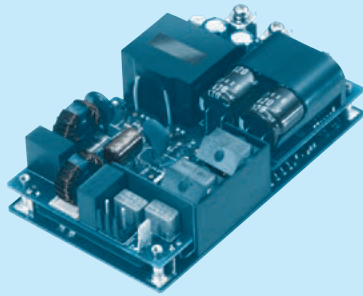


GHA300F

GH A 300 F -□□ -□
 ① ② ③ ④ ⑤ ⑥



Example recommended EMI/EMC filter
EAC-10-472



High 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
- T3 : mounting hole M3
 J1 : VH(J.S.T.)connector type
 J3 : Horizontal input connector
 VH(J.S.T.)connector type
 R3 : with Subfeatures (5VAUX,12VAUX,Remote, Power good)

Specification is changed at option, refer to Instruction manual.

This power supply is manufactured by 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	GHA300F-12		GHA300F-24		GHA300F-48	
MAX OUTPUT WATTAGE[W]	300		300		302.4	
DC OUTPUT	Forced air	at 50°C	12V 25A	24V 12.5A	48V 6.3A	
		at 40°C	12V 8.4A	24V 4.2A	48V 2.1A	
	Convection	at 50°C	12V 4.5A	24V 2.2A	48V 1.1A	

SPECIFICATIONS

	MODEL	GHA300F-12		GHA300F-24		GHA300F-48		
INPUT	VOLTAGE[V]	AC90 - 264 1 φ (output derating is required at AC90V -115V *3)						
	CURRENT[A]	ACIN 120V	3.3typ					
		ACIN 230V	1.8typ					
	FREQUENCY[Hz]	50 / 60 (47 - 63)						
	EFFICIENCY[%]	ACIN 120V	89typ		90typ		90typ	
		ACIN 230V	91typ		92typ		92typ	
	POWER FACTOR (Io=100%)	ACIN 120V	0.95typ					
		ACIN 230V	0.90typ					
INRUSH CURRENT[A]	ACIN 120V	20typ (Io=100%) (At cold start) (Ta=25°C)						
	ACIN 230V	40typ (Io=100%) (At cold start) (Ta=25°C)						
LEAKAGE CURRENT[ma]	0.125/0.250max (ACIN 120V/240V 60Hz,Io=100%, According to IEC60601-1)							
OUTPUT	VOLTAGE[V]	12		24		48		
	CURRENT[A]	Forced air	25.0		12.5		6.3	
		Convection	4.5		2.2		1.1	
	LINE REGULATION[mV]	*4 48max		96max		192max		
	LOAD REGULATION[mV]	*4 100max		150max		240max		
	RIPPLE[mVp-p]	*1 0 to +50°C	240max		240max		300max	
		-20 to 0°C	320max		320max		400max	
	RIPPLE NOISE[mVp-p]*1	0 to +50°C	300max		300max		480max	
		-20 to 0°C	360max		360max		500max	
	TEMPERATURE REGULATION[mV]	0 to +50°C	120max		240max		480max	
		-20 to +50°C	150max		290max		600max	
	DRIFT[mV]	*2 48max		96max		192max		
	START-UP TIME[ms]	500typ (ACIN 120V, Io=100%)						
HOLD-UP TIME[ms]	16typ (ACIN 120V, Io=100%)							
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	10.80 to 13.20		21.60 to 26.40		43.20 to 52.80			
OUTPUT VOLTAGE SETTING[V]	12.00 to 12.48		24.00 to 24.96		48.00 to 49.92			
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		
	AUX1 (12V1A)	Optional						
	AUX2 (5V1A)	Optional						
	REMOTE ON/OFF	Optional						
	PowerGood	Optional						
ISOLATION	INPUT-OUTPUT · RC · AUX *7	AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOPP						
	INPUT-FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOPP						
	OUTPUT · RC · AUX-FG *7	AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)						
	OUTPUT-RC · AUX *7	AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)						
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTIUDE	-20 to +70°C, 20 - 90%RH (Non condensing), 3,000m (10,000feet) max *3						
	STORAGE TEMP.,HUMID.AND ALTIUDE	-30 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis						
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, ANSI/AAMI ES60601-1, C-UL(CSA60950-1, CAN/CSA60601-1), EN60950-1, EN60601-1 3rd						
	CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR11-B, CISPR22-B, EN55011-B, EN55022-B						
	HARMONIC ATTENUATOR	Complies with IEC61000-3-2 (class A) *5						
OTHERS	CASE SIZE/WEIGHT	76.2×35×127mm [3.0×1.4×5.0 inches] (W×H×D) / 400g max						
	COOLING METHOD	Convection, Forced air (Require external fan)						

