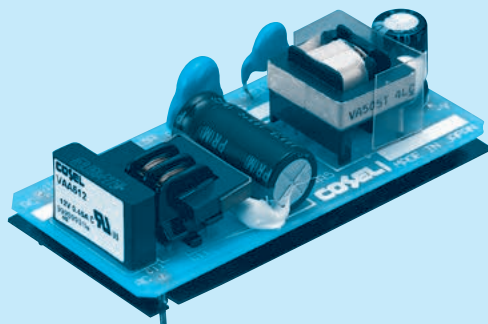


VAA5

VAA 5 05

① ② ③

RoHS



① Series name
② Output wattage
③ Output voltage

MODEL	VAA505		VAA512
MAX OUTPUT WATTAGE[W]	5.0		5.4
DC OUTPUT	VOLTAGE[V]	5	12
	CURRENT[A]	1.0	0.45

SPECIFICATIONS

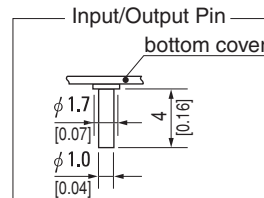
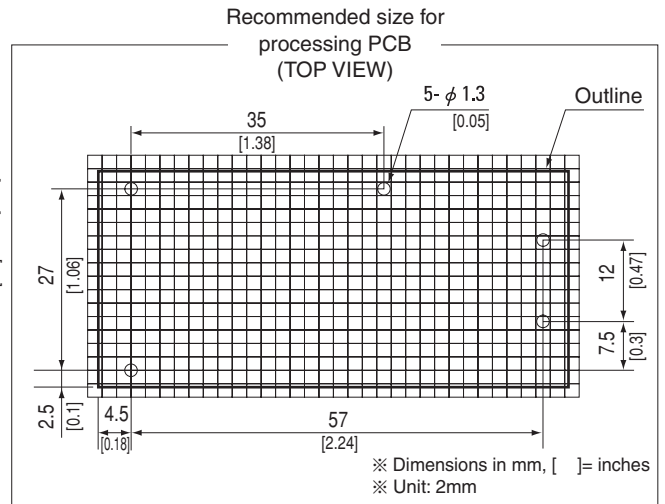
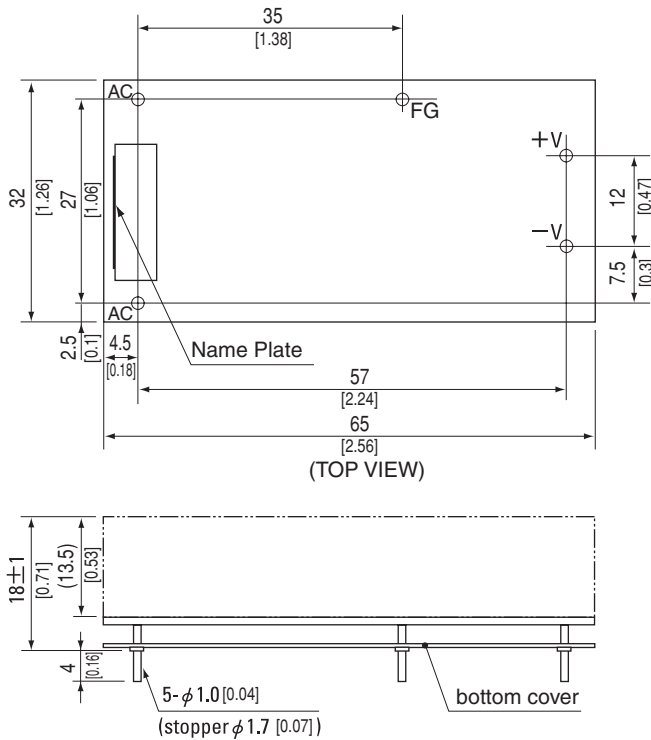
	MODEL	VAA505	VAA512
INPUT	VOLTAGE[V]	AC85 - 132 1 ϕ or DC110 - 170	
	CURRENT[A]	*1 0.13typ (ACIN 100V, Io=100%)	
	EFFICIENCY[%]	*1 75typ	77typ
	FREQUENCY[Hz]	47 - 440 or DC	
	INRUSH CURRENT[A]	*1 15typ (ACIN 100V, Io=100%)	
	LEAKAGE CURRENT[μ A]	0.5max (60Hz According to UL and DEN-AN)	
OUTPUT	VOLTAGE[V]	5	12
	CURRENT[A]	1.0	0.45
	LINE REGULATION[mV]	20max	48max
	LOAD REGULATION[mV]	40max	100max
	RIPPLE[mVp-p]	0 to +55°C *2 80max	120max
		-10 - 0°C *2 140max	160max
	RIPPLE NOISE[mVp-p]	0 to +55°C *2 120max	150max
		-10 - 0°C *2 160max	180max
	TEMPERATURE COEFFICIENT[mV]	-10 to +55°C 50max	120max
	DRIFT[mV]	*3 20max	48max
	OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed	
	START-UP TIME[ms]	200max (ACIN 85V, Io=100%)	
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically	
	OVERVOLTAGE PROTECTION	Works over 115% of rating (by zener diode clamping)	
ISOLATION	INPUT-OUTPUT	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)	
	INPUT-FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)	
	OUTPUT-FG	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (At Room Temperature)	
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +70°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 ² 10 - 55Hz, 3minutes period, 60minutes each along X, Y and Z axis (Non operating)	
	IMPACT	196.1m/s ² 11ms, once each X, Y and Z axis (Non operating)	
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL Complies with DEN-AN (External Fuse is required)	
	CONDUCTED NOISE	Complies with FCC-B, additional capacitors required for meeting VCCI class B	
OTHERS	CASE SIZE/WEIGHT	32 X 18 X 65mm [1.26 X 0.71 X 2.56 inches] (W X H X D) / 30g max	
	COOLING METHOD	Convection	

