

Typical Features

- ◆ Wide input voltage range 80-264VAC
- ◆ No load power consumption $\leq 0.1W@220VAC$
- ◆ Efficiency 94%(TYP.)
- ◆ Operating temperature from $-30^{\circ}C$ to $+70^{\circ}C$
- ◆ Switching Frequency 100KHz
- ◆ Input under-voltage protection, output short circuit, over current, over voltage, over power & over temp. protections
- ◆ Isolation voltage 3000VAC
- ◆ Altitude during operation 4000m Max
- ◆ Conform to CE & CQC
- ◆ Specially designed for 5G equipment



Application Field

DA150-220SXXGA9N3 Series ----- Specially designed high efficiency power supplies for 5G application with the developing requirements on safety power supplying, flexible & reliable assembly and technology innovation. The performances include global adapted input voltage range (both AC & DC available), low ripple, low temperature rise, low standby power consumption, high efficiency, high reliability and safety isolated. This series of products can be widely used for 5G, Monitoring and Security Industry, etc.

Typical Product List

Certificate	Part No.	Output Specifications			Max Capacitive Load @220VAC u F	Ripple & Noise 20MHz (Max) mVp-p	Efficiency@ Full Load, 220VAC %(Typ.)
		Power	Voltage	Current			
		(W)	Vo(V)	Io(mA)			
-	DA150-220S24GA9N3	141.6	24	5900	6000	120	94

Note 1: The typical value of efficiency is based on the product tested after half an hour burn-in at full load.

Note 2: The full load efficiency should be in $\pm 2\%$ of the typical value in this table. The efficiency is calculated by the way that the full output power is divided by the input power.

Note 3: Please contact Aipu sales for other output voltages requirements in this series but not listed in this table.

Input Specifications

Item	Operating Condition	Min	Typ.	Max	Unit
Input Voltage Range	AC input	80	220	264	VAC
	DC input	113	310	375	VDC
Input Frequency range	-	47	50	63	Hz
Input Current	115VAC	-	-	1.8	A
	230VAC	-	-	1.0	

Surge Current	115VAC	-	-	30	A
	230VAC	-	-	60	
No Load power Consumption	Input 115VAC	-	-	0.1	W
	Input 220VAC	-	-		
Leakage Current	-	0.5mA TYP/230VAC/50Hz			
Under-voltage Protection	<70VAC	The converter starts at input voltage ≥80VAC			
Hot Plug	-	Unavailable			
Remote Control	-	Unavailable			

Output Specifications

Item		Operating Condition	Min	Typ.	Max	Unit
Voltage Accuracy		Full input voltage range, any load	-	±1.0	±3.0	%
Line Regulation		Rated load	-	-	±1.0	%
Load Regulation		Nominal input voltage, 10%~100% load	-	-	±1.0	%
Minimum Load		Single Output	0	-	-	%
Turn-on Delay Time		Input 115VAC (full load)	-	500	-	mS
		Input 230VAC (full load)	-		-	
Power-off Hold-up Time		Input 115VAC (full load)		12		mS
		Input 230VAC (full load)	-		-	
Dynamic Response	Overshoot range	25%~50%~25% 50%~75%~50%	-5.0	-	+5.0	%
	Recovery time		-5.0	-	+5.0	mS
Output Overshoot		Full input voltage range	≤10%Vo			%
Short circuit Protection			Continuous, self-recovery			Hiccup
Temperature Drift		-	-	±0.03%	-	%/°C
Over Current Protection		-	≥110% Io, self-recovery			Hiccup
Over Voltage Protection		Output 24VDC	26.4~31.2			VDC
Over Power Protection		Nominal input voltage	Output power 110~140%			
Ripple & Noise		-	-	80	120	mV

