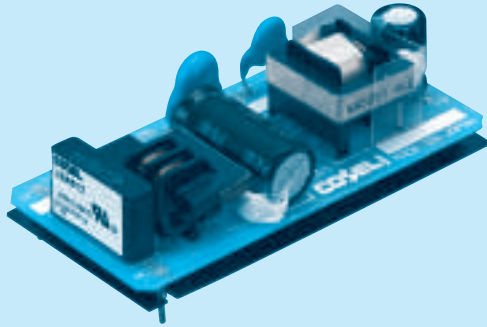


VAA5

VAA 5 05

① ② ③



RoHS


① Series name
② Output wattage
③ Output voltage

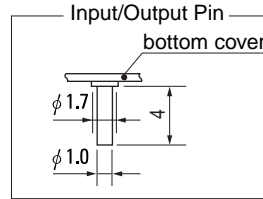
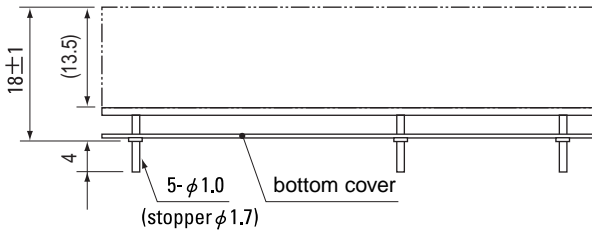
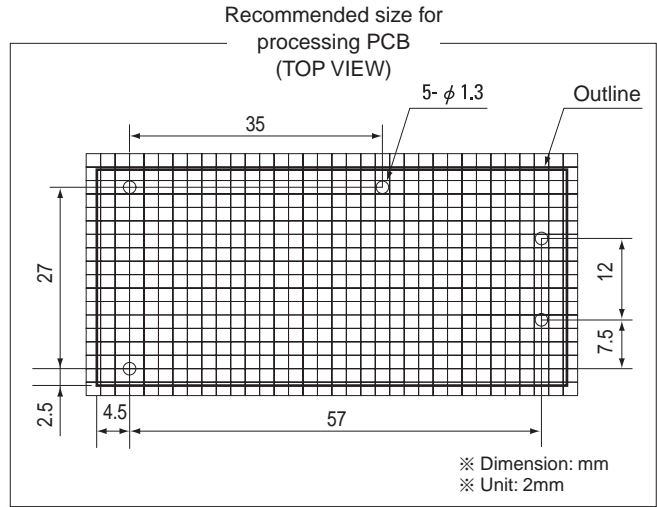
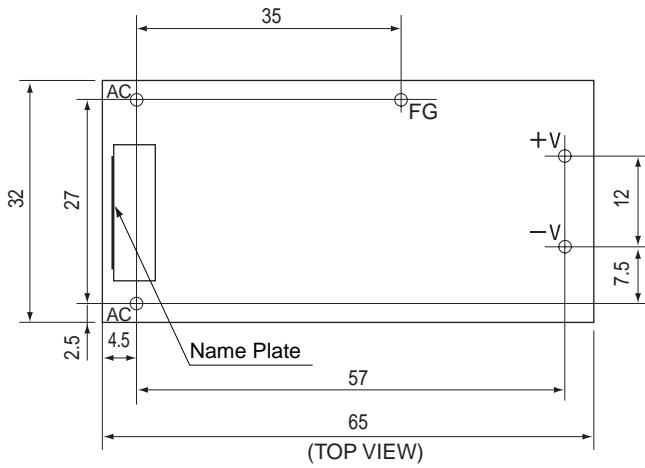
MODEL	VAA505	VAA512
MAX OUTPUT WATTAGE[W]	5.0	5.4
DC OUTPUT	VOLTAGE[V]	5
	CURRENT[A]	1.0
		12
		0.45

