

**SERIES:** FSC-S30

**DESCRIPTION:** ac-dc converter

**Features**

- Encapsulated compact case
- High efficiency
- Universal input
- Built in EMI filter
- 100kHz fixed frequency
- Fixed output voltage
- Thermal shutdown
- 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-S30-3R3U | AC 85-264V / DC 110-340V | 3.3V @ 6.0A    | 19.8 W     | 80 mVp-p            | 78             |
| FSC-S30-5U   | AC 85-264V / DC 110-340V | 5V @ 6.0A      | 30 W       | 80 mVp-p            | 80             |
| FSC-S30-12U  | AC 85-264V / DC 110-340V | 12V @ 2.5A     | 30 W       | 120 mVp-p           | 83             |
| FSC-S30-15U  | AC 85-264V / DC 110-340V | 15V @ 2.0A     | 30 W       | 150 mVp-p           | 83             |
| FSC-S30-24U  | AC 85-264V / DC 110-340V | 24V @ 1.25A    | 30 W       | 200 mVp-p           | 86             |

**INPUT**

| parameter       | conditions/description                       | min | nom     | max  | units |
|-----------------|----------------------------------------------|-----|---------|------|-------|
| input frequency |                                              | 47  | (50~60) | 440  | Hz    |
| input voltage   |                                              | 85  |         | 264  | VAC   |
|                 |                                              | 110 |         | 340  | VDC   |
| input current   | AC input of 110 VAC                          |     |         | 0.49 | A     |
|                 | AC input of 220 VAC                          |     |         | 0.25 | A     |
| inrush current  | measured at 110 VAC at full load, cold start |     |         | 30   | A     |
|                 | measured at 220 VAC at full load, cold start |     |         | 60   | 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% |       |
|                         |                        | -3% |     | +3% |       |
| ripple and noise        |                        | -1% |     | +1% |       |
| line regulation         |                        | -1% |     | +1% |       |
| load regulation         |                        | -1% |     | +1% |       |
| dynamic load regulation |                        | -3% |     | +3% |       |
| temperature drift       |                        | -1% |     | +1% |       |
| rise time               |                        |     |     | 400 | ms    |
| hold-up time            |                        | 10  |     |     | ms    |



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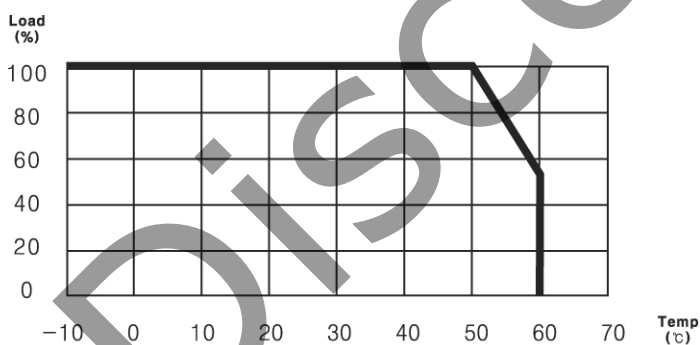
## PROTECTION CIRCUIT

| parameter           | conditions/description                                       |
|---------------------|--------------------------------------------------------------|
| output over current | works at over 105% of the rating and recovers automatically. |
| over temperature    | 145 °C                                                       |

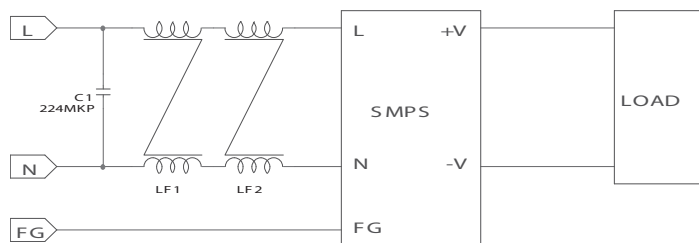
## GENERAL

| parameter         | conditions/description                                                      | min  | nom | max | units |
|-------------------|-----------------------------------------------------------------------------|------|-----|-----|-------|
| operating temp.   |                                                                             | -10  |     | 60  | °C    |
| storage temp.     |                                                                             | -20  |     | 70  | °C    |
| operating humid.  | non-condensing                                                              | 20%  |     | 90% | RH    |
| storage humid.    | non-condensing                                                              | 20%  |     | 90% | RH    |
| isolation voltage | applied for 1 minute, 10mA                                                  |      |     |     |       |
| (HI-POT)          | 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              | 3.0 x 10 <sup>5</sup>                                                       |      |     |     | hours |
| RoHS              | yes                                                                         |      |     |     |       |
| safety            | approved to UL60950(E222889), CSA C22.2 NO.60950, CE(EN60950) - through tuv |      |     |     |       |
| warranty          | standard warranty length                                                    |      |     | 2   | years |