General Specifications

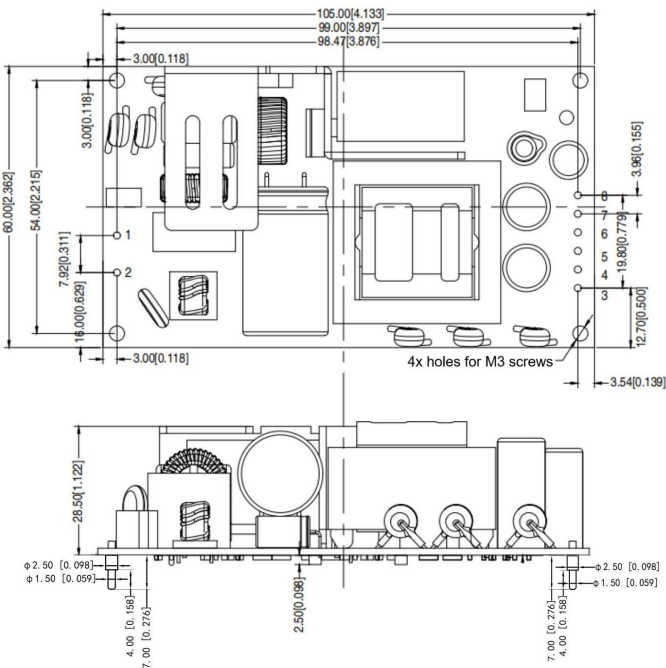
Item		Operating Condition	Min	Typ.	Max	Unit
Switching Frequency		-	-	100	-	KHz
Operating Temperature		Refer to the temperature derating graph	-30	-	+70	°C
Storage Temperature		-	-40	-	+85	°C
Soldering Temperature		Wave soldering	260 ± 4 °C, time 5-10S			
		Manual soldering	360 ± 8 °C, time 4-7S			
Relative Humidity		-	10	-	90	%RH

Isolation Voltage	Input-Output, Test 1min, leakage current ≤3mA	3000	-	-	VAC
Insulation Resistance	Input-Output, @ DC500V	100	-	-	MΩ
Vibration	-	10-500Hz, 2G, 10Min, along X, Y, Z			
Safety Class	-	CLASS B			
MTBF	-	MIL-HDBK-217F@25℃>500,000H			
Unit Weight	-	195g (Typ.)			

EMC Performances

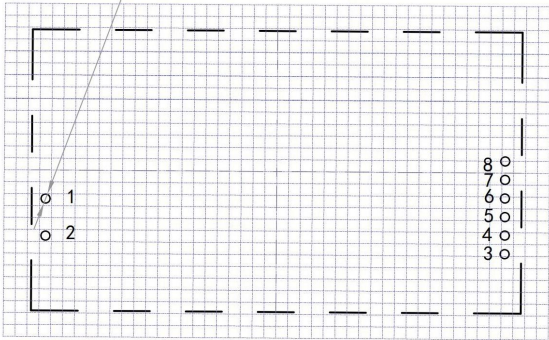
Total Item	Sub Item	Test Standard	Performance/Class		
EMS	RS	IEC/EN61000-4-3	10V/m	Perf.Criteria A	
	CS	IEC/EN61000-4-6	10Vr.m.s	Perf.Criteria A	
	ESD	IEC/EN61000-4-2	Contact ±6KV	Perf.Criteria B	
	Surge	IEC/EN61000-4-5	±1KV	Perf.Criteria B	
	EFT	IEC/EN61000-4-4	±2KV	Perf.Criteria B	

Mechanical Dimensions



Terminal No.	Function
1	AC(L)
2	AC(N)
3, 4, 5	-Vout
6, 7, 8	+Vout

8* φ 2.00 [φ 0.079]

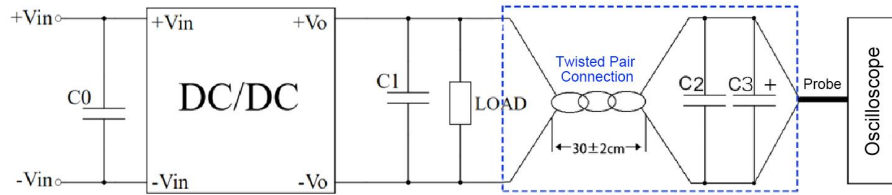


PCB layout vertical view Grid 2.54x2.54[0.10x0.10]

Unit: mm[inch]
General tolerance: ±1.00[±0.039]
Terminals diameter tolerance: ±0.10[±0.004]
The components layout is only for reference, any deviation from the actual unit should be accepted.

