

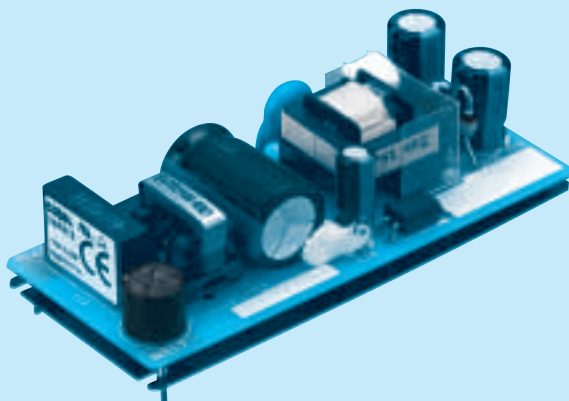
# VAF5

## VAF 5 05

① ② ③



RoHS


①Series name  
②Output wattage  
③Output voltage

| MODEL                 | VAF503     | VAF505         | VAF512         | VAF515           | VAF524           |
|-----------------------|------------|----------------|----------------|------------------|------------------|
| MAX OUTPUT WATTAGE[W] | 3.3        | 5.0            | 5.4            | 5.25             | 5.28             |
| DC OUTPUT             | VOLTAGE[V] | 3.3            | 5              | 12               | 15               |
|                       | CURRENT[A] | 1.0 (Peak 1.2) | 1.0 (Peak 1.2) | 0.45 (Peak 0.54) | 0.35 (Peak 0.42) |
|                       |            |                |                | 0.22 (Peak 0.27) |                  |

