78.0%	30.0 A	29.0 A
0.8 V	77.0%	75.5%	30.0 A	30.0 A

Vertical orientation, FETs  $\leq 120^{\circ}\text{C}$ . <sup>1</sup> Vin=54 V, 25°C, 300 LFM.

**Applications**

- Telecommunications
- Data communications
- Wireless
- Servers
- DSP's and microprocessors

## Physical Information



Pin Connections	
Pin#	Function
1	Vin (+)
2	ON/OFF
3	Vin (-)
4	Vout (-)
5	SENSE(-)
6	TRIM
7	SENSE(+)
8	Vout (+)

- A
- All dimensions are in inches [mm]
- Pins 1-3 and 5-7 are  $\varnothing 0.040$ " [1.02] with  $\varnothing 0.078$ " [1.98] shoulder
- Pins 4 and 8 are  $\varnothing 0.062$ " [1.02] without shoulder
- Pin material: Brass
- Pin Finish: Tin/Lead over Nickel
- Module Weight: 1 oz [28g]

Height Option	HT (Maximum Height)	CL (Minimum Clearance)	Pin Option	PL (Pin Length)
	+0.000 [+0.00] -0.038 [-0.97]	+0.016 [+0.41] -0.000 [-0.00]		
A	0.303 [7.69]	0.030 [0.77]	A	0.188 [4.77]
B	0.336 [8.53]	0.063 [1.60]	B	0.145 [3.68]
C	0.500 [12.70]	0.227 [5.77]	C	0.110 [2.79]
D	0.400 [10.16]	0.127 [3.23]		

## Converter Part Numbering Scheme

Product Series	Input Voltage	Mounting Scheme	Rated Load Current	Output Voltage		ON/OFF Logic	Maximum Height	Special Features
<b>QL</b>	<b>48</b>	<b>T</b>	<b>30</b>	<b>010</b>	-	<b>P</b>	<b>A</b>	
Low Voltage Quarter-Brick Format	36-75 V	Through-hole	30 A dc	012 $\Rightarrow$ 1.2 V 010 $\Rightarrow$ 1.0 V 008 $\Rightarrow$ 0.8 V		N $\Rightarrow$ Negative P $\Rightarrow$ Positive	A $\Rightarrow$ 0.303" B $\Rightarrow$ 0.336" C $\Rightarrow$ 0.500" D $\Rightarrow$ 0.400"	

The example describes P/N QL48T30010-PA: 48 V input, through-hole mounting, 30 A @ 1.0 V output, positive ON/OFF logic, and a maximum height of 0.303".

### RoHS Ordering Information:

- No RoHS suffix character is required for lead-solder-exemption compliance.
- For RoHS compliance to all six substances, add the letter "G" as the last letter of the part number.

Models highlighted in yellow or shaded are not recommended for new designs.

**NUCLEAR AND MEDICAL APPLICATIONS** - Power-One products are not designed, intended for use in, or authorized for use as components in life support systems, equipment used in hazardous environments, or nuclear control systems without the express written consent of the respective divisional president of Power-One, Inc.

**TECHNICAL REVISIONS** - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.