

**SERIES:** VSBU-120C-T | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

- universal input (90 ~ 264 Vac)
- up to 120 W continuous power
- industry standard 3" x 5" footprint
- active power factor correction
- IEC/EN/UL 62368 certified
- over voltage, over current, short circuit protection



| MODEL           |     | output voltage <sup>1</sup> | output current |             | output power max (W) | ripple and noise <sup>2</sup> | efficiency |
|-----------------|-----|-----------------------------|----------------|-------------|----------------------|-------------------------------|------------|
|                 |     | (Vdc)                       | min/max (A)    | max (mVp-p) |                      | typ (%)                       |            |
| VSBU-120C-T512A | Vo1 | 5.0                         | 1.5            | 15.0        | 120                  | 50                            | 80         |
|                 | Vo2 | 12.0                        | 0.8            | 6.0         |                      | 120                           |            |
|                 | Vo3 | -12.0                       | 0.0            | 0.8         |                      | 120                           |            |
| VSBU-120C-T515A | Vo1 | 5.0                         | 1.5            | 15.0        | 120                  | 50                            | 80         |
|                 | Vo2 | 15.0                        | 1.0            | 6.0         |                      | 150                           |            |
|                 | Vo3 | -15.0                       | 0.0            | 0.8         |                      | 150                           |            |

Notes: 1. factory adjustable

2. Ripple is measured from peak to peak with a bandwidth limit of 20MHz measured with 0.1μF ceramic and 47μF electrolytic capacitors applied to the output.

**PART NUMBER KEY**
**VSBU-120C -TXXX**

Base Number

Output Voltage

## INPUT

| parameter               | conditions/description   | min  | typ | max          | units  |
|-------------------------|--|------|-----|--------------|--------|
| voltage                 |  | 90   |     | 264          | Vac    |
| frequency               |  | 47   |     | 63           | Hz     |
| current                 | at 100 Vac, full load<br>at 240 Vac, full load                                     |      |     | 1.75<br>0.72 | A<br>A |
| inrush current          | at 100 Vac, 25°C, full load, cold start<br>at 240 Vac, 25°C, full load, cold start |      |     | 37<br>88     | A<br>A |
| power factor correction | at 240 Vac, full load  | 0.95 |     | 1.0          |        |

## OUTPUT

| parameter               | conditions/description            | min | typ | max  | units |
|-------------------------|-----------------------------------|-----|-----|------|-------|
| line regulation         | full load, Vin = 100 ~ 120 Vac    |     |     | 1    | %     |
| load regulation         | at 230 Vac, 10 ~ 90% load         |     |     | 5    | %     |
| temperature coefficient | full load 100 ~ 240 Vac           |     |     | 0.04 | %/°C  |
| transient response      | full load to half load at 110 Vac |     |     | 4    | ms    |
| start-up                | full load at 100~240 Vac          |     |     | 3    | s     |
| hold-up                 | full load at 100 Vac              | 16  |     |      | ms    |

## PROTECTIONS

| parameter                | conditions/description | min | typ | max | units |
|--------------------------|------------------------|-----|-----|-----|-------|
| over voltage protection  |                        | 112 |     | 132 | %     |
| over current protection  | auto recovery          | 110 |     | 150 | %     |
| short circuit protection | auto recovery          |     |     |     |       |

## SAFETY & COMPLIANCE

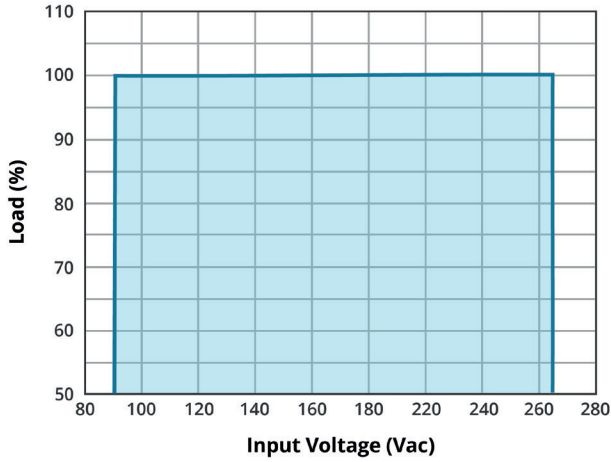
| parameter         | conditions/description   | min            | typ | max  | units      |
|-------------------|--|----------------|-----|------|------------|
| isolation voltage | primary to secondary<br>primary to earth ground                                  | 4,242<br>2,121 |     |      | Vdc<br>Vdc |
| safety class      | class I  |                |     |      |            |
| safety approvals  | certified to 62368: IEC/EN/UL<br>UKCA  |                |     |      |            |
| EMI/EMC           | CISPR-32/EN 55032:2012/AC:2013 Class B<br>EN 61000-3-2:2014<br>EN 61000-3-3:2013 |                |     |      |            |
| leakage current   | full load at 240 Vac   |                |     | 0.75 | mA         |
| RoHS compliant    | yes  |                |     |      |            |
| MTBF              | as per MIL-HDSK-217F, 25°C   | 100,000        |     |      | hrs        |