## SPECIFICATIONS

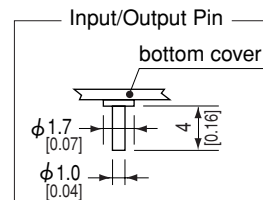
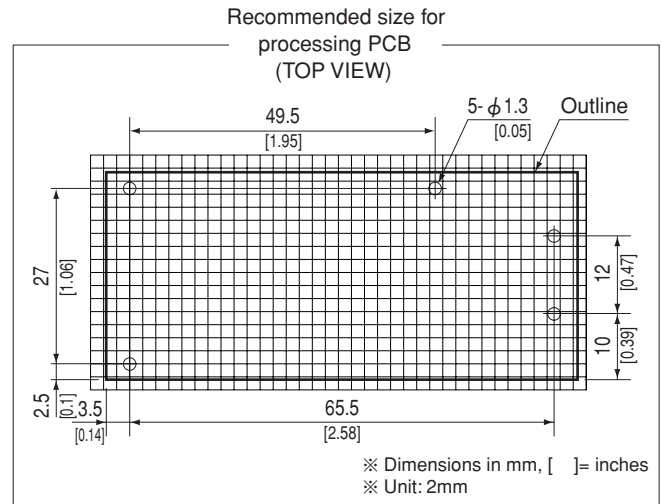
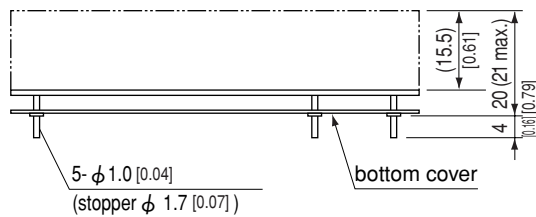
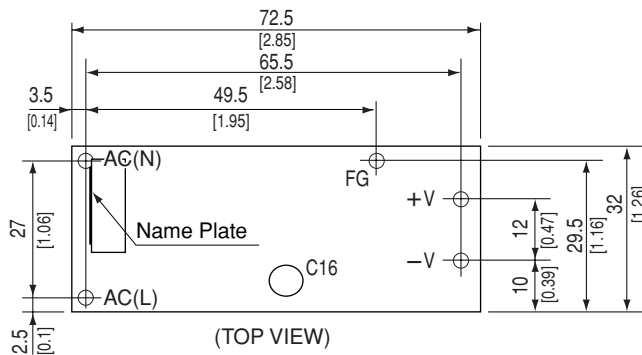
|                              | MODEL                                | VAF503                                                                                                | VAF505            | VAF512           | VAF515           | VAF524           |
|------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------|------------------|------------------|------------------|
| INPUT                        | VOLTAGE[V]                           | AC85 - 264 1 $\phi$ or DC110 - 370                                                                    |                   |                  |                  |                  |
|                              | CURRENT[A]                           | ACIN 100V                                                                                             | 0.15typ (Io=100%) |                  |                  |                  |
|                              |                                      | ACIN 200V                                                                                             | 0.10typ (Io=100%) |                  |                  |                  |
|                              | FREQUENCY[Hz]                        | 47 - 440 or DC                                                                                        |                   |                  |                  |                  |
|                              | INRUSH CURRENT[A]                    | ACIN 100V                                                                                             | 15typ (Io=100%)   |                  |                  |                  |
|                              |                                      | ACIN 200V                                                                                             | 30typ (Io=100%)   |                  |                  |                  |
| OUTPUT                       | LEAKAGE CURRENT[ma]                  | 0.5max (60Hz, According to IEC60950 and DEN-AN)                                                       |                   |                  |                  |                  |
|                              | EFFICIENCY[%]                        | 68typ                                                                                                 | 77typ             | 78typ            | 78typ            | 81typ            |
|                              | VOLTAGE[V]                           | 3.3                                                                                                   | 5                 | 12               | 15               | 24               |
|                              | CURRENT[A]                           | *1 1.0 (Peak 1.2)                                                                                     | 1.0 (Peak 1.2)    | 0.45 (Peak 0.54) | 0.35 (Peak 0.42) | 0.22 (Peak 0.27) |
|                              | LINE REGULATION[mV]                  | 20max                                                                                                 | 20max             | 48max            | 60max            | 96max            |
|                              | LOAD REGULATION[mV]                  | 40max                                                                                                 | 40max             | 100max           | 120max           | 150max           |
|                              | RIPPLE[mVp-p]                        | 0 to +55°C *2                                                                                         | 80max             | 80max            | 120max           | 120max           |
|                              |                                      | -10 - 0°C *2                                                                                          | 140max            | 140max           | 160max           | 160max           |
|                              |                                      | Io=100 - 120% *2                                                                                      | 180max            | 180max           | 200max           | 200max           |
|                              | RIPPLE NOISE[mVp-p]                  | 0 to +55°C *2                                                                                         | 120max            | 120max           | 150max           | 150max           |
|                              |                                      | -10 - 0°C *2                                                                                          | 160max            | 160max           | 180max           | 180max           |
|                              |                                      | Io=100 - 120% *2                                                                                      | 200max            | 200max           | 220max           | 220max           |
|                              | TEMPERATURE COEFFICIENT[mV]          | -10 to +55°C                                                                                          | 100max            | 50max            | 120max           | 150max           |
|                              | DRIFT[mV]                            | *3 20max                                                                                              | 20max             | 48max            | 60max            | 96max            |
|                              | OUTPUT VOLTAGE SETTING[V]            | 3.19 - 3.47                                                                                           | 4.90 - 5.30       | 11.40 - 12.60    | 14.25 - 15.75    | 23.0 - 25.0      |
|                              | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]   | Fixed                                                                                                 |                   |                  |                  |                  |
|                              | START-UP TIME[ms]                    | 700max (ACIN 85V, Io=100%)                                                                            |                   |                  |                  |                  |
|                              | HOLD-UP TIME[ms]                     | 10typ (ACIN 85V, Io=100%), 20typ (ACIN 100V, Io=100%)                                                 |                   |                  |                  |                  |
| PROTECTION CIRCUIT           | OVERCURRENT PROTECTION               | Works over 125% of rating and recovers automatically                                                  |                   |                  |                  |                  |
|                              | OVERVOLTAGE PROTECTION               | Works over 115% of rating (By zener diode clamping)                                                   |                   |                  |                  |                  |
| ISOLATION                    | INPUT-OUTPUT                         | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)                |                   |                  |                  |                  |
|                              | INPUT-FG                             | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)                |                   |                  |                  |                  |
|                              | OUTPUT-FG                            | AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At Room Temperature)                 |                   |                  |                  |                  |
| ENVIRONMENT                  | OPERATING TEMP., HUMID. AND ALTITUDE | -10 to +71°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max          |                   |                  |                  |                  |
|                              | STORAGE TEMP., HUMID. AND ALTITUDE   | -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max                                    |                   |                  |                  |                  |
|                              | VIBRATION                            | 19.6m/s <sup>2</sup> 10 - 55Hz, 3minutes period, 60minutes each along X, Y and Z axis (Non operating) |                   |                  |                  |                  |
|                              | IMPACT                               | 196.1m/s <sup>2</sup> 11ms, once each X, Y and Z axis (Non operating)                                 |                   |                  |                  |                  |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS                     | UL60950-1, C-UL, EN60950-1, EN50178 Complies with DEN-AN and IEC60950-1                               |                   |                  |                  |                  |
|                              | CONDUCTED NOISE                      | Complies with FCC-B, VCCI-B, CISPR22-B, EN55022-B                                                     |                   |                  |                  |                  |
| OTHERS                       | CASE SIZE/WEIGHT                     | 32X20X72.5mm [1.26X0.79X2.85 inches] (WxHxD) / 30g max                                                |                   |                  |                  |                  |
|                              | COOLING METHOD                       | Convection                                                                                            |                   |                  |                  |                  |

