

**PART NUMBER:** FSC-S5 series

**DESCRIPTION:** AC-DC converter

**features**

- approved to UL60950, CSA C22.2 NO.60950, CB(IEC 60950), CE(EN60950)
- universal input 85~264 Vac/ 110~340 VDC
- encapsulated, compact case
- high efficiency
- surface mounting technology
- 100kHz fixed frequency
- fixed output voltage
- thermal shutdown
- output short circuit protection
- low output ripple and noise
- isolated output
- 2 year warranty



| model number | input voltage            | output voltage | power max. | ripple & noise max. | efficiency (%) |
|--------------|--------------------------|----------------|------------|---------------------|----------------|
| FSC-S5-3R3U  | AC 85-264V / DC 110-340V | 3.3V @ 1.25A   | 4.125 W    | 80 mVp-p            | 71             |
| FSC-S5-5U    | AC 85-264V / DC 110-340V | 5V @ 1.0A      | 5.0 W      | 80 mVp-p            | 75             |
| FSC-S5-12U   | AC 85-264V / DC 110-340V | 12V @ 0.42A    | 5.0 W      | 120 mVp-p           | 77             |
| FSC-S5-15U   | AC 85-264V / DC 110-340V | 15V @ 0.33A    | 5.0 W      | 150 mVp-p           | 77             |
| FSC-S5-24U   | AC 85-264V / DC 110-340V | 24V @ 0.21A    | 5.0 W      | 200 mVp-p           | 77             |

**INPUT**

| parameter       | conditions/description                       | min | nom     | max  | units |
|-----------------|--|-----|---------|------|-------|
| input frequency |  | 47  | (50~60) | 440  | Hz    |
| input voltage   | output power derated from 85-90 VAC          | 85  |         | 264  | VAC   |
|                 |  | 110 |         | 340  | VDC   |
| input current   | AC input of 110 VAC                          |     |         | 150  | mA    |
|                 | AC input of 220 VAC                          |     |         | 80   | mA    |
| inrush current  | measured at 110 VAC at full load, cold start |     |         | 20   | A     |
|                 | measured at 220 VAC at full load, cold start |     |         | 40   | A     |
| leakage current | measured at 110 VAC                          |     |         | 0.5  | mA    |
|                 | measured at 220 VAC                          |     |         | 0.75 | mA    |

**OUTPUT**

| parameter               | conditions/description | min | nom | max | units |
|-------------------------|------------------------|-----|-----|-----|-------|
| voltage tolerance       |                        | -2% |     | +2% |       |
| ripple and noise        |                        | -1% |     | +1% |       |
| line regulation         |                        | -1% |     | +1% |       |
| load regulation         |                        | -1% |     | +1% |       |
| dynamic load regulation |                        | -3% |     | +3% |       |
| temperature drift       |                        | -1% |     | +1% |       |
| rise time               |                        |     |     | 100 | mS    |
| hold-up time            |                        | 10  |     |     | mS    |

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## PROTECTION CIRCUIT

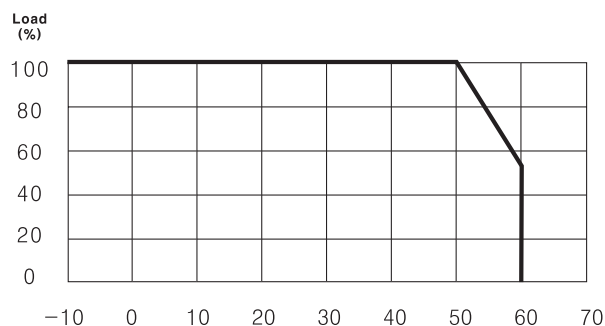
| parameter           | conditions/description                                       |
|---------------------|--|
| output over current | works at over 105% of the rating and recovers automatically. |
| over temperature    | 150 °C   |
| over voltage        | clamp, 130~150%  |

