

GMA300F

Ordering information

GM A 300 F -□□ -□

① ② ③ ④ ⑤ ⑥

Example recommended EMI/EMC filter
EAC-06-472High voltage pulse noise type : EAP series
Low leakage current type : EAM series
* A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

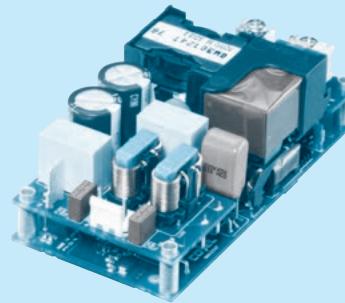
- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage
- ⑥ Optional *6

- C : with Coating
- J1 : Input connector
- VH (J.S.T.) connector type
- J3 : Horizontal input connector
- VH (J.S.T.) connector type
- R3 : with Subfeatures
(5V1A AUX, 12V1A AUX, Remote ON/OFF)

Specification changes when options are added. Please refer to the instruction manual for more detail.



RoHS



This power supply is manufactured using SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, please handle the unit with care.
* Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

MODEL	GMA300F-12	GMA300F-24	GMA300F-48	GMA300F-56
MAX OUTPUT WATTAGE[W]	300	300	302.4	302.4
DC OUTPUT	12V 25A	24V 12.5A	48V 6.3A	56V 5.4A

SPECIFICATIONS

	GMA300F-12	GMA300F-24	GMA300F-48	GMA300F-56
VOLTAGE[V]	*3 AC85 - 264 1φ (Output derating is required at AC85V - 115V. See 3.1 in Instruction Manual)			
CURRENT[A]	ACIN 115V 3.3typ ACIN 230V 1.8typ			
FREQUENCY[Hz]	50 / 60 (45 - 66)			
EFFICIENCY[%]	ACIN 115V 90typ ACIN 230V 92typ	91typ	91typ	91typ
POWER FACTOR (Io=100%)	ACIN 115V 0.95typ ACIN 230V 0.90typ			
INRUSH CURRENT[A]	ACIN 115V 30typ (Io=100%) (At cold start, Ta=25°C) ACIN 230V 60typ (Io=100%) (At cold start, Ta=25°C)			
LEAKAGE CURRENT[mA]	0.13 / 0.30max (ACIN 100/240V 60Hz, Io=100%, According to IEC60601-1)			
INPUT				
VOLTAGE[V]	12	24	48	56
CURRENT[A]	25	12.5	6.3	5.4
LINE REGULATION[mV]	*4 48max	96max	192max	192max
LOAD REGULATION[mV]	*4 100max	150max	240max	240max
RISSLE[mVp-p]	*1 0 to +50°C 240max -20 to 0°C 320max	240max 320max	400max 500max	400max 500max
RISSLE NOISE[mVp-p]	*1 0 to +50°C 300max -20 to 0°C 360max	300max 360max	500max 580max	500max 580max
TEMPERATURE REGULATION[mV]	0 to +50°C 120max -20 to +50°C 150max	240max 290max	480max 600max	480max 600max
DRIFT[mV]	*2 48max	96max	192max	192max
START-UP TIME[ms]	400typ (ACIN 115V, Io=100%) * Start-up time is 900ms typ for less than 1 minute of applying input again from turning off the input voltage.			
HOLD-UP TIME[ms]	16typ (ACIN 115V, Io=85%) / 12typ (ACIN 115V, Io=100%)			
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	11.40 ~ 13.20	22.80 ~ 26.40	45.60 ~ 52.80	52.00 ~ 56.00
OUTPUT VOLTAGE SETTING[V]	12.00 ~ 12.48	24.00 ~ 24.96	48.00 ~ 49.92	55.00 ~ 56.00
PROTECTION CIRCUIT AND OTHERS				
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically			
OVERVOLTAGE PROTECTION[V]	13.80 to 16.80	27.60 to 33.60	55.20 to 67.20	60.00 to 70.50
AUX1 (12V1A)	Optional			
AUX2 (5V1A)	Optional			
REMOTE ON/OFF	Optional			
ISOLATION				
INPUT-OUTPUT · RC · AUX	*7 AC4,000V 1 minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOPP			
INPUT-FG	AC2,000V 1 minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOPP			
OUTPUT · RC · AUX-FG	*7 AC1,500V 1 minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOPP			
OUTPUT-RC · AUX	*7 AC100V 1 minute, Cutoff current = 25mA, DC100V 10MΩ min (At Room Temperature)			
ENVIRONMENT				
OPERATING TEMP., HUMID. AND ALTITUDE	-20 to +70°C, 20 - 90%RH (Non condensing), 5,000m (16,000feet) max *3 *8			
STORAGE TEMP., HUMID. AND ALTITUDE	-30 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max			
VIBRATION	10 - 55Hz, 19.6m/s² (2G), 3 minutes period, 60 minutes each along X, Y and Z axis			
IMPACT	196.1m/s² (20G), 11ms, once each X, Y and Z axis			
SAFETY AND NOISE REGULATIONS				
AGENCY APPROVALS	UL62368-1, ANSI/AAMI ES60601-1, C-UL, EN62368-1, EN60601-1 3rd, Complies with IEC60601-1-2 4th Ed.			
CONDUCTED NOISE	Complies with FCC Part15 classB, VCCI-B, CISPR32-B, EN55011-B, EN55032-B			
HARMONIC ATTENUATOR	*5 Complies with IEC61000-3-2 (class A)			
OTHERS				
CASE SIZE/WEIGHT	50.8×37×101.6mm [2.0×1.5×4.0 inches] (W×H×D) / 230g max			
COOLING METHOD	Forced air (Requires external fan)			