\*1 Peak load for 10sec. or less in acceptable if the total wattage is less than the rated wattage.

\*2 This is the value that measured on measuring board with capacitor of 22  $\mu$ F. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).

\*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

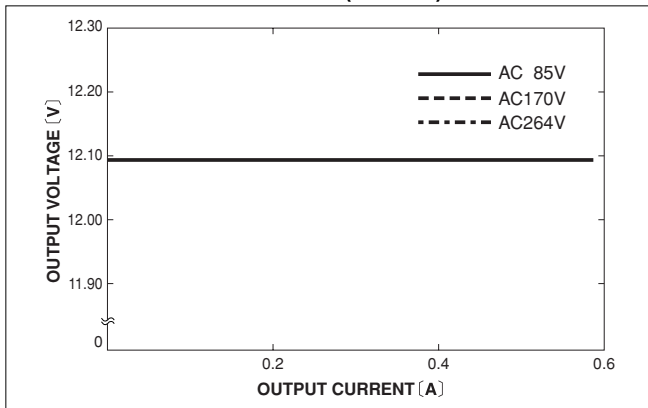
## External view



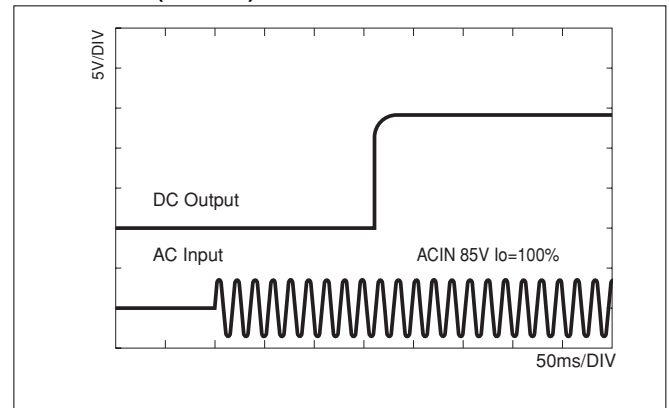
- ※Weight: 30g max
- ※Tolerance:  $\pm 0.5$  [ $\pm 0.02$ ]
- ※PCB material: CEM-3
- ※PCB thickness:  $t=1.0$  [0.04]
- ※Pin material: CPW with solder plated
- ※Recommended hole dia. to PCB:  $\phi$  1.3
- ※Dimensions in mm, [ ]= inches

