

## Dual Output Half-Brick DC-DC Converters

### Features

- ◆ Industry Standard Footprint & Pinouts
- ◆ Telecom Approvals & Compliance
- ◆ Zero Pre-load Current
- ◆ 24 or 48VDC input
- ◆ Level B EMI with External Filtering
- ◆ Remote On / Off
- ◆ ASIC Design
- ◆ No-preload requirements
- ◆ No potting materials used



### Key Market Segments & Applications

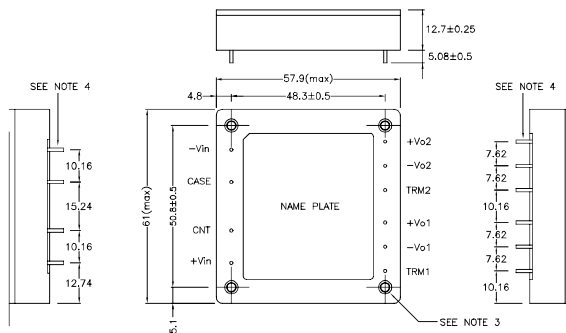


| Specifications                  |                  |                                                                                                        |            |             |            |            |                         |           |            |  |
|---------------------------------|------------------|--------------------------------------------------------------------------------------------------------|------------|-------------|------------|------------|-------------------------|-----------|------------|--|
|                                 |                  | 2518                                                                                                   |            | 3318        |            | 3325       |                         | 5033      |            |  |
| Model                           |                  | Vo1                                                                                                    | Vo2        | Vo1         | Vo2        | Vo1        | Vo2                     | Vo1       | Vo2        |  |
| Nominal Output Voltage          | V                | 2.5                                                                                                    | 1.8        | 3.3         | 1.8        | 3.3        | 2.5                     | 5.0       | 3.3        |  |
| Output Current (Max)            | A                | 15                                                                                                     | 15         | 15          | 15         | 15         | 15                      | 15        | 15         |  |
| Total Output Power (Max)        | W                | 45                                                                                                     |            | 50          |            | 60         |                         | 75        |            |  |
| Efficiency (Typ at 48VDC input) | %                | 74                                                                                                     |            | 78          |            | 78         |                         | 82        |            |  |
| Input Voltage Range             | -                | 36 ~ 76VDC                                                                                             |            |             |            |            | 18 ~ 36VDC or 36 ~76VDC |           |            |  |
| Input Current (Typ) 24/48Vnom   | A                | -1.06                                                                                                  |            | -1.33       |            | 2.71/1.33  |                         | 3.91/1.91 |            |  |
| Output Voltage Accuracy         | %                | ±2                                                                                                     |            |             |            |            |                         |           |            |  |
| Output Voltage Adjustment       | V                | 2.5 ~ 2.75                                                                                             | 1.8 ~ 1.98 | 2.97 ~ 3.63 | 1.8 ~ 1.98 | 2.97~ 3.63 | 2.25 ~ 2.75             | 4.5 ~ 5.5 | 2.97~ 3.63 |  |
| Max Ripple & Noise              | mV               | 75                                                                                                     | 75         | 100         | 75         | 100        | 75                      | 100       | 100        |  |
| Max Line Regulation             | mV               | ±6.6                                                                                                   | ±6.6       | ±6.6        | ±6.6       | ±6.6       | ±6.6                    | ±10       | ±6.6       |  |
| Max Load Regulation             | mV               | ±16.5                                                                                                  | ±16.5      | ±16.5       | ±16.5      | ±16.5      | ±16.5                   | ±25       | ±16.5      |  |
| Over Current Protection (1)     | %                | 105-165                                                                                                | 105-165    | 105-165     | 105-165    | 105-165    | 105-165                 | 105-165   | 105-165    |  |
|                                 | A                | Vo2@0A                                                                                                 | Vo1@5A     | Vo2@0A      | Vo1@5A     | Vo2@0A     | Vo1@5A                  | Vo2@0A    | Vo1@5A     |  |
| Over Voltage Protection         | %                | 115-140                                                                                                | 115-150    | 115-140     | 115-150    | 115-140    | 115-140                 | 125-145   | 115-140    |  |
| Operating Temperature           | -                | -40°C ~ +100°C (Baseplate)                                                                             |            |             |            |            |                         |           |            |  |
| Cooling                         | -                | Conduction cooled                                                                                      |            |             |            |            |                         |           |            |  |
| Isolation Voltage               | -                | Input-Output : 1.5kVDC, Input-Baseplate:1.5kVDC (20mA) for 1 min<br>Output-Baseplate: 500VDC for 1 min |            |             |            |            |                         |           |            |  |
| Shock                           | m/s <sup>2</sup> | 196.1                                                                                                  |            |             |            |            |                         |           |            |  |
| Safety Agency Approvals         | -                | UL60950-1, CSA60950-1, EN60950-1, CE Marking (48V input only)                                          |            |             |            |            |                         |           |            |  |
| Weight (Typ.)                   | g                | 80                                                                                                     |            |             |            |            |                         |           |            |  |
| Vibration                       | -                | Non Operating, 10-55Hz (Sweep for 1min.)                                                               |            |             |            |            |                         |           |            |  |
|                                 | -                | Amplitude 0.825mm Constant (Maximum 49.0m/s <sup>2</sup> ) X, Y, Z 1 hour each                         |            |             |            |            |                         |           |            |  |
| Size (W×H×D)                    | mm               | 57.9 x 12.7 x 61 (Refer to outline drawing)                                                            |            |             |            |            |                         |           |            |  |