*1 This is the value that measured on measuring board with capacitor of 22μF at 150mm from output terminal.

Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).

*2 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.

*3 Derating is required.

*4 Please contact us about dynamic load and input response.

*5 Please contact us about another class.

*6 Specification is changed at option, refer to Instruction Manual.

*7 Applicable when AUX and remote control (optional) is added.

*8 Please contact us about for more detail.

* To meet the specifications. Do not operate over-loaded condition.

* Parallel operation is not possible.

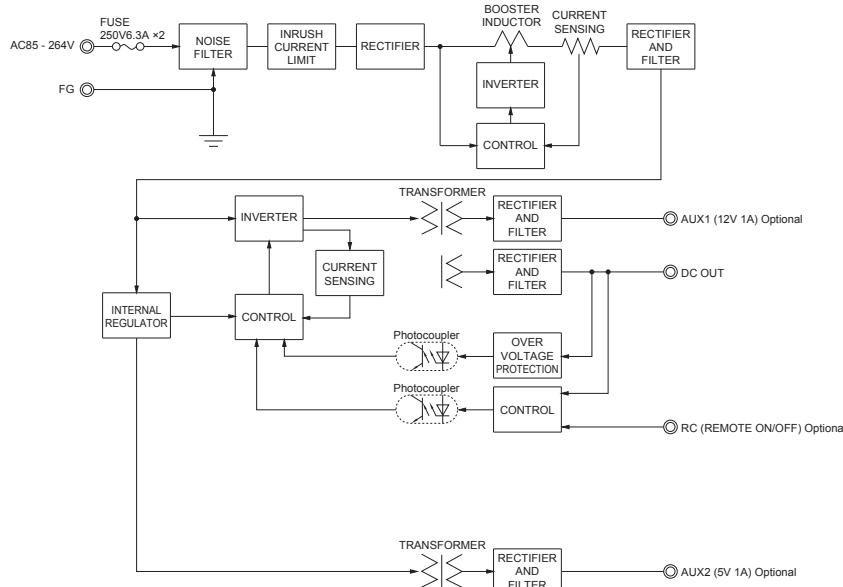
* Sound noise may be generated by power supply in case of pulse load.

