



Image for illustrative Purpose

### Features:

- 15W Compact Size 52.4 x 40 x 25.2mm
- Wide AC & DC Input 85V to 528Vac
- Temperature Range -40°C to +85°C
- EMC Compliant without external components
- Output Range: 5V - 24VDC
- Low Standby Power <0.3W @ 480Vac
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class II
- Materials: UL94-V0
- IEC/EN/UL62368, EN61558, EN60335
- 3 Year Warranty



### Description

VTX-214-015-3## is an AC-DC power converter which features a wide AC input 85V to 528Vac and a DC input voltage 120 to 750VDC. The converters have been designed with low power consumption, high efficiency, high reliability, reinforced isolation. It offers good EMC performance compliant to IEC/EN61000-4 and CISPR32/EN55032 and meets IEC/EN/UL62368, EN60335, EN61558 standards. The converters are widely used in industrial, power, home appliances, instrumentation, communication and civil applications. For extremely harsh EMC environment, we recommend using the application circuit show in this Datasheet or contact our Technical team for further support.

### Selection Guide

| Part Number            | Power Rating Watts | Output Voltage (VDC) | Output Current (mA) | Ambient Temp. (°C)   | Efficiency Typical | Input Range                   |
|------------------------|--------------------|----------------------|---------------------|----------------------|--------------------|-------------------------------|
| <b>VTX-214-015-305</b> | 15                 | 5                    | 3000                | 60°C<br>(90°C @ 20%) | >81%               | 85 - 528VAC<br>(120 - 750VDC) |
| <b>VTX-214-015-312</b> | 15                 | 12                   | 1250                |                      |                    |                               |
| <b>VTX-214-015-315</b> | 15                 | 15                   | 1000                |                      |                    |                               |
| <b>VTX-214-015-324</b> | 15                 | 24                   | 625                 |                      |                    |                               |

**Note: Other output voltages are available upon request.**

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| Input Specification             |                                      |                                   |         |       |      |
|---------------------------------|--------------------------------------|-----------------------------------|---------|-------|------|
| Item                            | Conditions                           | Min                               | Typical | Max   | Unit |
| <b>Input Voltage</b>            | AC Input                             | 85                                | -       | 528   | VAC  |
|                                 | DC Input                             | 120                               | -       | 750   | VDC  |
| <b>Input Frequency</b>          |                                      | 47                                | -       | 63    | Hz   |
| <b>Input Current</b>            | 115VAC                               | -                                 | -       | 0.4   | A    |
|                                 | 480VAC                               | -                                 | -       | 0.115 |      |
| <b>Inrush Current</b>           | 115VAC                               | -                                 | -       | 35    |      |
|                                 | 480VAC                               | -                                 | -       | 60    |      |
| <b>Leakage Current</b>          | 277VAC / 50Hz                        | 0.1mA RMS Max                     |         |       |      |
| <b>External Input Fuse</b>      |                                      | 3.15Amp Slow Blow Fuse            |         |       |      |
|                                 |                                      |                                   |         |       |      |
| Output Specification            |                                      |                                   |         |       |      |
| Item                            | Conditions                           | Min                               | Typical | Max   | Unit |
| <b>Output Voltage</b>           | Output                               | -                                 | +/-3    | -     | %    |
| <b>Line Regulation</b>          | Full Load                            | -                                 | +/-2    | -     |      |
| <b>Load Regulation</b>          | 0% - 100% Load                       | -                                 | +/-2    | -     |      |
| <b>Ripple / Noise</b>           | 20MHz Bandwidth (Peak to Peak Value) | -                                 | 100     | 120   | mV   |
| <b>Stand by Power</b>           | 230VAC                               | -                                 | 0.1     | -     | W    |
| <b>Temp. Coefficient</b>        |                                      | -                                 | +/-0.05 | -     | %/°C |
| <b>Short Circuit Protection</b> |                                      | Hiccup, Continuous, Self-recovery |         |       |      |
| <b>Over Current Protection</b>  |                                      | >110% Load Self-recovery          |         |       |      |
| <b>Over Voltage Protection</b>  |                                      | Hiccup, Continuous, Self-recovery |         |       |      |
| <b>Minimum Load</b>             |                                      | 0                                 | -       | -     | %    |
| <b>Hold-up Time</b>             | 230VAC Input                         | -                                 | 35      | -     | mS   |
|                                 | 480VAC Input                         | -                                 | 400     | -     |      |

