

**ZA05 SERIES**
**5 Watts**
**KEY FEATURES**

- Power Module for PCB Mountable
- Low Cost but High Reliability
- 4:1 Wide Input Range
- Regulated Output
- Low Ripple and Noise
- 3-Year Product Warranty


**ELECTRICAL SPECIFICATIONS**

| Model No.                         | ZA05-24-3.3S  | ZA05-24-5S  | ZA05-24-12S | ZA05-24-15S | ZA05-24-24S | ZA05-24-5D   | ZA05-24-12D   | ZA05-24-15D   |
|-----------------------------------|---------------|-------------|-------------|-------------|-------------|--------------|---------------|---------------|
| Max. Output Wattage (W)           | 4W            | 5W          | 6W          | 6W          | 6W          | 5W           | 6W            | 6W            |
| Input Voltage (V.DC.)<br>(Note 3) | 24V (9-36V)   | 24V (9-36V) | 24V (9-36V) | 24V (9-36V) | 24V (9-36V) | 24V (9-36V)  | 24V (9-36V)   | 24V (9-36V)   |
| Output Voltage (V.DC.)            | 3.3V / 1200mA | 5V / 1000mA | 12V / 500mA | 15V / 400mA | 24V / 250mA | ±5V / ±500mA | ±12V / ±250mA | ±15V / ±200mA |
| Efficiency                        | 71%           | 75%         | 82%         | 79%         | 81%         | 75%          | 78%           | 75%           |

| Model No.                         | ZA05-48-3.3S  | ZA05-48-5S   | ZA05-48-12S  | ZA05-48-15S  | ZA05-48-24S  | ZA05-48-5D   | ZA05-48-12D   | ZA05-48-15D   |
|-----------------------------------|---------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|
| Max. Output Wattage (W)           | 4W            | 5W           | 6W           | 6W           | 6W           | 5W           | 6W            | 6W            |
| Input Voltage (V.DC.)<br>(Note 3) | 48V (18-75V)  | 48V (18-75V) | 48V (18-75V) | 48V (18-75V) | 48V (18-75V) | 48V (18-75V) | 48V (18-75V)  | 48V (18-75V)  |
| Output Voltage (V.DC.)            | 3.3V / 1200mA | 5V / 1000mA  | 12V / 500mA  | 15V / 400mA  | 24V / 250mA  | ±5V / ±500mA | ±12V / ±250mA | ±15V / ±200mA |
| Efficiency                        | 71%           | 75%          | 82%          | 82%          | 81%          | 77%          | 83%           | 81%           |