*1 Rated input/output Ta=25°C

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

*3 Drift is the charge 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.

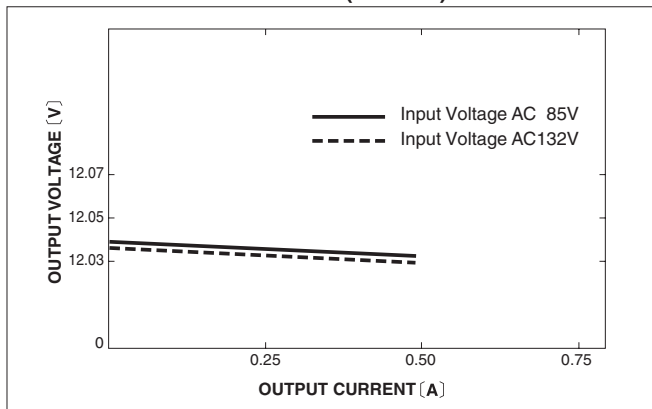
External view



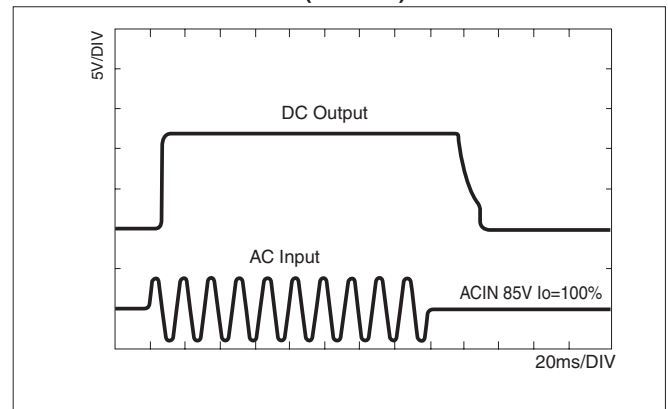
- ※ Weight: 30g max
- ※ Tolerance: ± 0.5 [± 0.02]
- ※ PCB material: CEM-3
- ※ PCB thickness: $t=1.0$ [0.04]
- ※ Pin material: CPW with solder plated
- ※ Recommended hole dia. to PCB: $\phi 1.3$
- ※ Dimensions in mm, []= inches