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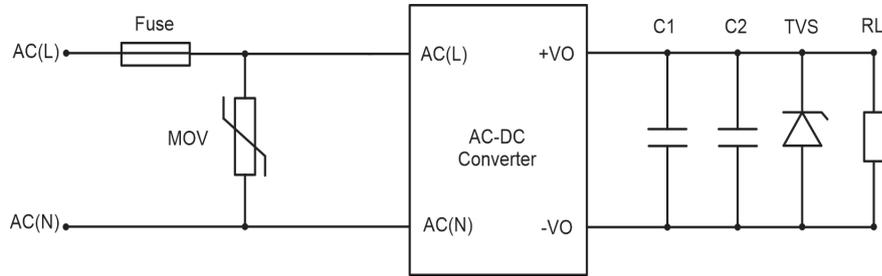
| General Specification        |                             |                                   |         |      |       |
|------------------------------|-----------------------------|-----------------------------------|---------|------|-------|
| Item                         | Conditions                  | Min                               | Typical | Max  | Unit  |
| <b>Dielectric Strength</b>   | Input to Output (1Min, 5mA) | 4000                              | -       | -    | VAC   |
| <b>Insulation Resistance</b> | Input to Output (500VDC)    | 100                               |         |      | M.Ohm |
| <b>Operating Temperature</b> |                             | -40                               | -       | +90  | °C    |
| <b>Storage Temperature</b>   |                             | -40                               | -       | +90  |       |
| <b>Storage Humidity</b>      |                             | -                                 | -       | +95  | %RH   |
| <b>Soldering Temperature</b> | Wave Soldering              | 260 +/-5°C                        |         |      |       |
|                              | Manual Soldering            | 360 +/-5°C                        |         |      |       |
| <b>Switching Frequency</b>   |                             | -                                 | 65      | -    | KHz   |
| <b>Altitude</b>              |                             | -                                 | -       | 5000 | m     |
| <b>Safety Class</b>          |                             | CLASS II                          |         |      |       |
| <b>MTBF</b>                  |                             | >1.500KHrs @ 25°C (MIL-HDBK-217F) |         |      |       |
| <b>Safety Approvals</b>      |                             | IEC/EN/UL62368, EN61558, EN60335  |         |      |       |
| <b>Dimensions</b>            |                             | 52.4 x 40 x 25.2mm                |         |      |       |
| <b>Weight</b>                |                             | 100g                              |         |      |       |
| <b>Body Colour</b>           |                             | Orange or Black                   |         |      |       |

| EMC Specification |                   |  |
|-------------------|-------------------|--|
| <b>Emissions</b>  | CE /RE            | CISPR32 / EN55032 CLASS B<br>EN55014-1       |
| <b>Immunity</b>   | ESD               | IEC/EN 61000-4-2 CONTACT +/-4kV<br>EN55014-2 |
|                   | RS                | IEC/EN 61000-4-3 10V/m<br>EN55014-2          |
|                   | EFT               | IEC/EN 61000-4-4 Criteria A ±2kV             |
|                   | SURGE             | IEC/EN 61000-4-5 Criteria A                  |
|                   | CS                | IEC/EN 61000-4-6 10V/r.m.s.<br>EN55014-2     |
|                   | Voltage Variation | IEC/EN 61000-4-11, EN55014-2                 |

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## Application Schematic for EMC