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		
	FREQUENCY[Hz]	47 - 440 or DC		
	INRUSH CURRENT[A]	*1 15typ (ACIN 100V, Io=100%)		
	LEAKAGE CURRENT[ma]	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 $^{\circ}$ C *2	80max	120max
		-10 - 0 $^{\circ}$ C *2	140max	160max
	RIPPLE NOISE[mVp-p]	0 to +55 $^{\circ}$ C *2	120max	150max
		-10 - 0 $^{\circ}$ C *2	160max	180max
	TEMPERATURE COEFFICIENT[mV]	-10 to +55 $^{\circ}$ C	50max	120max
	DRIFT[mV]	*3	20max	48max
	OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed		
START-UP TIME[ms]	200max (ACIN 85V, Io=100%)			
HOLD-UP TIME[ms]	10typ (ACIN 85V, Io=100%), 20typ (ACIN 100V, Io=100%)			
OUTPUT VOLTAGE SETTING[V]	*1 4.90 - 5.30	11.40 - 12.60		
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 $^{\circ}$ C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max		
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75 $^{\circ}$ 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 (W x H x D) / 30g max		
	COOLING METHOD	Convection		

*1 Rated input/output Ta=25 $^{\circ}$ 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 $^{\circ}$ C, with the input voltage held constant at the rated input/output.

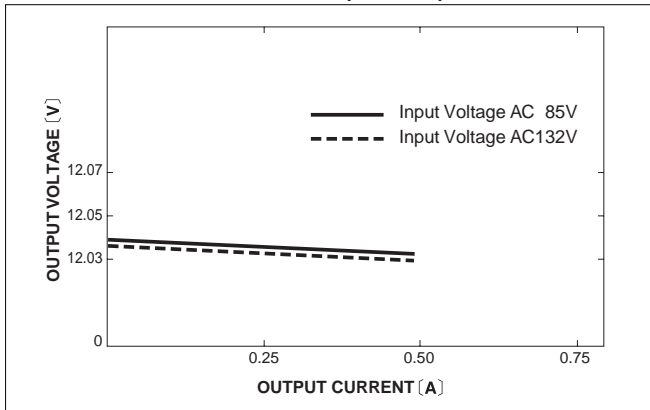
External view



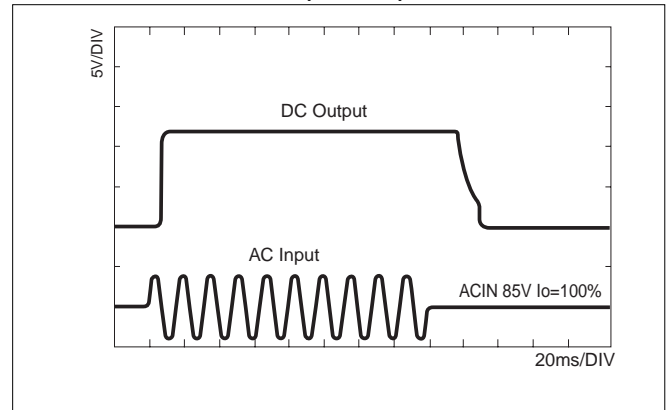
- ※ Weight: 30g or Less
- ※ Tolerance: ± 0.5
- ※ PCB material: CEM-3
- ※ PCB thickness: $t=1.0$
- ※ Pin material: CPW with solder plated
- ※ Bottom cover material: Bake PL 1256 (Black)
- ※ Recommended hole dia. to PCB: $\phi 1.3$

Performance data

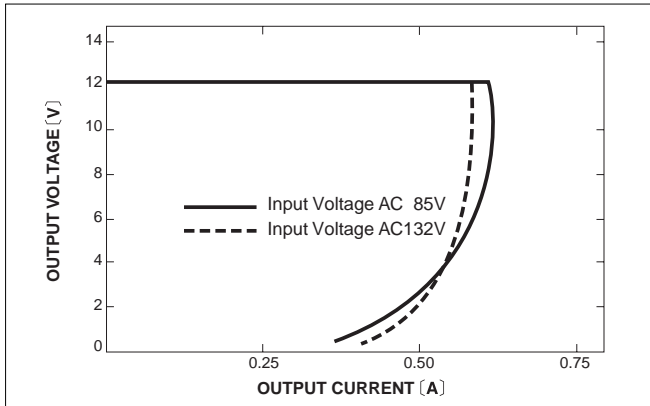
■ STATIC CHARACTERISTICS (VAA512)