Performance data

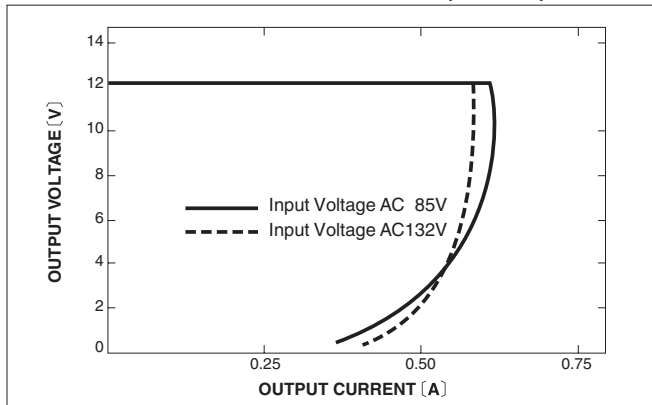
■ STATIC CHARACTERISTICS (VAA512)



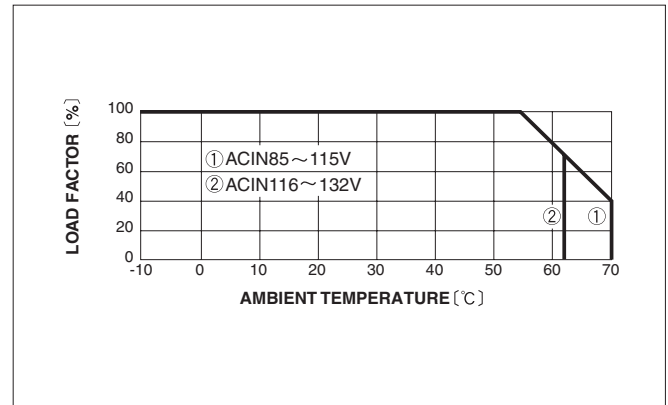
■ RISE TIME & FALL TIME (VAA512)



■ OVERCURRENT CHARACTERISTICS (VAA512)



