COSEL On-board type

VAA5

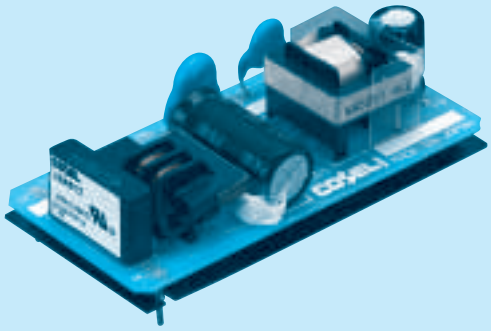
Ordering information

VAA 5 05

① ② ③

①Series name
②Output wattage
③Output voltage

RoHS



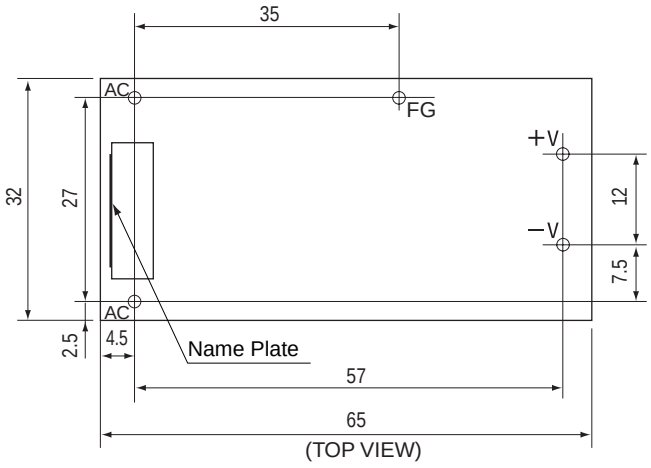
MODEL		VAA505	VAA512
MAX OUTPUT WATTAGE[W]		5.0	5.4
DC OUTPUT	VOLTAGE[V]	5	12
	CURRENT[A]	1.0	0.45

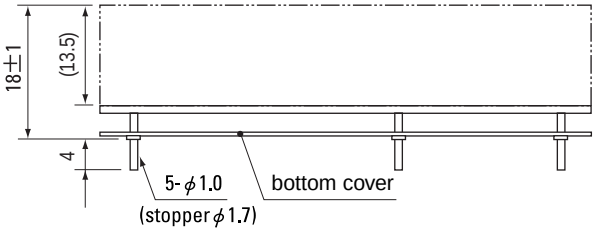
SPECIFICATIONS

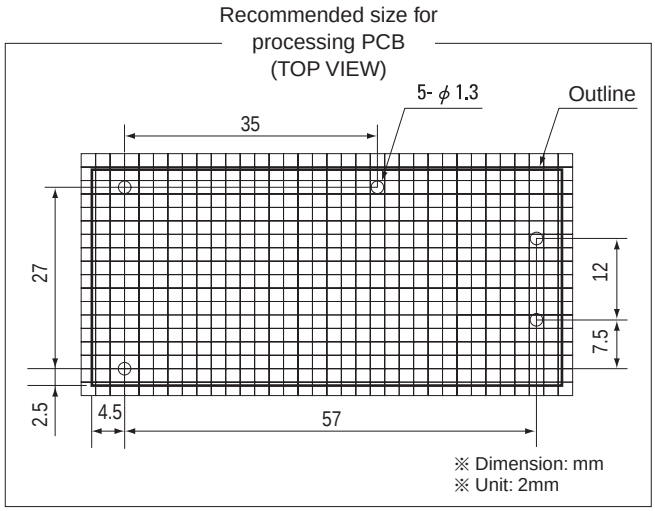
	MODEL		VAA505	VAA512
INPUT	VOLTAGE[V]		AC85 - 132 1φ or DC110 - 170	
	CURRENT[A]	*1	0.13typ (ACIN 100V, Io=100%)	
	EFFICIENCY[%]	*1	75typ	77typ
	FREQUENCY[Hz]		47 - 440 or DC	
	INRUSH CURRENT[A]	*1	15typ (ACIN 100V, Io=100%)	
	LEAKAGE CURRENT[mA]		0.5max (60Hz According to UL and DEN-AN)	
OUTPUT	VOLTAGE[V]		5	12
	CURRENT[A]		1.0	0.45
	LINE REGULATION[mV]		20max	48max
	LOAD REGULATION[mV]		40max	100max
	RIPPLE[mVp-p]	0 to +55℃ *2	80max	120max
		-10 - 0℃ *2	140max	160max
	RIPPLE NOISE[mVp-p]	0 to +55℃ *2	120max	150max
		-10 - 0℃ *2	160max	180max
	TEMPERATURE COEFFICIENT[mV]	-10 to +55℃	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 50MΩ min (At Room Temperature)	
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)	
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)	
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +70℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max	
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max	
	VIBRATION		19.6m/s² 10 - 55Hz, 3minutes period, 60minutes each along X, Y and Z axis (Non operating)	
	IMPACT		196.1m/s² 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		32×18×65mm (W×H×D) / 30g max	
	COOLING METHOD		Convection	