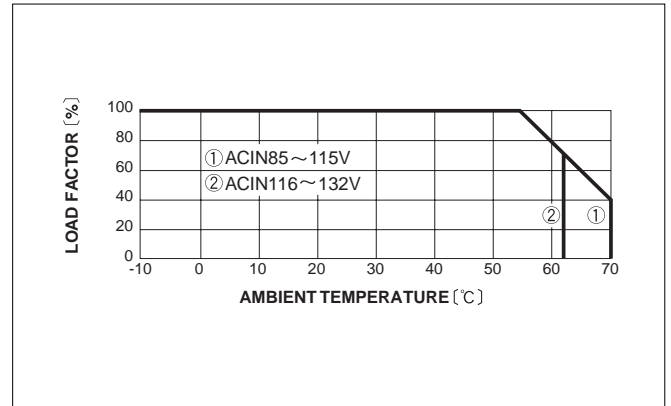
■ RISE TIME & FALL TIME (VAA512)



■ OVERCURRENT CHARACTERISTICS (VAA512)



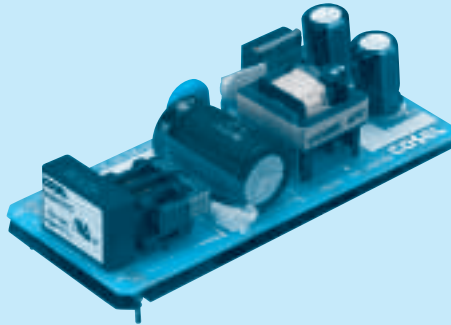
■ DERATING CURVE



VAA10**VAA 10 05**

① ② ③

RoHS



① Series name
② Output wattage
③ Output voltage

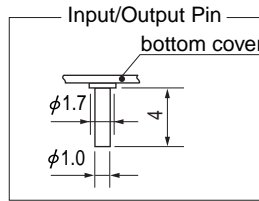
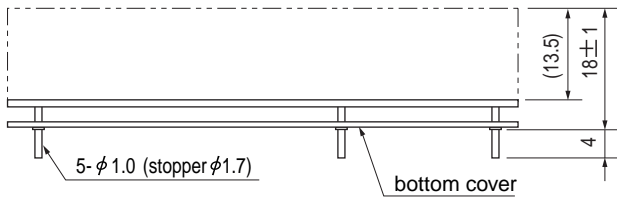
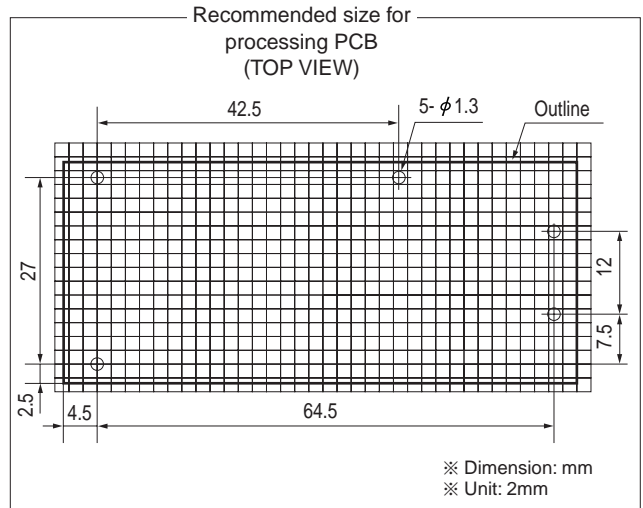
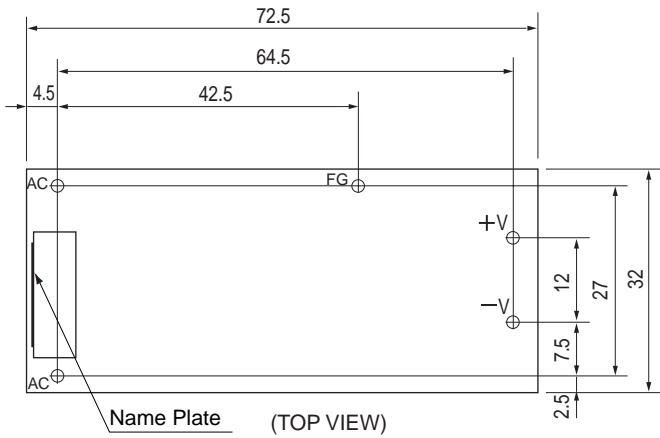
MODEL	VAA1005	VAA1012
MAX OUTPUT WATTAGE[W]	10.0	10.8
DC OUTPUT	VOLTAGE[V]	5
	CURRENT[A]	2.0
		12
		0.9