■ DERATING CURVE

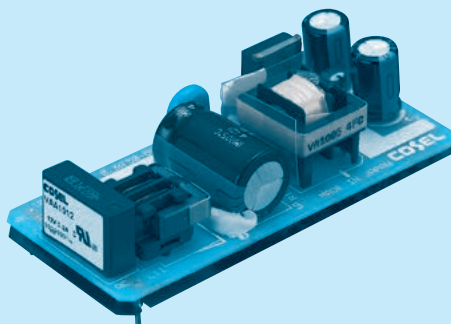


VAA10

VAA 10 05

① ② ③

RoHS



① Series name
② Output wattage
③ Output voltage

MODEL	VAA1005		VAA1012
MAX OUTPUT WATTAGE[W]	10.0		10.8
DC OUTPUT	VOLTAGE[V]	5	12
	CURRENT[A]	2.0	0.9

SPECIFICATIONS

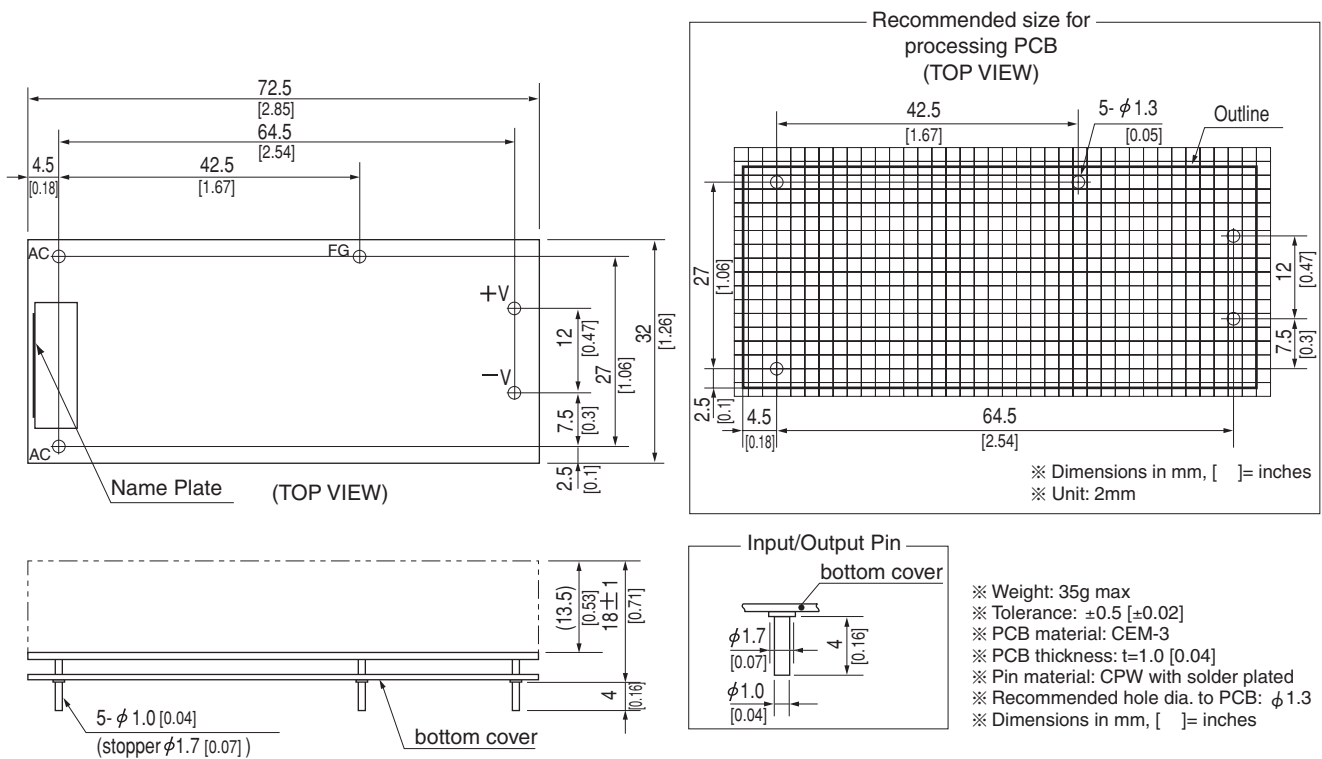
	MODEL	VAA1005	VAA1012
INPUT	VOLTAGE[V]	AC85 - 132 1 ϕ or DC110 - 170	
	CURRENT[A]	*1 0.3typ (ACIN 100V, Io=100%)	
	EFFICIENCY[%]	*1 76typ	77typ
	FREQUENCY[Hz]	47 - 440 or DC	
	INRUSH CURRENT[A]	*1 15typ (ACIN 100V, Io=100%)	
	LEAKAGE CURRENT[μ A]	0.5max (60Hz According to UL and DEN-AN)	
OUTPUT	VOLTAGE[V]	5	12
	CURRENT[A]	2.0	0.9
	LINE REGULATION[mV]	20max	48max
	LOAD REGULATION[mV]	40max	100max
	RIPPLE[mVp-p]	0 to +55°C *2 80max	120max
		-10 - 0°C *2 140max	160max
	RIPPLE NOISE[mVp-p]	0 to +55°C *2 120max	150max
		-10 - 0°C *2 160max	180max
	TEMPERATURE COEFFICIENT[mV]	-10 to +55°C 50max	120max
	DRIFT[mV]	*3 20max	48max
	OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed	
	START-UP TIME[ms]	200max (ACIN 85V, Io=100%)	
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically	
	OVERVOLTAGE PROTECTION	Works over 115% of rating (by zener diode clamping)	
ISOLATION	INPUT-OUTPUT	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)	
	INPUT-FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)	
	OUTPUT-FG	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (At Room Temperature)	
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +70°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 ² 10 - 55Hz, 3minutes period, 60minutes each along X, Y and Z axis (Non operating)	
	IMPACT	196.1m/s ² 11ms, once each X, Y and Z axis (Non operating)	
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL Complies with DEN-AN (External Fuse is required)	
	CONDUCTED NOISE	Complies with FCC-B, additional capacitors required for meeting VCCI class B	
OTHERS	CASE SIZE/WEIGHT	32 X 18 X 72.5mm [1.26 X 0.71 X 2.85 inches] (W X H X D) / 35g max	
	COOLING METHOD	Convection	