## DERATING CURVE



## EXTERNAL EMI FILTER

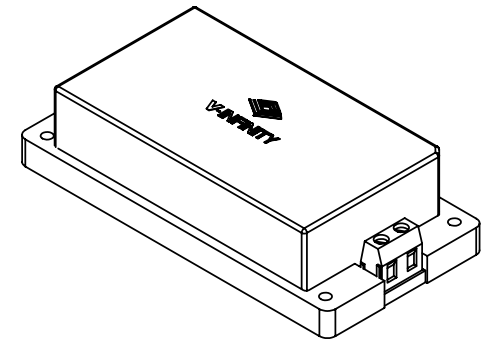
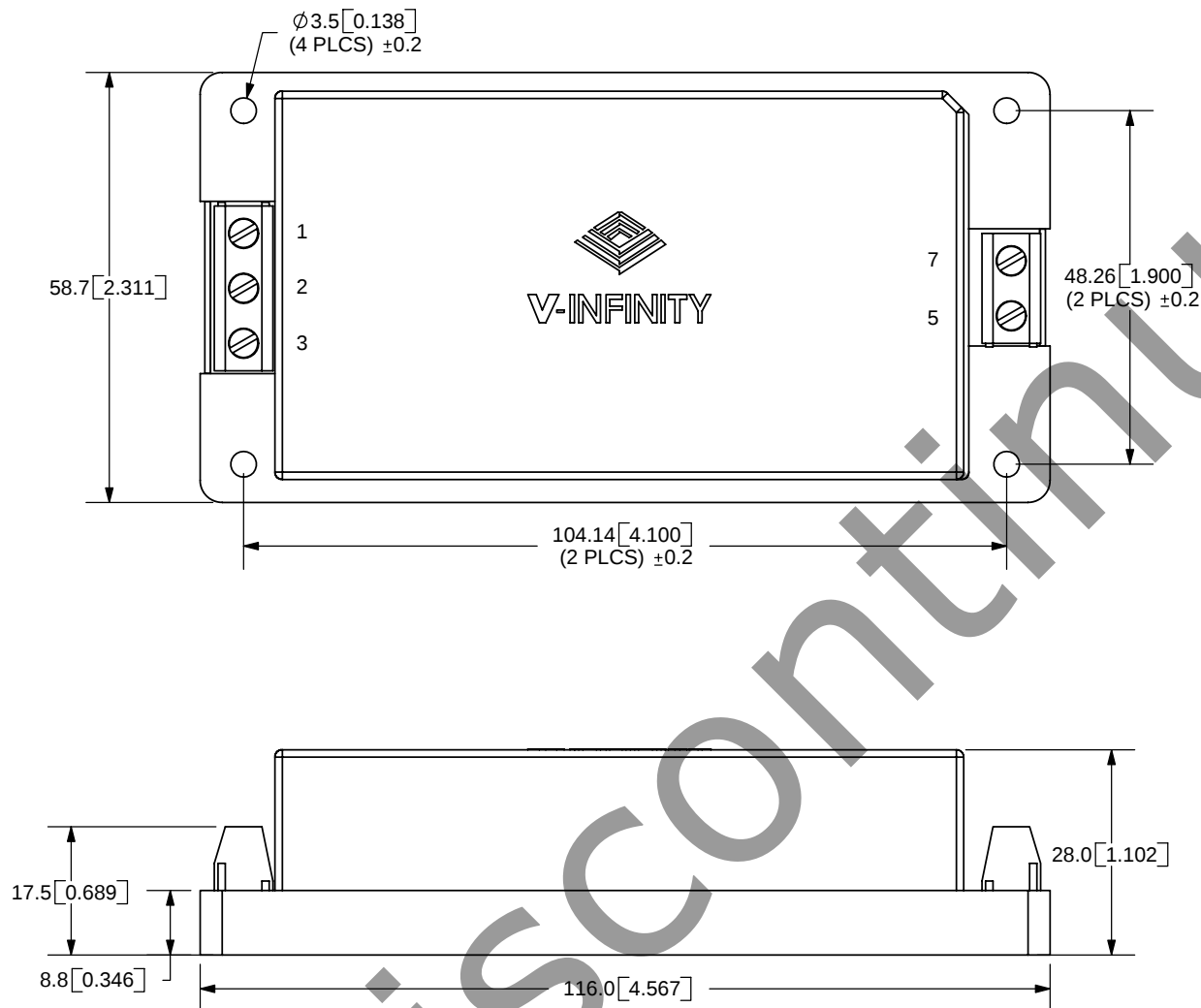


C1 = 220nF / 275Vac, X2 Capacitor

LF1 = 20mH Common Mode Line Filter, Toroidal core  $\phi$ 14.0mm

LF2 = 20mH Common Mode Line Filter, Toroidal core  $\phi$ 14.0mm

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



SCALE: 1:2

TOLERANCE:  
±0.5mm UNLESS OTHERWISE  
SPECIFIED



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#### PIN ASSIGNMENTS

1. FG
2. AC (N)
3. AC (L)
5. +Vout
7. -Vout

PC FILE NAME:  
FSC-S30

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|                        |                    |            |
|------------------------|--------------------|------------|
| TITLE: AC-DC CONVERTER |                    | REV: A     |
| PART NO. FSC-S30       | UNITS: MM [INCHES] |            |
| DRAWN BY: ZRJ          | APPROVED BY:       | SCALE: 1:1 |