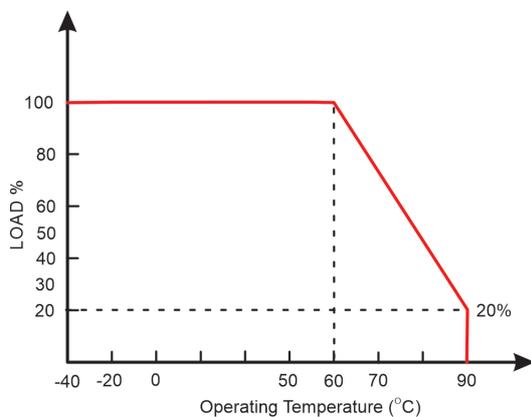
### Typical Application



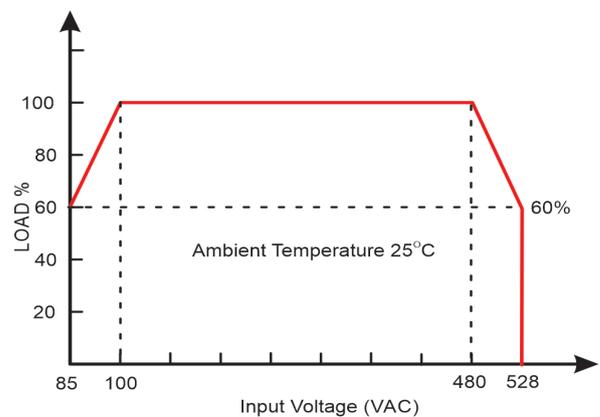
| Part Number  | C1      | C2       | TVS     | Fuse                    | MOV     | Capacitance Load Max |
|--|---------|----------|---------|-------------------------|---------|----------------------|
| VTX-214-015-305  | 1uF/50V | 10uF/16V | SMBJ30A | 3.15A/300V<br>Slow Blow | S20K625 | 20000 uF             |
| VTX-214-015-312  |         | 10uF/25V | SMBJ30A |                         |         | 12000 uF             |
| VTX-214-015-315  |         | 10uF/25V | SMBJ30A |                         |         | 10000 uF             |
| VTX-214-015-324  |         | 10uF/35V | SMBJ30A |                         |         | 6000 uF              |
| Note: For additional filtering requirements, contact technical support |         |          |         |                         |         |                      |

## Derating Graphs

### Temperature Derating Graph



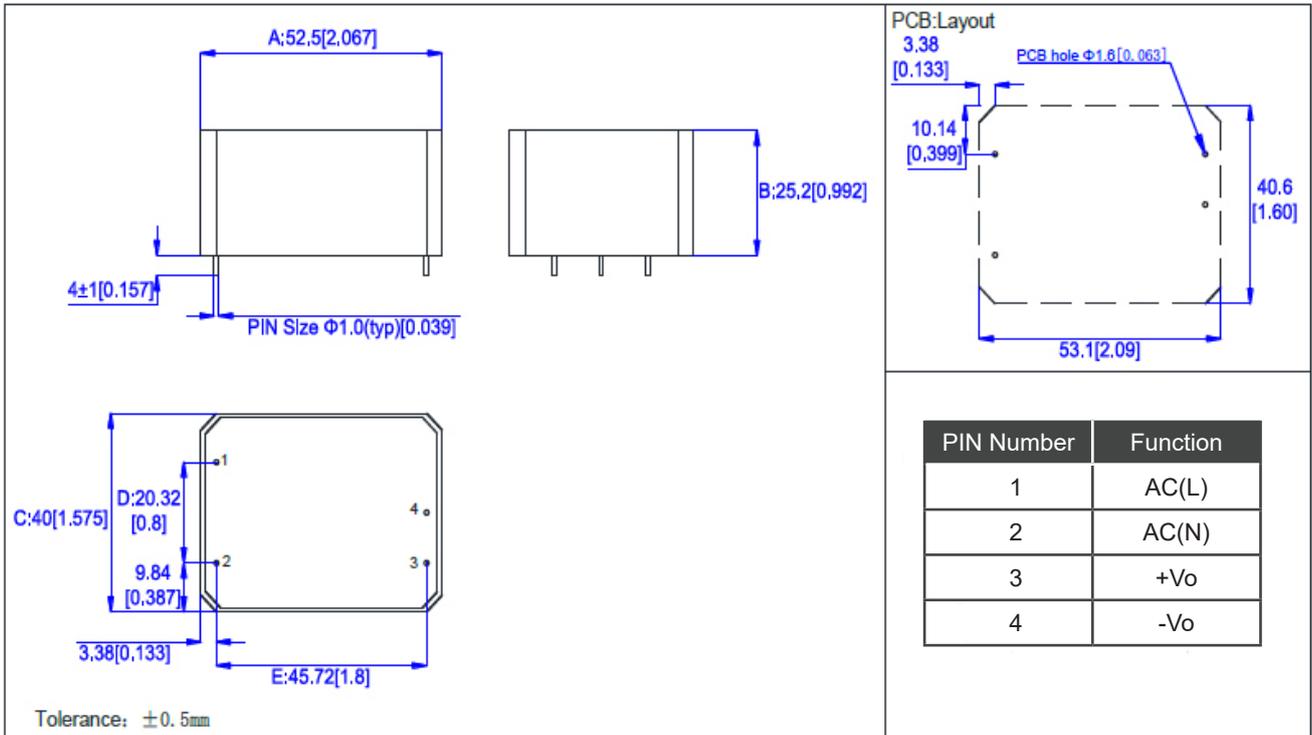
### Input Voltage Derating Graph



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## Dimensions



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