## ENVIRONMENTAL

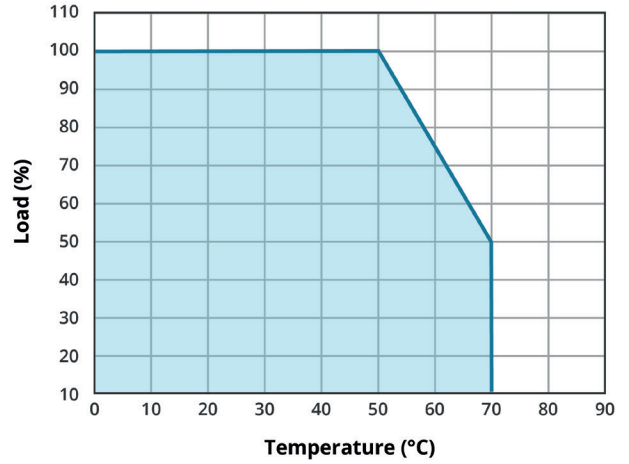
| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | see derating curve     | 0   |     | 70  | °C    |
| storage temperature   |                        | -40 |     | 85  | °C    |
| operating humidity    | non-condensing         | 0   |     | 95  | %     |
| storage humidity      | non-condensing         | 0   |     | 95  | %     |

## DERATING CURVES

**INPUT VOLTAGE DERATING CURVE**



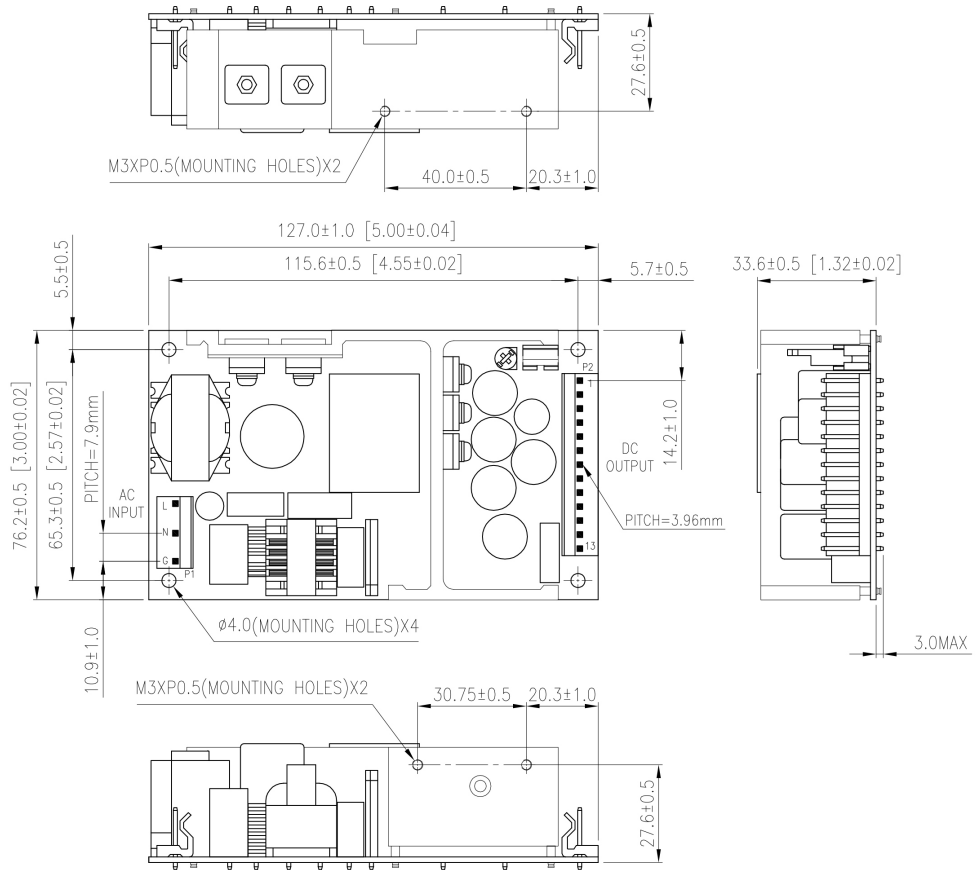
**TEMPERATURE DERATING CURVE**



## MECHANICAL DRAWING

units: mm[inches]  
tolerance: ±0.5mm

| PIN | FUNCTION   |
|-----|------------|
| 1   | V2         |
| 2   | V2         |
| 3   | V1         |
| 4   | V1         |
| 5   | V1         |
| 6   | V1         |
| 7   | com        |
| 8   | com        |
| 9   | com        |
| 10  | V3         |
| 11  | com        |
| 12  | com        |
| 13  | no connect |



**Note:**

1. Input connector mates with Molex housing 09-52-4054 and Molex 2478 series crimp terminal.
2. Output connector mates with Molex housing 09-52-4134 and Molex 2478 series crimp terminal.

## REVISION HISTORY

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| rev. | description                 | date       |
|------|-----------------------------|------------|
| 1.0  | initial release             | 12/08/2020 |
| 1.01 | mechanical drawing updated  | 08/16/2021 |
| 1.02 | derating curves updated     | 02/07/2022 |
| 1.03 | UKCA added to specification | 02/23/2022 |

The revision history provided is for informational purposes only and is believed to be accurate.



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