

## 300W Single Output, Convection Cooled Power Supplies

### Features

- ◆ Universal Input (85 - 265VAC)
- ◆ Power Factor Corrected
- ◆ Convection cooling (300W) or Forced Air (336-338W)
- ◆ Five year warranty
- ◆ Less than 0.5mA earth leakage current



### Key Market Segments & Applications



| Specifications                                 |         | ZWS300BAF   |
|--|---------|---|
| Model  |         | ZWS300BAF   |
| Input Voltage                                  | V       | 85-265VAC (47-63Hz), 120-370VDC <sup>(5)</sup>  |
| Input Current                                  | A       | 3.7 / 1.9 (Convection cooled rating)  |
| Inrush Current <sup>(1)(2)</sup>               | A       | 15 / 30   |
| Power Factor                                   | -       | 0.97 at 100VAC, 0.93 at 200VAC, Meets EN61000-3-2   |
| Leakage Current                                | mA      | 0.5mA Max. Typically 0.2mA (100VAC), 0.4mA (230VAC)   |
| Off Load Power Draw                            | W       | Typically 0.1W at 100VAC, 0.5W at 200VAC, 0.8W at 265VAC when unit is in inhibit  |
| Temperature Coefficient                        | %/°C    | <0.02%/°C   |
| Overcurrent Protection <sup>(3)</sup>          | -       | >116% of convection cooled rated output current (>105% for 12V model)   |
| Overvoltage Protection                         | V       | 12V: 13.8-16.2V, 15V: 17.3-20.3V, 24V: 28.8-33.6V, 36V: 41.4-48.6V, 48V: 55.2-64.8V   |
| Hold Up Time (Typ) <sup>(1)</sup>              | ms      | 18ms at 100VAC input (Convection cooled rating)   |
| Efficiency <sup>(1)</sup>                      | %       | 12 & 15V models: 86 / 89%, 24V, 36V & 48V models: 88 / 91% (Convection cooled rating)   |
| Remote On/Off                                  | -       | Optional, see instruction manual  |
| Operating Temperature<br>12V & 15V Models      | °C      | Convection: -10°C to +70°C, derate linearly to 40% load from 40°C to 70°C<br>1.4m/s Airflow: -10°C to +70°C, derate linearly to 60% load from 50°C to 70°C  |
| Operating Temperature<br>24V, 36V & 48V Models | °C      | Convection: -10°C to +70°C, derate linearly to 40% load from 45°C to 70°C<br>0.7m/s Airflow: -10°C to +70°C, derate linearly to 60% load from 50°C to 70°C<br>1.4m/s Airflow: -10°C to +70°C, derate linearly to 70% load from 60°C to 70°C |
| Storage Temperature                            | °C      | -30 to +75°C  |
| Humidity (non condensing)                      | %RH     | Operating: 30 - 90%RH, Storage: 10 - 90%RH  |
| Cooling  | -       | Convection or forced air  |
| Withstand Voltage                              | -       | Input to Ground 2kVAC (20mA), Input to Output 3kVAC (20mA), Output to Ground 500VAC (20mA) for 1 min.   |
| Isolation Resistance                           | -       | >100M at 25°C & 70%RH, Output to Ground 500VDC  |
| Vibration (non operating)                      | -       | 10 - 55Hz (1 minute sweep), 19.6m/s <sup>2</sup> constant X, Y, Z 1 hour each   |
| Shock  | -       | < 196.1 m/s <sup>2</sup>  |
| Safety Agency Certifications                   | -       | UL60950-1, CSA60950-1, EN60950-1, EN50178 OV II, CE Mark  |
| Conducted & Radiated EMI <sup>(4)</sup>        | -       | EN55011/EN55022-B, FCC Class B, VCCI-B  |
| Immunity                                       | -       | EN61000-4-2 (Ivl2, 3), -3 (Ivl 3), -4 (Ivl 3), -5 (Ivl 3, 4), -6 (Ivl 3), -8 (Ivl 4), -11; EN61000-6-2  |
| Weight (Typ)                                   | g       | 540g (open frame)   |
| Size (WxHxD)                                   | in (mm) | 3.31 x 1.65 x 7.09" (84 x 42 x 180) open frame  |
| Warranty                                       | yrs     | Five Years  |

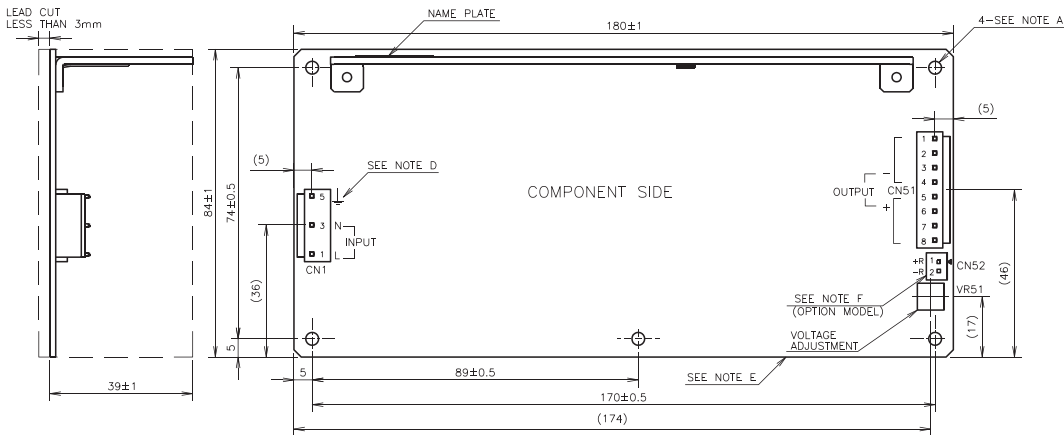
#### Notes:

- (1) 100 / 200VAC Input
- (2) 25°C ambient (cold start)
- (3) Avoid prolonged operation in overload
- (4) Forced air rating: Class A radiated
- (5) Safety certified for AC input only

## Model Selector

| Model       | Output Voltage | Adjustment Range | Max Current Convection | Max Current Forced Air | Line Reg (mV) | Load Reg (mV) | Ripple & Noise (mV) |
|-------------|----------------|------------------|------------------------|------------------------|---------------|---------------|---------------------|
| ZWS300BAF12 | 12V            | 9.6 - 13.2V      | 25A                    | 25A                    | 48            | 100           | 100                 |
| ZWS300BAF15 | 15V            | 13.5 - 20.3V     | 20A                    | 22A                    | 60            | 120           | 120                 |
| ZWS300BAF24 | 24V            | 21.6 - 27.5V     | 12.5A                  | 14A                    | 96            | 150           | 150                 |
| ZWS300BAF36 | 36V            | 32.4 - 39.6V     | 8.4A                   | 9.4A                   | 144           | 240           | 250                 |
| ZWS300BAF48 | 48V            | 39.5 - 52.8V     | 6.3A                   | 7A                     | 192           | 240           | 250                 |

## Outline Drawing



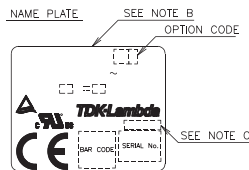
### CONNECTORS USED:

| PART DESCRIPTION              | PART NAME | MANUFACT. | QTY |
|-------------------------------|-----------|-----------|-----|
| PIN HEADER (INPUT SIDE CN1)   | B3P5-VH   | JST       | 1   |
| PIN HEADER (OUTPUT SIDE CN51) | B8P-VH    | JST       | 1   |

\*OUTPUT CURRENT OF EACH CONNECTOR PIN MUST BE LESS THAN 5A.

### MATCHING HOUSINGS, PINS & TOOL (NOT INCLUDED WITH THE PRODUCT):

| PART DESCRIPTION      | PART NAME    | MANUFACT. | QTY |
|-----------------------|--------------|-----------|-----|
| SOCKET HOUSING (CN1)  | VHR-5N       | JST       | 1   |
| SOCKET HOUSING (CN51) | VHR-8N       | JST       | 1   |
| TERMINAL PINS         | SVH-21T-P1.1 | JST       | 11  |
|                       | BVH-21T-P1.1 | JST       | 11  |
| HAND CRIMPING TOOL    | YC-160R      | JST       | -   |



SCALE FOR NAME PLATE : 2/1

### NOTES:

- A: 4- $\phi$ 3.5 HOLES ARE FOR CUSTOMER'S CHASSIS MOUNTING HOLES. ALL MUST BE SCREWED IN ORDER TO CONFORM THE VIBRATION SPEC.
- B: MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, AND MAXIMUM OUTPUT CURRENT ARE SHOWN HERE IN ACCORDANCE WITH THE SPECIFICATIONS.
- C: COUNTRY OF MANUFACTURE WILL BE SHOWN HERE.
- D:  $\downarrow$  IS FOR SAFETY GROUND CONNECTION.
- E: TO KEEP THE DISTANCE MORE THAN 4mm BETWEEN PCB EDGE AND CUSTOMER'S CHASSIS.
- F: OPTION MODEL(ZWS300BAF-\*/R)  
 REMOTE ON/OFF CONTROL CONNECTOR (CN52) : B2B-XH-AM (JST)  
 MATCHING HOUSING : XHP-2 (JST)  
 MATCHING TERMINAL : BXH-001T-P0.6 (JST) OR SXH-001T-P0.6 (JST)  
 HAND CRIMPING TOOL : YC-110R (JST) OR YRS-110 (JST)  
 MATCHING HOUSING AND TERMINAL --- NOT INCLUDED WITH THE PRODUCT

| (unit : mm)       |           |
|-------------------|-----------|
| MODEL NAME        | ZWS300BAF |
| <b>TDK-Lambda</b> |           |
| A254-02-01        |           |

## Options

| Suffix  | Description       |
|---------|-------------------|
| -       | JST Connectors    |
| /L      | L Bracket         |
| /A      | Cover & L Bracket |
| /R      | Remote On/Off     |
| /T      | Screw Terminals   |
| /CO2    | PCB Coating       |
| Example | ZWS300BAF24/TA*   |

\* please contact factory for other combinations of option codes

## Similar Products

|                  |   |
|------------------|---|
| ZWS-B, -BAF, -BP | 10W to 240W Single output                 |
| HWS              | 15W to 1800W Single Output, Enclosed      |
| EFE              | 300W to 400W Single Output, Medical & ITE |
| CFE400M          | 300W to 400W Single Output, Medical & ITE |

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