## GENERAL

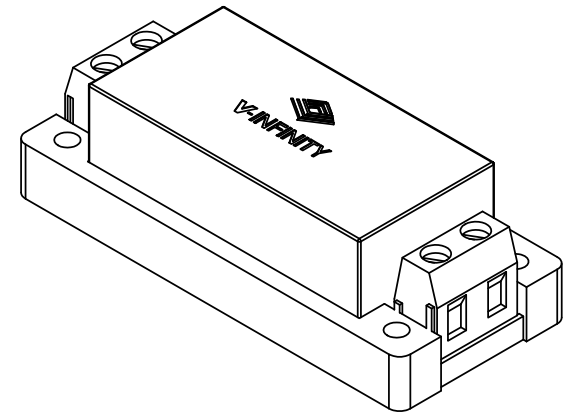
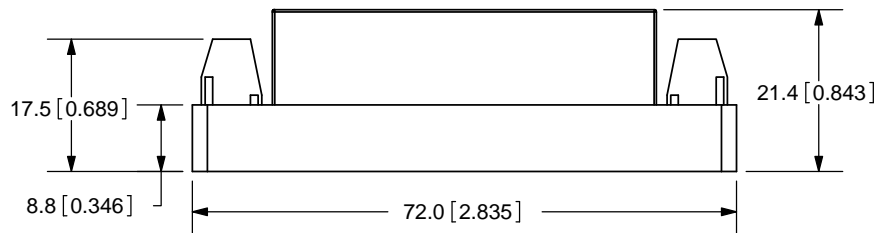
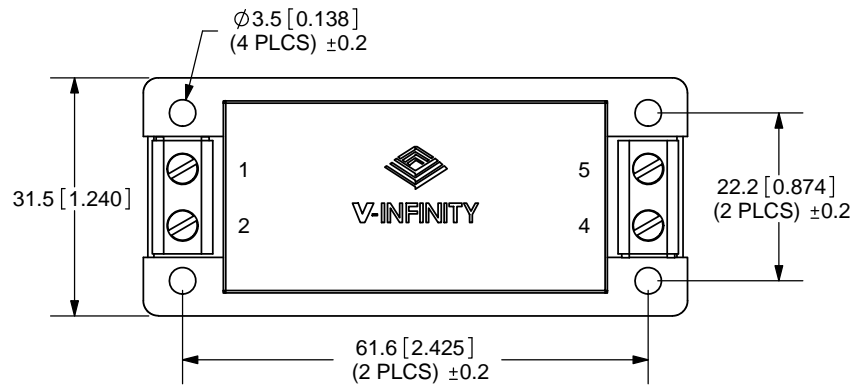
| parameter                     | conditions/description  | min  | nom | max | units |
|-------------------------------|---|------|-----|-----|-------|
| operating temp.               |   | -20  |     | 70  | °C    |
| storage temp.                 |   | -40  |     | 80  | °C    |
| operating humid.              | non-condensing  | 20%  |     | 90% | RH    |
| storage humid.                | non-condensing  | 20%  |     | 90% | RH    |
| isolation voltage<br>(HI-POT) | applied for 1 minute, 10mA<br>primary to secondary, 500 Vdc @ 100 MΩ                      | 3000 |     |     | VAC   |
| vibration                     | at 10G 3 minute period  | 10   |     | 55  | Hz    |
| impact                        | 50G for 11mS, once on each X, Y, Z axis   |      |     |     |       |
| MTBF                          | $4.5 \times 10^5$   |      |     |     | hours |
| RoHS                          | yes   |      |     |     |       |
| safety                        | approved to UL60950(E222889), CSA C22.2 NO.60950, CB(IEC 60950), CE(EN60950)              |      |     |     |       |
| EMC <sup>1</sup>              | 5W, 10W single output: approved; EN61204-3 class B, EN 61000-3-3, 61000-3-2 (through TUV) |      |     |     |       |
| warranty                      | standard warranty length  |      |     | 2   | years |

NOTE: 1. to meet the standard of EN61204-3 class B, use the external noise filter between L and N (refer to manual)

## DERATING CURVE



| REV. | DESCRIPTION | DATE      |
|------|-------------|-----------|
| A    | NEW DRAWING | 9/11/2007 |



TOLERANCE:  
±0.5mm UNLESS OTHERWISE  
SPECIFIED



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**PIN ASSIGNMENTS**

1. AC (N)
2. AC (L)
4. -Vout
5. +Vout

PC FILE NAME:  
FSC-S5

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|                        |                    |            |
|------------------------|--------------------|------------|
| TITLE: AC-DC CONVERTER |                    | REV: A     |
| PART NO. FSC-S5        | UNITS: MM [INCHES] |            |
| DRAWN BY: ZRJ          | APPROVED BY:       | SCALE: 1:1 |