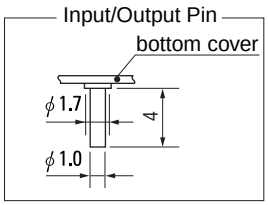
*1 Rated input/output Ta=25℃
*2 This is the value that measured on measuring board with capacitor of 22μF. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).
*3 Drift is the charge in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.

External view





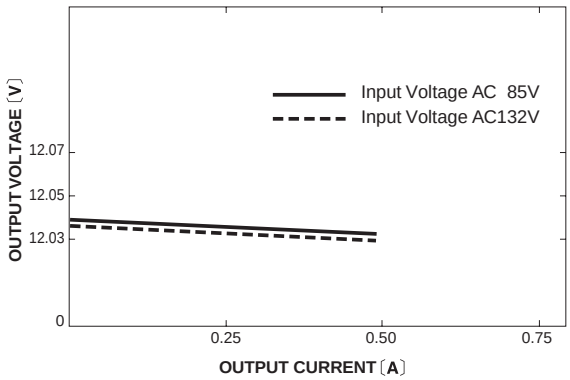




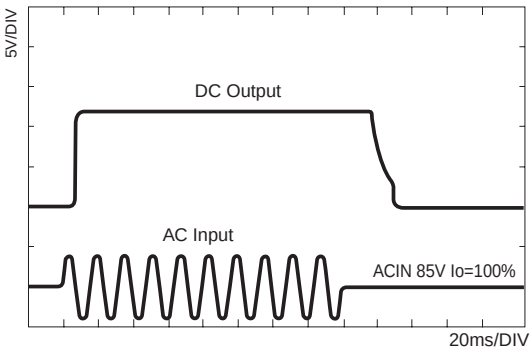
※ Weight: 30g or Less
※ Tolerance: ±0.5
※ PCB material: CEM-3
※ PCB thickness: t=1.0
※ Pin material: CPW with solder plated
※ Bottom cover material: Bake PL 1256 (Black)
※ Recommended hole dia. to PCB: φ1.3

Performance data

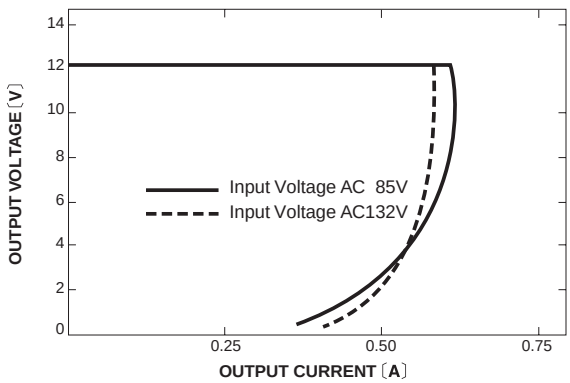
■STATIC CHARACTERISTICS (VAA512)



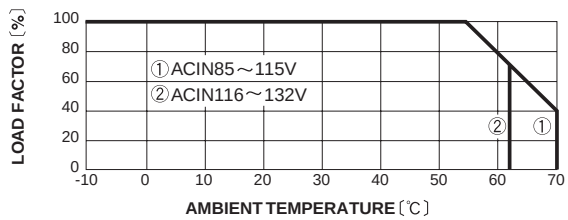
■RISE TIME & FALL TIME (VAA512)