## Performance data

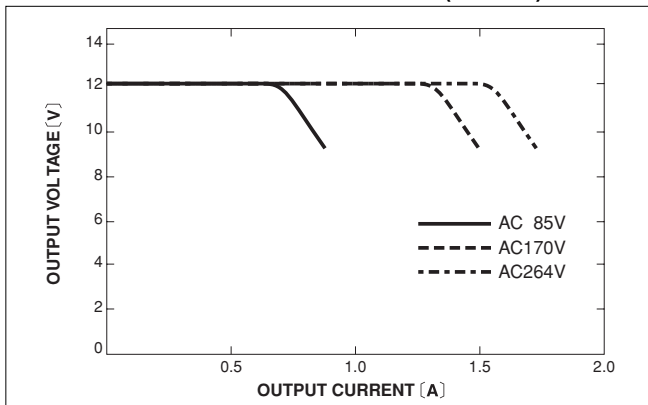
## ■ STATIC CHARACTERISTICS (VAF512)



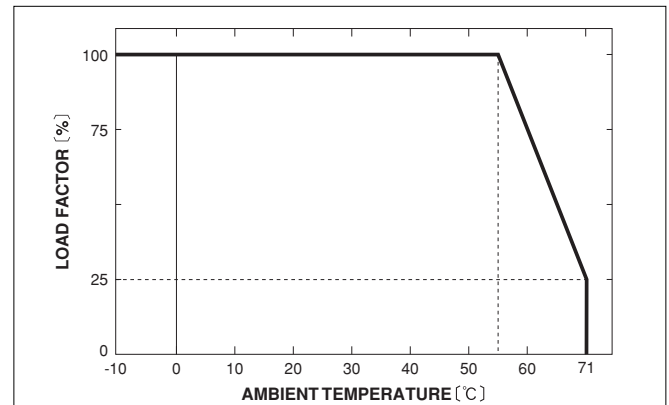
## ■ RISE TIME (VAF512)



## ■ OVERCURRENT CHARACTERISTICS (VAF512)



## ■ DERATING CURVE



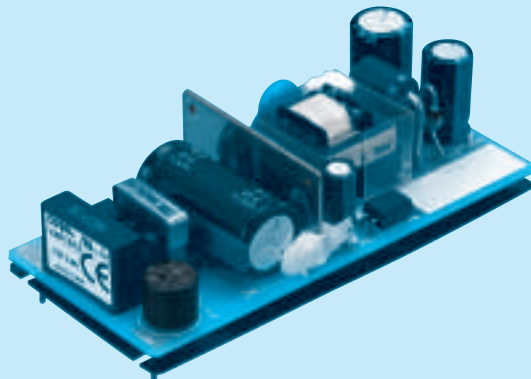
VAF10

VAF 10 05

① ② ③



RoHS



① Series name  
② Output wattage  
③ Output voltage

| MODEL                 | VAF1003    | VAF1005        | VAF1012        | VAF1015         | VAF1024         |
|-----------------------|------------|----------------|----------------|-----------------|-----------------|
| MAX OUTPUT WATTAGE[W] | 6.6        | 10.0           | 10.8           | 10.5            | 10.8            |
| DC OUTPUT             | VOLTAGE[V] | 3.3            | 5              | 12              | 15              |
|                       | CURRENT[A] | 2.0 (Peak 2.4) | 2.0 (Peak 2.4) | 0.9 (Peak 1.08) | 0.7 (Peak 0.84) |

