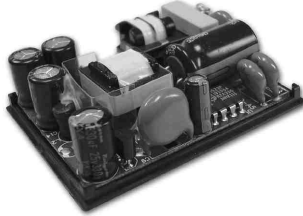


# KAD07 SERIES



OPEN FRAME  
AC - DC POWER MODULE  
6.3 ~ 7.6W UL / cUL / TUV / CE

## FEATURES

- AC/DC POWER MODULE
- UNIVERSAL INPUT 85 ~ 265 VAC
- HIGH EFFICIENCY UP TO 79%
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 2 YEARS WARRANTY



## MODEL LIST

| MODEL NO. | INPUT VOLTAGE | OUTPUT WATTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | EFF. (min.) | EFF. (typ.) | CAPACITOR LOAD (max.) |
|-----------|---------------|----------------|----------------|----------------|-------------|-------------|-----------------------|
|-----------|---------------|----------------|----------------|----------------|-------------|-------------|-----------------------|

### Single Output Models

|         |            |           |          |         |     |     |              |
|---------|------------|-----------|----------|---------|-----|-----|--------------|
| KAD0703 | 85~265 VAC | 6.6 WATTS | +3.3 VDC | 2000 mA | 69% | 72% | 7000 $\mu$ F |
| KAD0705 | 85~265 VAC | 7.5 WATTS | + 5 VDC  | 1500 mA | 72% | 75% | 7000 $\mu$ F |
| KAD0712 | 85~265 VAC | 7.5 WATTS | + 12 VDC | 630 mA  | 75% | 78% | 7000 $\mu$ F |
| KAD0715 | 85~265 VAC | 7.5 WATTS | + 15 VDC | 500 mA  | 75% | 78% | 7000 $\mu$ F |
| KAD0724 | 85~265 VAC | 7.6 WATTS | + 24 VDC | 320 mA  | 77% | 79% | 7000 $\mu$ F |

### Dual Output Models

|           |            |           |                 |               |     |     |                    |
|-----------|------------|-----------|-----------------|---------------|-----|-----|--------------------|
| KAD0712D  | 85~265 VAC | 7.6 WATTS | $\pm$ 12 VDC    | $\pm$ 320 mA  | 74% | 77% | $\pm$ 3500 $\mu$ F |
| KAD0715D  | 85~265 VAC | 7.5 WATTS | $\pm$ 15 VDC    | $\pm$ 250 mA  | 75% | 78% | $\pm$ 3500 $\mu$ F |
| KAD07503D | 85~265 VAC | 6.3 WATTS | + 3.3 / + 5 VDC | + 1A / +0.6A  | 65% | 68% | 3500 $\mu$ F       |
| KAD07512D | 85~265 VAC | 6.6 WATTS | + 5 / + 12 VDC  | +0.6A / +0.3A | 72% | 75% | 3500 $\mu$ F       |

## SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

### GENERAL

| Characteristics         | Conditions                  | min.      | typ. | max.       | unit       |
|-------------------------|-----------------------------|-----------|------|------------|------------|
| Switching frequency     | Vi nom, Io nom              | 80        |      | 100        | KHz        |
| Isolation voltage       | Input - Output              | 3000/4242 |      |            | VAC/VDC    |
|                         | Input - FG                  | 1500/2121 |      |            | VAC/VDC    |
| Isolation resistance    | Input - Output, @ 500VDC    | 100       |      |            | M $\Omega$ |
| Ambient temperature     | Operating at Vi nom, Io nom | -40       |      | + 71       | °C         |
| Derating                | Vi nom, +51 to + 71°C       |           |      | 2          | % / °C     |
| Storage temperature     | Non operational             | -40       |      | + 100      | °C         |
| Relative humidity       | Vi nom, Io nom              | 20        |      | 95         | % RH       |
| Temperature coefficient | Vi nom, Io min              |           |      | $\pm$ 0.03 | % / °C     |

## SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

### GENERAL

| Characteristics           | Conditions                 | min.                  | typ. | max.    | unit  |
|---------------------------|----------------------------|-----------------------|------|---------|-------|
| MTBF                      | Bellcore issue 6 @40°C, GB | 3.3V & 503D models    |      | 1510000 | Hours |
|                           |                            | 5V & 512D models      |      | 1530000 | Hours |
|                           |                            | 12V & 15V models      |      | 1550000 | Hours |
|                           |                            | 24V, 12D & 15D models |      | 1580000 | Hours |
| Altitude during operation | IEC 60068-2-13             |                       |      | 4850    | m     |
| Dimension                 |                            | L58 x W45 x H17.5     |      |         | mm    |
| Cooling                   | Free air convection        |                       |      |         |       |

### INPUT SPECIFICATIONS

| Characteristics     | Conditions                   | min.  | typ.      | max.  | unit |
|---------------------|------------------------------|-------|-----------|-------|------|
| Rated input voltage | Io nom                       | 85    |           | 240   | VAC  |
| Input voltage range | Ta min ... Ta max,<br>Io nom | AC in |           | 265   | VAC  |
|                     |                              | DC in | 120       |       | 375  |
| Input current       | Vi : 115 / 230 VAC, Io nom   |       | 160 / 120 |       | mA   |
| Rated input current | Vi : 85 VAC, Io nom          |       |           | 250   | mA   |
| Line frequency      | Vi nom, Io nom               | 47    |           | 63    | Hz   |
| Inrush current      | Vi : 115 / 230 VAC, Io nom   |       |           | 10/18 | A    |
| Leakage current     | Input - Output               |       |           | 0.25  | mA   |
|                     | Input - FG                   |       |           | 3.5   | mA   |

### OUTPUT SPECIFICATIONS

| Characteristics               | Conditions                      | min.   | typ. | max. | unit |
|-------------------------------|---------------------------------|--|------|------|------|
| Output voltage accuracy       | Vi nom, Io nom                  |  |      | ± 2  | %    |
| Minimum load                  | Vi nom                          | single output models                               | 0    |      | %    |
|                               |                                 | dual output models (each output)                   | 20   |      | %    |
| Line regulation               | Io nom, Vi min ...Vi max        |  |      | ± 1  | %    |
| Load regulation               | Vi nom,<br>Io min ...Io nom     | single output models                               |      | ± 2  | %    |
|                               |                                 | dual output models                                 |      | ± 5  | %    |
| Cross regulation (Dual model) | Asymmetrical load 20% - 100% FL |  |      | ± 6  | %    |
| Hold up time                  | Vi: 115/230 VAC, Io nom         | 15/30  |      |      | ms   |
| Turn on time                  | Vi nom, Io nom                  |  |      | 1000 | ms   |
| Rise time                     | Vi nom, Io nom                  |  |      | 150  | ms   |
| Fall time                     | Vi nom, Io nom                  |  |      | 150  | ms   |
| Transient recovery time       | Vi nom, I ~ 0.5 Io nom          |  |      | 1    | ms   |
| Ripple & noise                | Vi nom, Io nom,<br>BW = 20MHz   | 3.3V model   |      | 60   | mV   |
|                               |                                 | 5V, 12V, 15V, 24V & dual                           |      | 100  | mV   |
| Efficiency                    | Vi nom, Io nom, Po / Pi         | Up to 79%, See model list and typ efficiency curve |      |      |      |

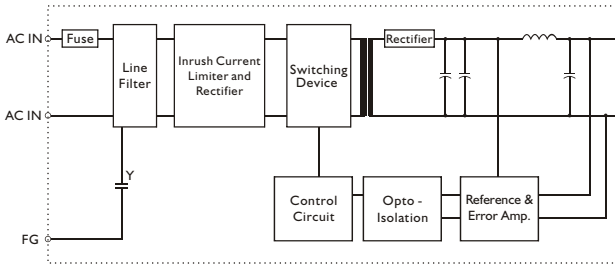
### CONTROL AND PROTECTION

| Characteristics                   | Conditions                             | min.                  | typ. | max. | unit |
|-----------------------------------|--|-----------------------|------|------|------|
| Input fuse                        |  | T2A / 250VAC internal |      |      |      |
| Internal surge voltage protection | IEC 61000-4-5                          | Varistor              |      |      |      |
| Output short circuit              |  | Fold forward          |      |      |      |
| Rated over load protection        | Vi nom (see typ current limited curve) | 130                   |      | 170  | %    |