■OVERCURRENT CHARACTERISTICS (VAA512)



■DERATING CURVE



VAA

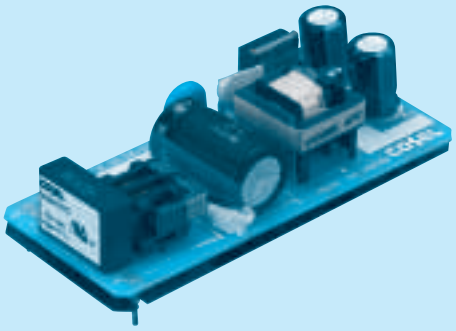
COSEL On-board type

VAA10

Ordering information

VAA 10 05

① ② ③



①Series name
②Output wattage
③Output voltage

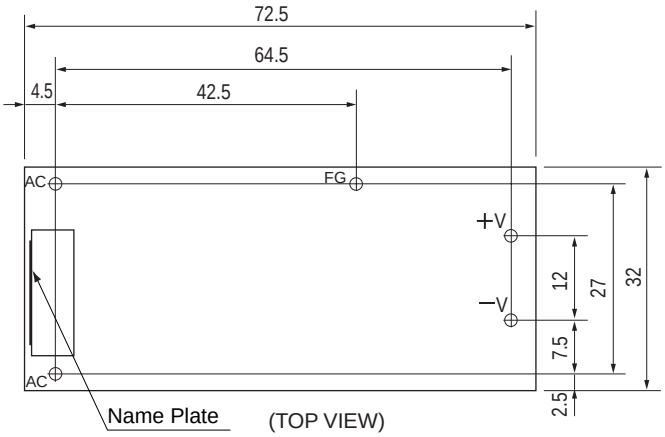
MODEL		VAA1005	VAA1012
MAX OUTPUT WATTAGE[W]		10.0	10.8
DC OUTPUT	VOLTAGE[V]	5	12
	CURRENT[A]	2.0	0.9