## SPECIFICATIONS

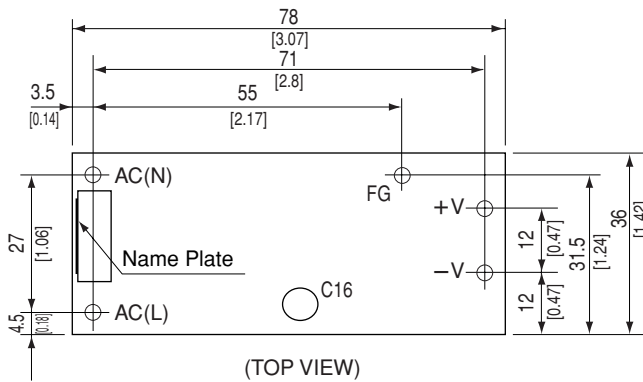
|                              | MODEL                                | VAF1003                                                                                               | VAF1005          | VAF1012         | VAF1015         | VAF1024          |
|------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------|------------------|-----------------|-----------------|------------------|
| INPUT                        | VOLTAGE[V]                           | AC85 - 264 1 $\phi$ or DC110 - 370                                                                    |                  |                 |                 |                  |
|                              | CURRENT[A]                           | ACIN 100V                                                                                             | 0.3typ (Io=100%) |                 |                 |                  |
|                              |                                      | ACIN 200V                                                                                             | 0.2typ (Io=100%) |                 |                 |                  |
|                              | FREQUENCY[Hz]                        | 47 - 440 or DC                                                                                        |                  |                 |                 |                  |
|                              | INRUSH CURRENT[A]                    | ACIN 100V                                                                                             | 15typ (Io=100%)  |                 |                 |                  |
|                              |                                      | ACIN 200V                                                                                             | 30typ (Io=100%)  |                 |                 |                  |
| OUTPUT                       | LEAKAGE CURRENT[ma]                  | 0.5max (60Hz, According to IEC60950 and DEN-AN)                                                       |                  |                 |                 |                  |
|                              | EFFICIENCY[%]                        | 65typ                                                                                                 | 74typ            | 78typ           | 78typ           | 81typ            |
|                              | VOLTAGE[V]                           | 3.3                                                                                                   | 5                | 12              | 15              | 24               |
|                              | CURRENT[A]                           | *1 2.0 (Peak 2.4)                                                                                     | 2.0 (Peak 2.4)   | 0.9 (Peak 1.08) | 0.7 (Peak 0.84) | 0.45 (Peak 0.54) |
|                              | LINE REGULATION[mV]                  | 20max                                                                                                 | 20max            | 48max           | 60max           | 96max            |
|                              | LOAD REGULATION[mV]                  | 40max                                                                                                 | 40max            | 100max          | 120max          | 150max           |
|                              | RIPPLE[mVp-p]                        | 0 to +55°C *2                                                                                         | 80max            | 80max           | 120max          | 120max           |
|                              |                                      | -10 - 0°C *2                                                                                          | 140max           | 140max          | 160max          | 160max           |
|                              |                                      | 0 to +55°C *2                                                                                         | 180max           | 180max          | 200max          | 200max           |
|                              | RIPPLE NOISE[mVp-p]                  | 0 to +55°C *2                                                                                         | 120max           | 120max          | 150max          | 150max           |
|                              |                                      | -10 - 0°C *2                                                                                          | 160max           | 160max          | 180max          | 180max           |
|                              |                                      | 0 to +55°C *2                                                                                         | 200max           | 200max          | 220max          | 220max           |
|                              | TEMPERATURE COEFFICIENT[mV]          | -10 to +55°C                                                                                          | 100max           | 50max           | 120max          | 150max           |
|                              | DRIFT[mV]                            | *3 20max                                                                                              | 20max            | 48max           | 60max           | 96max            |
|                              | OUTPUT VOLTAGE SETTING[V]            | 3.19 - 3.47                                                                                           | 4.90 - 5.30      | 11.40 - 12.60   | 14.25 - 15.75   | 23.0 - 25.0      |
|                              | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]   | Fixed                                                                                                 |                  |                 |                 |                  |
|                              | START-UP TIME[ms]                    | 700max (ACIN 85V, Io=100%)                                                                            |                  |                 |                 |                  |
|                              | HOLD-UP TIME[ms]                     | 10typ (ACIN 85V, Io=100%), 20typ (ACIN 100V, Io=100%)                                                 |                  |                 |                 |                  |
| PROTECTION CIRCUIT           | OVERCURRENT PROTECTION               | Works over 125% of rating and recovers automatically                                                  |                  |                 |                 |                  |
|                              | OVERVOLTAGE PROTECTION               | Works over 115% of rating (By zener diode clamping)                                                   |                  |                 |                 |                  |
| ISOLATION                    | INPUT-OUTPUT                         | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)                |                  |                 |                 |                  |
|                              | INPUT-FG                             | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)                |                  |                 |                 |                  |
|                              | OUTPUT-FG                            | AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At Room Temperature)                 |                  |                 |                 |                  |
| ENVIRONMENT                  | OPERATING TEMP., HUMID. AND ALTITUDE | -10 to +71°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max          |                  |                 |                 |                  |
|                              | STORAGE TEMP., HUMID. AND ALTITUDE   | -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max                                    |                  |                 |                 |                  |
|                              | VIBRATION                            | 19.6m/s <sup>2</sup> 10 - 55Hz, 3minutes period, 60minutes each along X, Y and Z axis (Non operating) |                  |                 |                 |                  |
|                              | IMPACT                               | 196.1m/s <sup>2</sup> 11ms, once each X, Y and Z axis (Non operating)                                 |                  |                 |                 |                  |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS                     | UL60950-1, C-UL, EN60950-1, EN50178 Complies with DEN-AN and IEC60950-1                               |                  |                 |                 |                  |
|                              | CONDUCTED NOISE                      | Complies with FCC-B, VCCI-B, CISPR22-B, EN55022-B                                                     |                  |                 |                 |                  |
| OTHERS                       | CASE SIZE/WEIGHT                     | 36 X 21 X 78mm [1.42 X 0.83 X 3.07 inches] (W X H X D) / 40g max                                      |                  |                 |                 |                  |
|                              | COOLING METHOD                       | Convection                                                                                            |                  |                 |                 |                  |