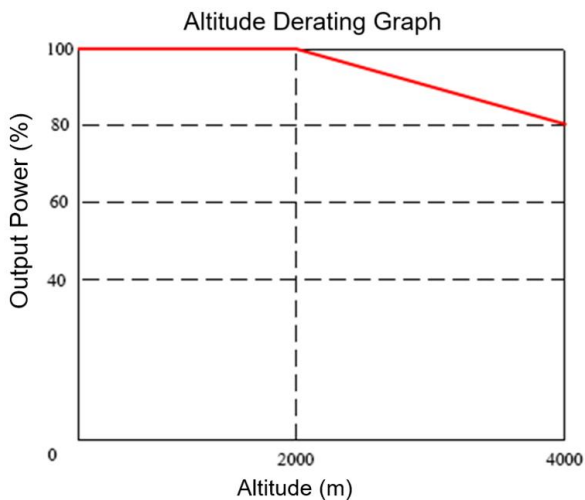
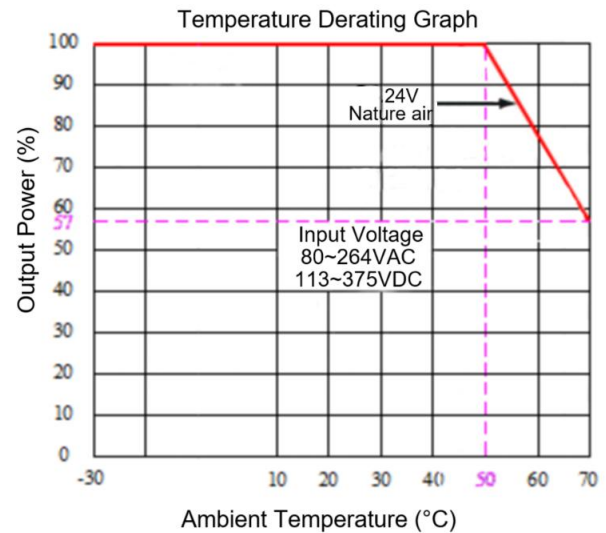
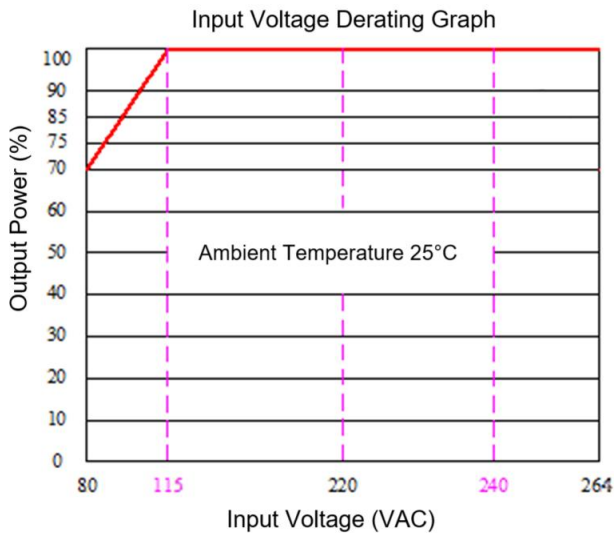
Package Code	Dimensions L x W x H	
-	105 x 60 x 31 mm	4.133 × 2.362 × 1.220 inch

Ripple & Noise Test Instruction (Twisted Pair Method, 20MHz bandwidth)



- 1) The Ripple & noise test needs 12# twisted pair cables, an oscilloscope which should be set at the Sample Mode, bandwidth 20MHz. 100M bandwidth probe with cap and ground removed. C2(0.1uF) polypropylene capacitor and C3(10uF) high-frequency low-resistance electrolytic capacitor are connected in parallel with the probes and one side of the twisted pair. C0 & C1 refer to the application circuit recommended.
- 2) The power supply output connects to the load by the cables. The other side of the twisted pair (length 30cm±2 cm) should be connected in parallel with the load, the polarity of the output and the oscilloscope probe should not be reversed. The test can be start after input power on.

Product Characteristics Graphs



Note 1: The output power should be derated based on the input voltage derating graph at 85~115VAC & 113~162VDC.

Note 2: This product should operate under the natural air condition, please contact us if it need be used at a closed space.

Application Notice

1. The products should be used according to the specifications in this datasheet, otherwise it could be permanently damaged.
2. The product performance in this datasheet cannot be guaranteed if it works at a lower load than the minimum load defined.
3. The product performance in this datasheet cannot be guaranteed if it works under over-load condition.
4. Unless otherwise specified, all values or indicators in this datasheet are tested at $T_a=25^{\circ}\text{C}$, humidity<75%RH, nominal input voltage and rated load (pure resistance load).
5. All values or indicators in this datasheet had been tested based on Aipupower test specifications.
6. The specifications are specially for the parts listed in this datasheet, any other non-standard model performances could be out of the specifications. Please contact our technician for specific requirements.
7. Aipupower can provide customization service.

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