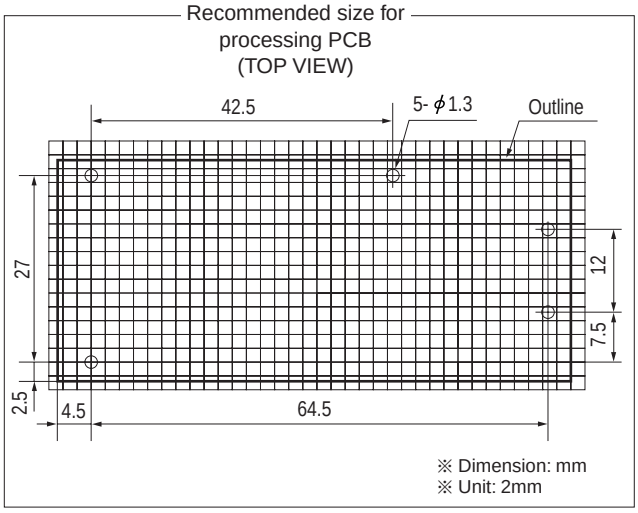
SPECIFICATIONS

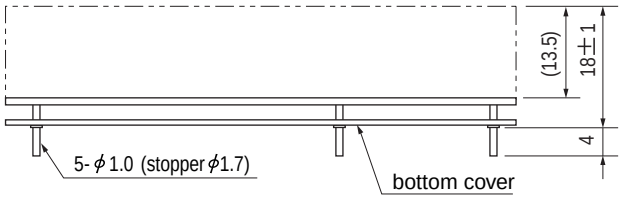
	MODEL		VAA1005	VAA1012
INPUT	VOLTAGE[V]		AC85 - 132 1φ or DC110 - 170	
	CURRENT[A]	*1	0.3typ (ACIN 100V, Io=100%)	
	EFFICIENCY[%]	*1	76typ	77typ
	FREQUENCY[Hz]		47 - 440 or DC	
	INRUSH CURRENT[A]	*1	15typ (ACIN 100V, Io=100%)	
	LEAKAGE CURRENT[mA]		0.5max (60Hz According to UL and DEN-AN)	
OUTPUT	VOLTAGE[V]		5	12
	CURRENT[A]		2.0	0.9
	LINE REGULATION[mV]		20max	48max
	LOAD REGULATION[mV]		40max	100max
	RIPPLE[mVp-p]	0 to +55℃ *2	80max	120max
		-10 - 0℃ *2	140max	160max
	RIPPLE NOISE[mVp-p]	0 to +55℃ *2	120max	150max
		-10 - 0℃ *2	160max	180max
	TEMPERATURE COEFFICIENT[mV]	-10 to +55℃	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 50MΩ min (At Room Temperature)	
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)	
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)	
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +70℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max	
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max	
	VIBRATION		19.6m/s² 10 - 55Hz, 3minutes period, 60minutes each along X, Y and Z axis (Non operating)	
	IMPACT		196.1m/s² 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		32×18×72.5mm (W×H×D) / 35g max	
	COOLING METHOD		Convection	

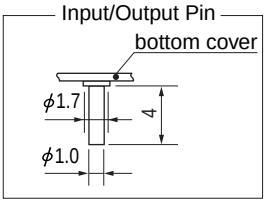
*1 Rated input/output Ta=25℃
*2 This is the value that measured on measuring board with capacitor of 22μF. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).
*3 Drift is the charge in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.

External view





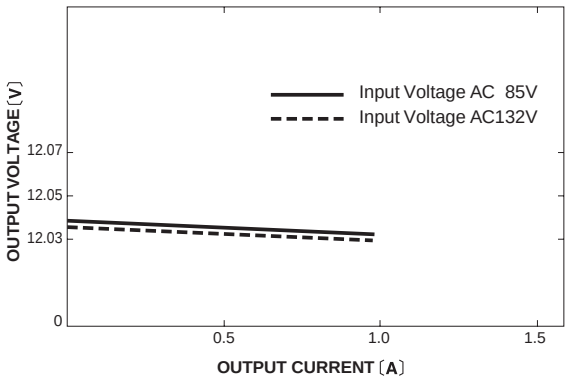




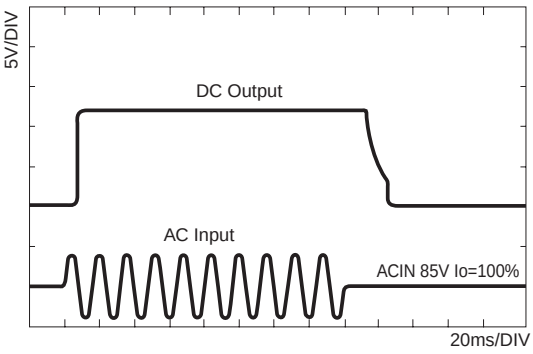
※ Weight: 35g or Less
※ Tolerance: ±0.5
※ PCB material: CEM-3
※ PCB thickness: t=1.0
※ Pin material: CPW with solder plated
※ Bottom cover material: Bake PL 1256 (Black)
※ Recommended hole dia. to PCB: ϕ1.3

Performance data

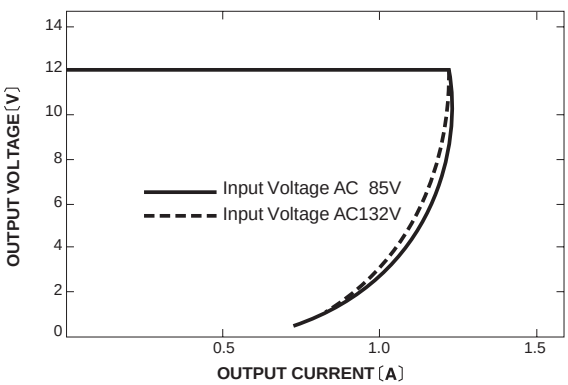
■STATIC CHARACTERISTICS (VAA1012)



■RISE TIME & FALL TIME (VAA1012)



■OVERCURRENT CHARACTERISTICS (VAA1012)



■DERATING CURVE