\*1 Peak load for 10sec. or less in acceptable if the total wattage is less than the rated wattage.

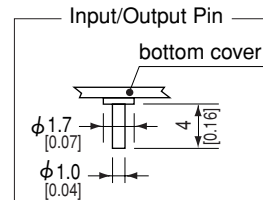
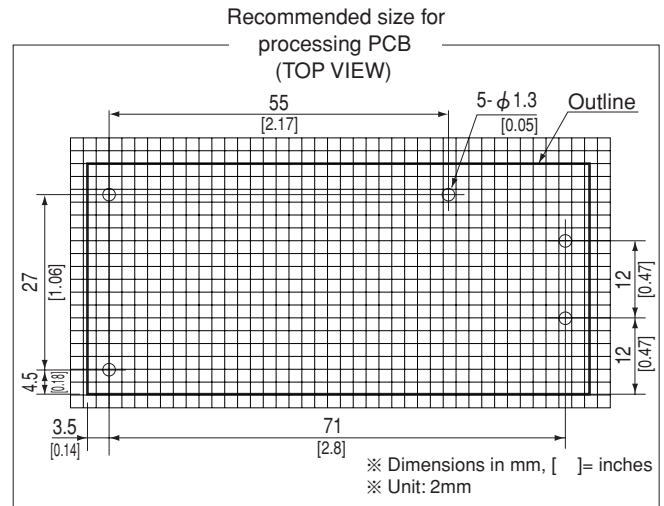
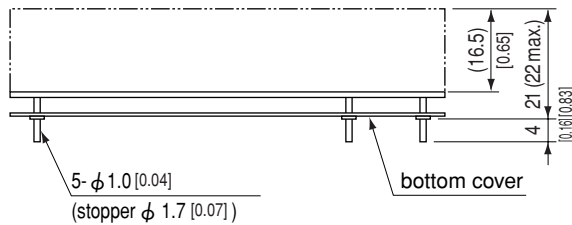
\*2 This is the value that measured on measuring board with capacitor of 22  $\mu$ F. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).