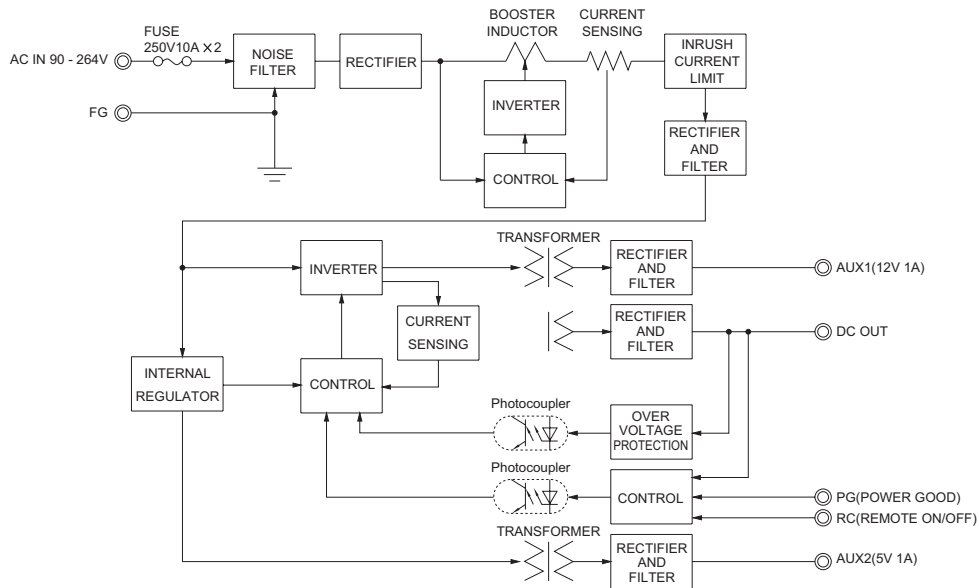
*1 This is the value that measured on measuring board with capacitor of 22 μF at 150mm from output terminal.
 Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
 *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with 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.
 * To meet the specifications. Do not operate over-loaded condition.
 * Sound noise may be generated by power supply in case of pulse load.
 * Parallel operation is not possible.
 * Forced air cooling is required to output up to MAX OUTPUT WATTAGE.
 * Bottom layer P.C.B has electric potential which is required isolation from FG by clearance or creepage as the safety design issue.

Features

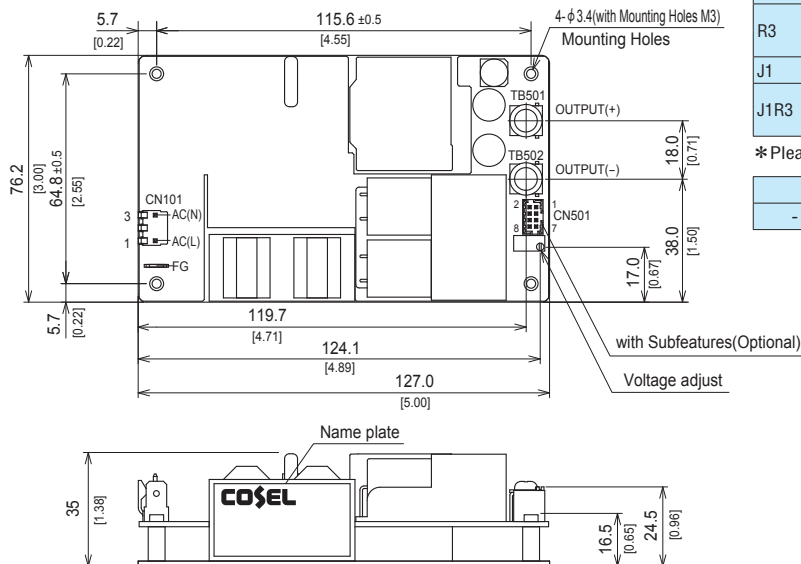
- High Power density: 14.3W/inch³
- High efficiency 92% typ (Input Voltage 230V, Output Voltage 24V)
- 3" × 5" standard footprint
- Fits 1U applications
- Industrial and Medical safety approvals
- Low leakage current
- With Remote On/Off (Optional)
- With AUX1 (12V), AUX2 (5V) (Optional)
- No minimum load is required

Block diagram



External view

*External size of option J3 is different from standard model and refer to 5 Option and Others of instruction manual for details.



- ※ Tolerance ± 1 [± 0.04]
- ※ Weight : 400g max
- ※ There is a total of four attachment holes.
- ※ This power supply requires mounting on metal standoffs 5mm in height. (Insulating sheet is required if you do not use a spacer).
- ※ Dimensions in mm, []=inches
- ※ Screw tightening torque : (TB501, 502) : 1.5N · m max
- ※ Mounting torque : 0.6N · m max
- ※ Avoid contact between TB501 and 502 wiring with mounting parts.
- ※ Option : ~J1 : (J.S.T) connector type. Refer to Instruction Manual 5.

Connector		Mating connector	Terminal	Mfr	
Standard	CN101	A-41671-A03A197-2	09-50-8031	08-50-0105 08-65-0114	Molex *
R3	CN501	087831-0820	51110-0851	50394-8051	
J1	CN101	B2P3-VH	VHR-3N	SVH-21T-P1.1	J.S.T.
J1R3	CN501	B8B-PHDSS	PHDR-08VS	SPHD-002T-P0.5	

*Please note the pin position No.1 is different from Molex.

FG	Mating connector	Terminal	Mfr
-	250 Series	-	170603-2 Tyco Electronics

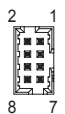
<Pin Assignments>

<CN101>

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

<CN501(Optional)>

Pin No.	Function
1	AUX1 : AUX1 (12V1A)
2	AUX1G: AUX1 (GND)
3	RC : REMOTE ON/OFF
4	RCG : REMOTE ON/OFF (GND)
5	PG : Power good
6	PGG : Power good (GND)
7	AUX2 : AUX2 (5V1A)
8	AUX2G: AUX2 (GND)



CN501