(1) Other channel at output current specified.

# OBSOLETE

### Dual Output Outline Drawing



M3 tapped holes (4) for customer chassis mounting.

All of the terminals: 10-Ø1.0 mm

### PAH Series Dual Output

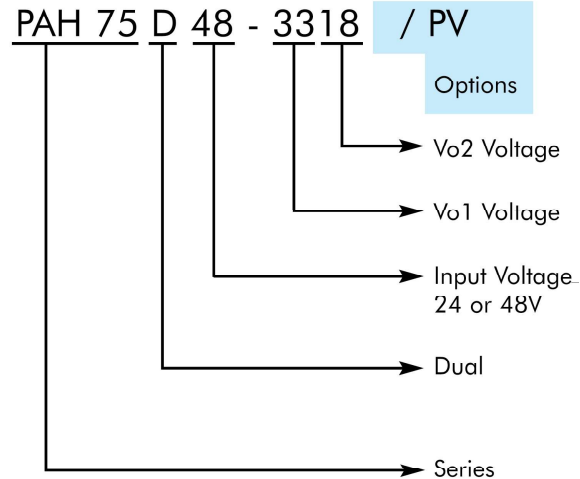
| PIN# | Description | Function                     |
|------|-------------|------------------------------|
| 1    | -Vin        | Negative Input Terminal      |
| 2    | CASE        | Baseplate Terminal           |
| 3    | CNT         | ON/OFF Control Terminal      |
| 4    | +Vin        | Positive Input Terminal      |
| 5    | +VO2        | VO2 Positive Output Terminal |
| 6    | -VO2        | VO2 Negative Output Terminal |
| 7    | TRM2        | VO2 Output Adjust. Terminal  |
| 8    | +VO1        | VO1 Positive Output Terminal |
| 9    | -VO1        | VO1 Negative Output Terminal |
| 10   | TRM1        | VO1 Output Adjust. Terminal  |

### Options

| Suffix | ON/OFF Control | OVP          |
|--------|----------------|--------------|
| -      | Negative       | Manual Reset |
| /P     | Positive       | Manual Reset |
| /V*    | Negative       | Auto Restart |
| /PV    | Positive       | Auto Restart |

\* standard US stock item

### PAH Series Model Number Example



For Additional Information, please visit  
[us.tdk-lambda.com/lp/products/pah-series.htm](http://us.tdk-lambda.com/lp/products/pah-series.htm)



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