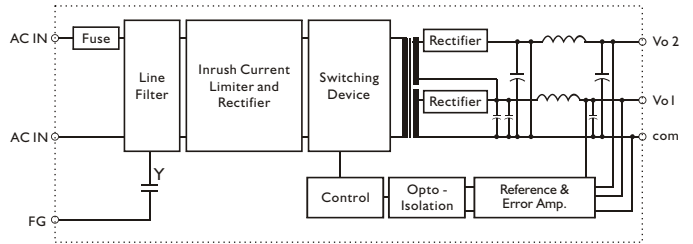


## CIRCUIT SCHEMATIC

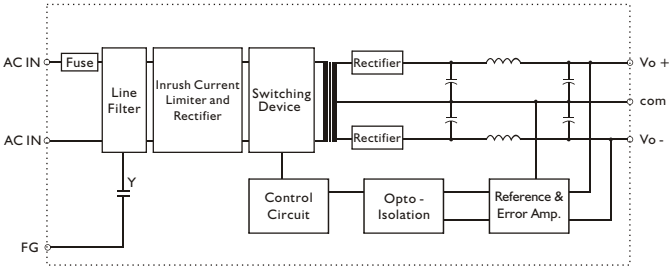
• Block diagram for KAD07 series with single output



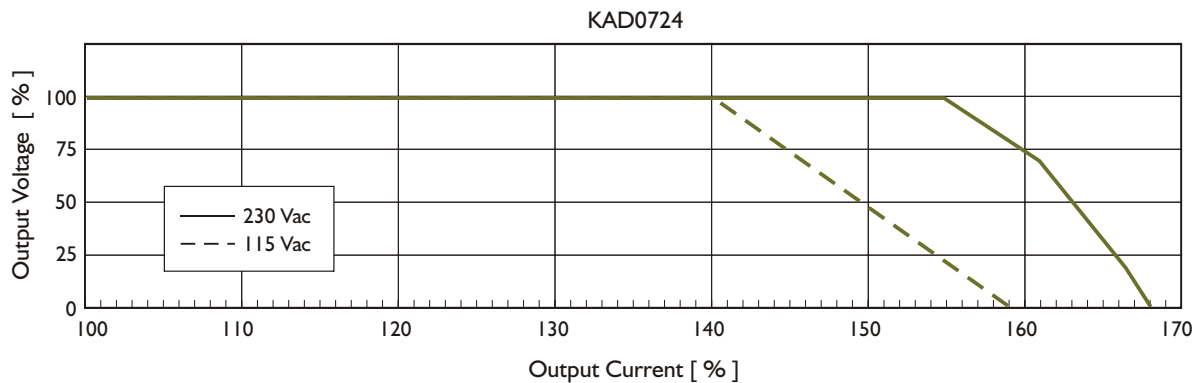
• Block diagram for KAD07503D & KAM07512D



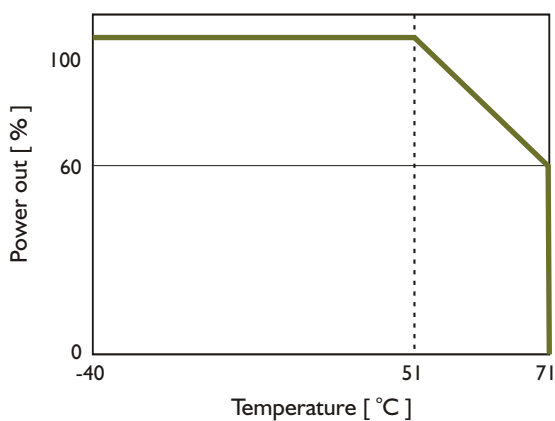
• Block diagram for KAD07 series with dual output



## TYP. CURRENT LIMITED CURVE



## DERATING CURVE



## TYP. EFFICIENCY CURVE

