

**SERIES:** FSK-S30**DESCRIPTION:** ac-dc converter**features**

- encapsulated compact case
- high efficiency
- universal input
- board mounting technology
- 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 (%) |
|--------------|--------------------------|----------------|------------|---------------------|----------------|
| FSK-S30-3R3U | AC 85-264V / DC 110-340V | 3.3V @ 6.0A    | 19.8 W     | 80 mVp-p            | 68             |
| FSK-S30-5U   | AC 85-264V / DC 110-340V | 5V @ 6.0A      | 30 W       | 80 mVp-p            | 78             |
| FSK-S30-12U  | AC 85-264V / DC 110-340V | 12V @ 2.5A     | 30 W       | 120 mVp-p           | 83             |
| FSK-S30-15U  | AC 85-264V / DC 110-340V | 15V @ 2.0A     | 30 W       | 150 mVp-p           | 83             |
| FSK-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**

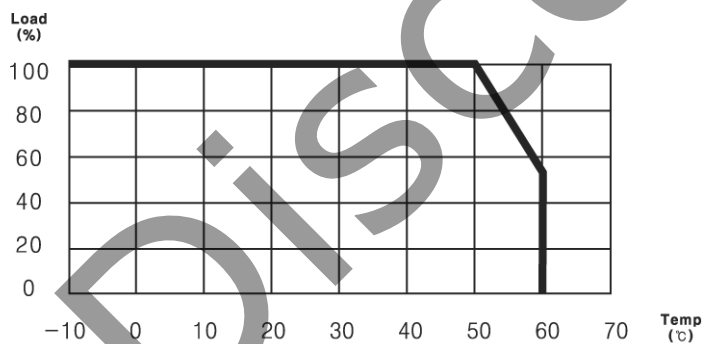
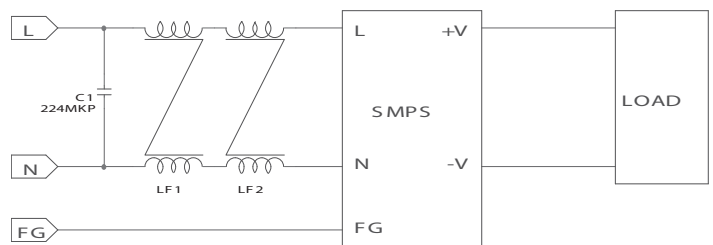
| parameter               | conditions/description | min | nom | max | units                             |
|-------------------------|------------------------|-----|-----|-----|-----------------------------------|
| voltage tolerance       |                        | -2% |     | +2% | (single and uncomplimentary dual) |
|                         |                        |     |     | +3% | (complimentary dual)              |
| 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                                |

**SERIES:** FSK-S30**DESCRIPTION:** ac-dc converter**PROTECTION CIRCUIT**

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

**GENERAL**

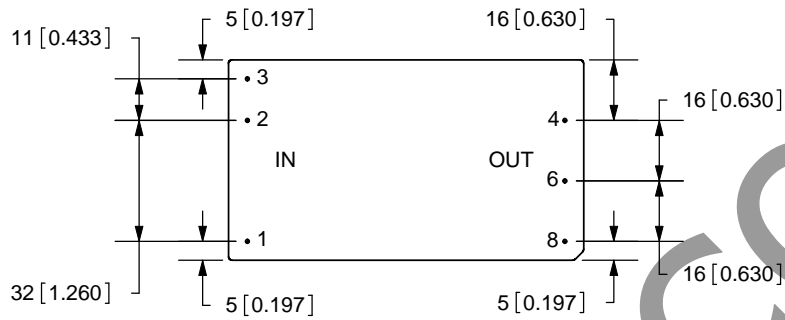
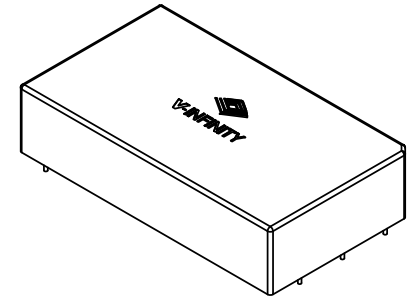
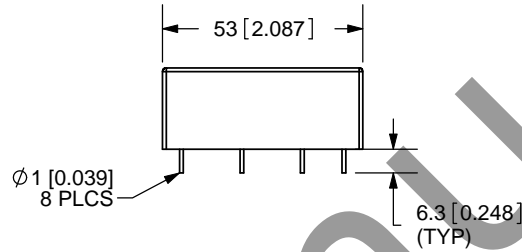
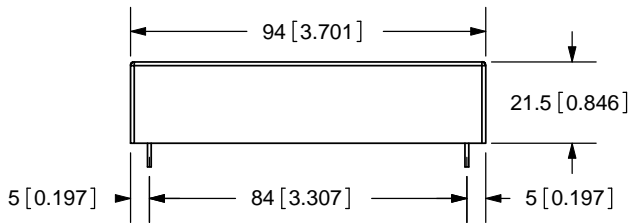
| parameter         | conditions/description  | min  | nom | max | units |
|-------------------|---|------|-----|-----|-------|
| operating temp.   |   | -10  |     | 60  | °C    |
| storage temp.     |   | -20  |     | 70  | °C    |
| operating humid.  | non-condensing  | 20%  |     | 90% | RH    |
| 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              | $3.0 \times 10^5$   |      |     |     | 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  $\phi$ 14.0mmLF2 = 20mH Common Mode Line Filter, Toroidal core  $\phi$ 14.0mm

| REV. | DESCRIPTION                              | DATE       |
|------|--|------------|
| A    | NEW DRAWING                              | 9/11/2006  |
| B    | corrected pin 5 and 7 output assignments | 11/24/2008 |



TOLERANCE:  
±0.3mm UNLESS OTHERWISE  
SPECIFIED



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**PIN ASSIGNMENTS**

| Pin Number | Single Output |
|------------|---------------|
| 1          | FG            |
| 2          | AC (N)        |
| 3          | AC (L)        |
| 4          | No Connect    |
| 5          | No Pin        |
| 6          | +Vout         |
| 7          | No Pin        |
| 8          | -Vout         |

|                        |              |                    |
|------------------------|--------------|--------------------|
| TITLE: AC-DC Converter |              | REV: B             |
| PART NO. FSK-S30       |              | UNITS: MM [INCHES] |
| DRAWN BY: JMS          | APPROVED BY: | SCALE: 1:2         |

PC FILE NAME:  
FSK-S30

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Notes:  
1. All dimensions are in mm [inches]  
2. Weight: 200g or less

Discontinued