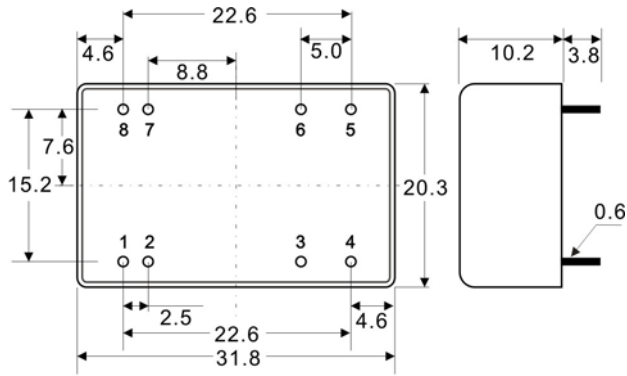
| Model No.              |                                  | ZA05-24-3.3S<br>ZA05-48-3.3S                                        | ZA05-24-5S<br>ZA05-48-5S | ZA05-24-12S<br>ZA05-48-12S | ZA05-24-15S<br>ZA05-48-15S | ZA05-24-24S<br>ZA05-48-24S | ZA05-24-5D<br>ZA05-48-5D | ZA05-24-12D<br>ZA05-48-12D | ZA05-24-15D<br>ZA05-48-15D |
|------------------------|----------------------------------|---------------------------------------------------------------------|--------------------------|----------------------------|----------------------------|----------------------------|--------------------------|----------------------------|----------------------------|
| Max Output Wattage (W) |                                  | 4W                                                                  | 5W                       | 6W                         | 6W                         | 6W                         | 5W                       | 6W                         | 6W                         |
| Input                  | Input Filter                     | π type                                                              |                          |                            |                            |                            |                          |                            |                            |
| Output                 | Voltage (V.DC.)                  | 3.3                                                                 | 5                        | 12                         | 15                         | 24                         | ±5                       | ±12                        | ±15                        |
|                        | Voltage Accuracy                 | ±2%                                                                 |                          |                            |                            |                            |                          |                            |                            |
|                        | Current (mA) max                 | 1200                                                                | 1000                     | 500                        | 400                        | 250                        | ±500                     | ±250                       | ±200                       |
|                        | Line Regulation (LL-HL) (typ.)   | ±0.5%                                                               |                          |                            |                            |                            |                          |                            |                            |
|                        | Load Regulation (10-100%) (typ.) | ±3%                                                                 | ±1%                      | ±1%                        | ±1%                        | ±1%                        | ±1%                      | ±1%                        | ±1%                        |
|                        | Ripple & Noise                   | <0.5% Vout +50mV max (Vp-p)                                         |                          |                            |                            |                            |                          |                            |                            |
| Protection             | Over Power Protection            | Works over 120% of rating and recovers automatically.               |                          |                            |                            |                            |                          |                            |                            |
|                        | Short Circuit Protection         | Current limit, auto-recovery                                        |                          |                            |                            |                            |                          |                            |                            |
| Isolation              | Voltage                          | 1600 VDC.                                                           |                          |                            |                            |                            |                          |                            |                            |
|                        | Resistance                       | 10 <sup>8</sup> ohms                                                |                          |                            |                            |                            |                          |                            |                            |
|                        | Capacitance                      | 1000 pF                                                             |                          |                            |                            |                            |                          |                            |                            |
| Environment            | Operating Temperature            | -25°C...+70°C (at Full Load)                                        |                          |                            |                            |                            |                          |                            |                            |
|                        | Storage Temperature              | -55°C...+105°C                                                      |                          |                            |                            |                            |                          |                            |                            |
|                        | Case temperature                 | +100°C max.                                                         |                          |                            |                            |                            |                          |                            |                            |
|                        | Temperature Coefficient          | ±0.02% Per°C                                                        |                          |                            |                            |                            |                          |                            |                            |
|                        | Humidity                         | 95% RH                                                              |                          |                            |                            |                            |                          |                            |                            |
| Physical               | MTBF                             | >800,000 h @ 25°C (MIL-HDBK-217F)                                   |                          |                            |                            |                            |                          |                            |                            |
|                        | Dimension (L x W x H)            | 1.25 x 0.8 x 0.4 Inches ( 31.8 x 20.3 x 10.2 mm ) Tolerance ±0.5 mm |                          |                            |                            |                            |                          |                            |                            |
|                        | Case Material                    | Five-side shielded Aluminum with Non-Conductive base, Black Anodize |                          |                            |                            |                            |                          |                            |                            |
|                        | Weight                           | 13 g                                                                |                          |                            |                            |                            |                          |                            |                            |
| Cooling Method         |                                  | Free-air convection                                                 |                          |                            |                            |                            |                          |                            |                            |

- 1.All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.
- 2.Ripple & Noise are measured at 20MHz of bandwidth with 0.1μF & 47μF parallel capacitor.
- 3.If Input Voltage <10 VDC needs 1% Minimum Load.

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5 Watts

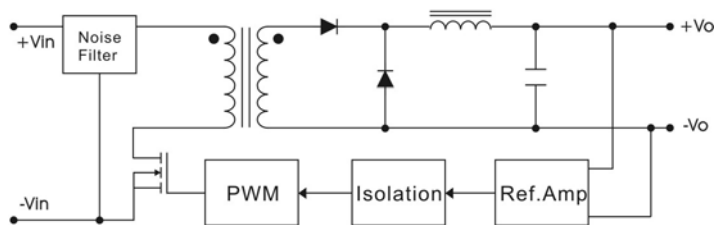
### MECHANICAL DIMENSION ( Top View )


Tolerance  $\pm 0.5$  mm

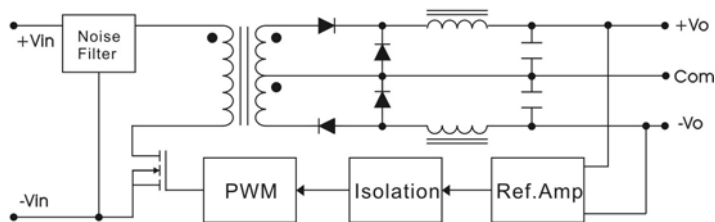
| PIN# | Single | Dual   |
|------|--------|--------|
| 1    | -VIN   | -VIN   |
| 2    | -VIN   | -VIN   |
| 3    | NC     | COMMON |
| 4    | NC     | -VOUT  |
| 5    | +VOUT  | +VOUT  |
| 6    | -VOUT  | COMMON |
| 7    | +VIN   | +VIN   |
| 8    | +VIN   | +VIN   |

### BLOCK DIAGRAM

#### Single Output



#### Dual Output



### DERATING