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[ma]	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 $^{\circ}$ C *2	80max	120max
		-10 - 0 $^{\circ}$ C *2	140max	160max
	RIPPLE NOISE[mVp-p]	0 to +55 $^{\circ}$ C *2	120max	150max
		-10 - 0 $^{\circ}$ C *2	160max	180max
	TEMPERATURE COEFFICIENT[mV]	-10 to +55 $^{\circ}$ C	50max	120max
	DRIFT[mV]	*3	20max	48max
OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed			
START-UP TIME[ms]	200max (ACIN 85V, Io=100%)			
HOLD-UP TIME[ms]	10typ (ACIN 85V, Io=100%), 20typ (ACIN 100V, Io=100%)			
OUTPUT VOLTAGE SETTING[V]	*1 4.90 - 5.30	11.40 - 12.60		
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 $^{\circ}$ C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max		
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75 $^{\circ}$ 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 \times 18 \times 72.5mm (W \times H \times D) / 35g max		
	COOLING METHOD	Convection		

*1 Rated input/output Ta=25 $^{\circ}$ 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 $^{\circ}$ C, with the input voltage held constant at the rated input/output.

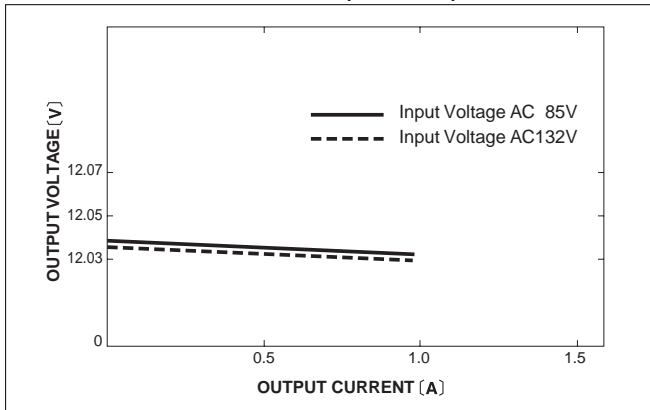
External view



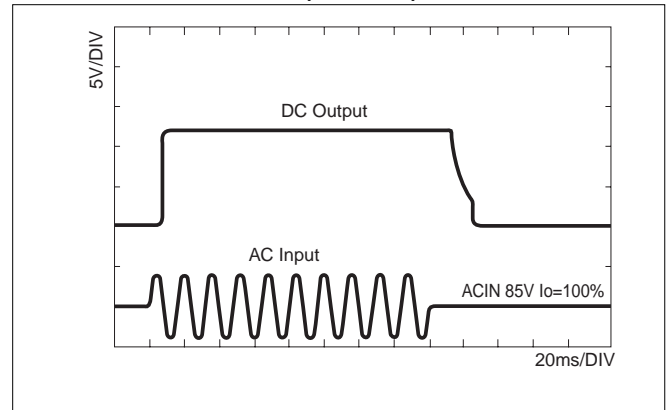
- ※ Weight: 35g or Less
- ※ Tolerance: ±0.5
- ※ PCB material: CEM-3
- ※ PCB thickness: t=1.0
- ※ Pin material: CPW with solder plated
- ※ Bottom cover material: Bake PL 1256 (Black)
- ※ Recommended hole dia. to PCB: φ1.3

Performance data

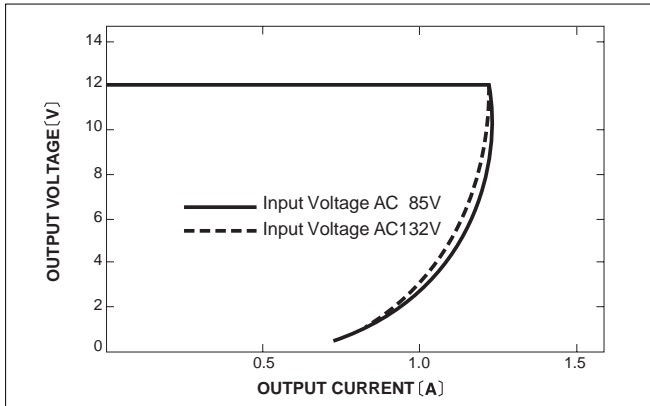
■ STATIC CHARACTERISTICS (VAA1012)



■ RISE TIME & FALL TIME (VAA1012)



■ OVERCURRENT CHARACTERISTICS (VAA1012)



■ DERATING CURVE