\*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

# External view



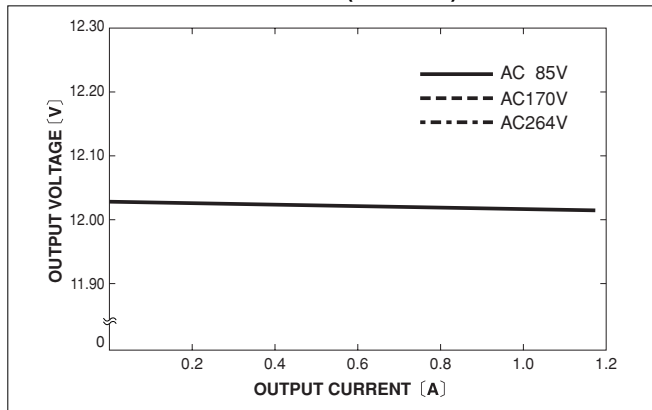
(TOP VIEW)



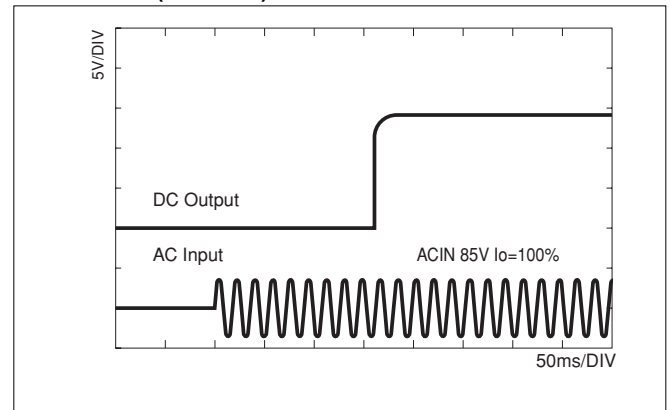
- ※ Weight: 40g max
- ※ Tolerance:  $\pm 0.5$  [ $\pm 0.02$ ]
- ※ PCB material: CEM-3
- ※ PCB thickness:  $t=1.0$  [0.04]
- ※ Pin material: CPW with solder plated
- ※ Recommended hole dia. to PCB:  $\phi$  1.3
- ※ Dimensions in mm, [ ]= inches

# Performance data

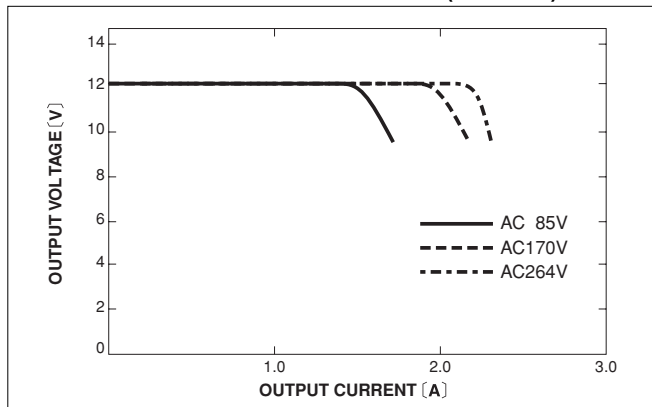
## STATIC CHARACTERISTICS (VAF1012)



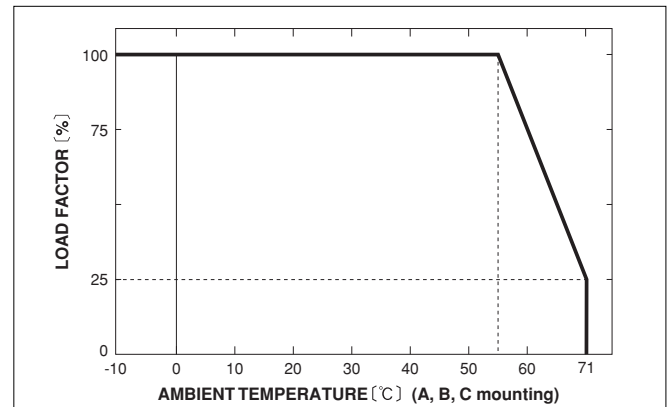
## RISE TIME (VAF1012)



## OVERCURRENT CHARACTERISTICS (VAF1012)



## DERATING CURVE



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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.