*1 Rated input/output Ta=25°C

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

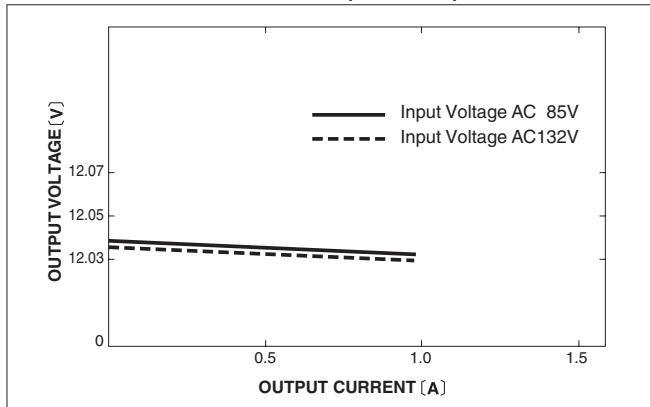
*3 Drift is the charge in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

External view

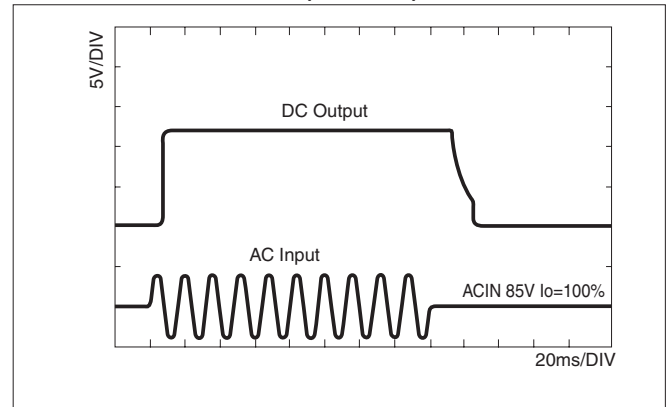


Performance data

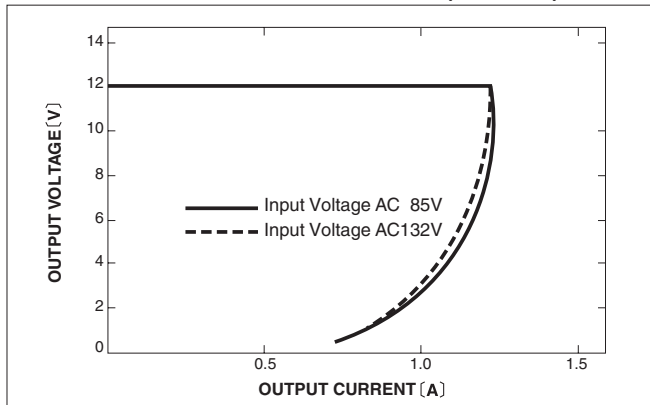
■ STATIC CHARACTERISTICS (VAA1012)



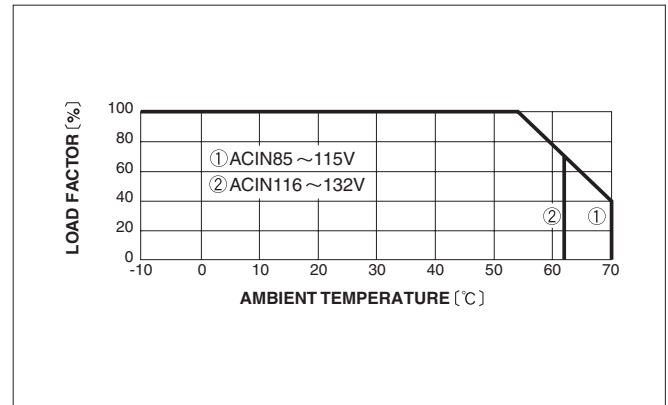
■ RISE TIME & FALL TIME (VAA1012)



■ OVERCURRENT CHARACTERISTICS (VAA1012)



■ DERATING CURVE





Макро Групп – это:

- дистрибьютор электронных компонентов с 1994 года
- контрактный производитель электроники с 2007 года с собственным производством в Санкт-Петербурге (компания Макро ЕМС, входит в ГК Макро Групп)
- поставщик полупроводниковых материалов
- комплексный поставщик электронных компонентов
- моделирование и производство полупроводниковых эпитаксиальных гетероструктур для задач оптоэлектроники

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- работа по тендерам с 2012 года
- оформление банковских гарантий
- отсрочки платежей
- поставка электронных компонентов по проектным ценам
- инженерная поддержка проектов заказчиков
- сертификат системы менеджмента качества ISO 9001-2015
- необходимые сертификаты и лицензии

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