* Substrate bottom has a Electric potential. Insulation is required.

Features

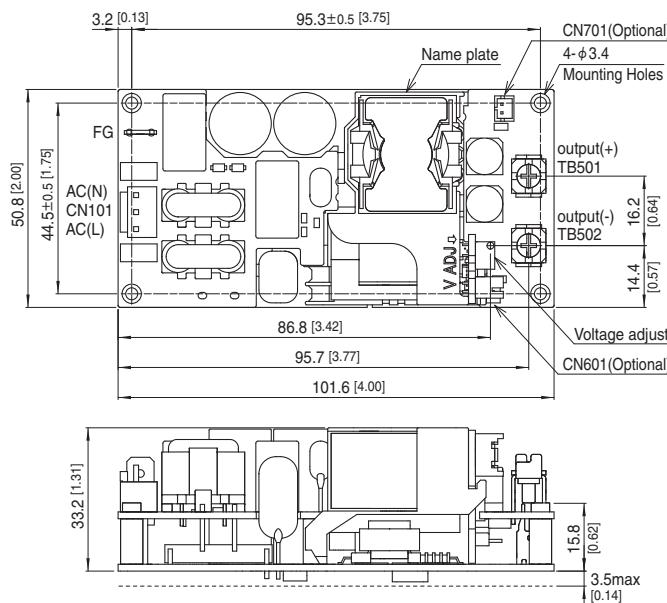
- High power density : 25.7W/inch³
- High efficiency : 93% typ (Input Voltage 230V, Output Voltage 24V)
- For medical electric equipment (ANSI/AAMI ES60601-1, EN60601-1 3rd, IEC60601-1-2 4th Ed.)
- Suitable for BF application (Output-FG : 1MOPP, Input-Output : 2MOPP)
- 2" X 4"standard footprint
- With Remote ON/OFF (Optional)
- With AUX1 (12V 1A), AUX2 (5V 1A) (Optional)

Block diagram



External view

* External size of option J3 is different from standard model and refer to 4 Option and Others of instruction manual for details.



* Tolerance ±1 [-0.04]

* Weight : 230g max

* There is a total of four attachment holes.

* Dimensions in mm, []=inches

* Screw tightening torque : (TB501, 502) : 1.25N · m max

* Mounting torque : 0.6N · m max

* Avoid contact between TB501 and 502 wiring with mounting parts.

	I/O Connector		Mating connector	Terminal	Mfr
Standard	CN101	1-1123724-2	1-1123722-3	1123721-1 1318912-1	Tyco Electronics
R3	CN101				J.S.T.
	CN601	B8B-PHDSS	PHDR-08VS	SPHD-002T-P0.5	
J1	CN701	B2B-PH	PHR-2	SPH-002T-P0.5S	J.S.T.
	CN101	B2P3-VH	VHR-3N	SVH-21T-P1.1	
J1R3	CN601	B8B-PHDSS	PHDR-08VS	SPHD-002T-P0.5	J.S.T.
	CN701	B2B-PH	PHR-2	SPH-002T-P0.5S	
FG		Mating connector	Terminal	Mfr	
250 (62409-1)		-	170603-2	Tyco Electronics	

<Pin Assignments>

<CN101>

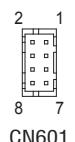
Pin No.	Input
1	AC(L)
2	/
3	AC(N)

<CN601(Optional)>

Pin No.	Function
1	RC : REMOTE ON/OFF
2	RCG : REMOTE ON/OFF(GND)
3	N.C. : No connection
4	N.C. : No connection
5	N.C. : No connection
6	N.C. : No connection
7	AUX2 : AUX2 (5V 1A)
8	AUX2G: AUX2 (GND)

<CN701(Optional)>

Pin No.	Function
1	AUX1G: AUX1 (GND)
2	AUX1 : AUX1 (12V 1A)



CN601



CN701