Astrodyne TDI
Now you have power.

320W Single Output with PFC Function

SP320 series



- Universal AC input
- Protections:Short circuit/Over load/Over voltage/Over temperarure
- Built-in active PFC function, PF >0.95
- Forced air cooling by built-in DC Fan
- Built-in fan speed control
- Fixed switching frequency at 100KHz

Model Number	Output Volts	Output Amps	OVP	Min Load	DC Volt Adjust	Load Reg	Efficiency
SINGLE OUTPUT							
SP320-3.3	3.3 Volts(DC)	55 Amps	3.8 ~ 4.5Volt(DC)	0~60Amps	3.14~3.63Volt(DC)	±1.5%	74%
SP320-5	5 Volts(DC)	55 Amps	5.75 ~ 6.75Volt(DC)	0~55Amps	4.5~5.5Volt(DC)	±1.0%	79%
SP320-7.5	7.5 Volts(DC)	40 Amps	9.4 ~ 10.9Volt(DC)	0~40Amps	6.0~9.0Volt(DC)	±1.0%	83%
SP320-12	12 Volts(DC)	25 Amps	13.8 ~ 16.2Volt(DC)	0~25Amps	10~13.2Volt(DC	±0.5%	86%
SP320-13.5	13.5 Volts(DC)	22 Amps	15.5 ~ 18.2Volt(DC)	0~22Amps	12~15Volt(DC)	±0.5%	86%
SP320-15	15 Volts(DC)	20 Amps	18 ~ 21Volt(DC)	0~20Amps	13.5~18Volt(DC)	±0.5%	86%
SP320-24	24 Volts(DC)	13 Amps	27.6 ~ 32.4Volt(DC)	0~13Amps	20~26.4Volt(DC)	±0.5%	87%
SP320-27	27 Volts(DC)	11.7 Amps	33.7 ~ 39.2Volt(DC)	0~11.7Amps	26~31.5Volt(DC)	±0.5%	88%
SP320-36	36 Volts(DC)	8.8 Amps	45 ~ 52.5Volt(DC)	0~8.8Amps	32.4~39.6Volt(DC)	±0.5%	87%
SP320-48	48 Volts(DC)	6.7 Amps	57.6~ 67.2Volt(DC)	0~6.7Amps	41~56Volt(DC)	±0.5%	89%

ASTRODYNE USA: 1-800-823-8082
ASTRODYNE PACIFIC: 886-2-26983458

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INPUT SPECIFICATIONS

Input Voltage Range (Note3)	90 ~ 264VAC 124~370 Volts(DC)
Frequency Range	47-63 Hz
Inrush Current, typ: (cold start)	20Amps/115VAC; 40Amps 230VAC
Input Current	
	3.3Volts(DC):2.5Amps@115VAC;1.5 Amps@230VAC
	5~48Volts(DC):5Amps@115VAC;2.5Amps@230VAC
Leakage current	< 1mAmps / 240VAC
Min Load	See Selection Chart
Power Factor @ FL	PF> 0.95 / 230VAC
	> 0.98 / 115VAC

OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart
Line Regulation	±0.5%: 3.3~7.5Volts(DC)
	±0.3%: 12~15Volts(DC)
	±0.2%: 24~48Volts(DC)
Load Regulation	See Selection Chart
Voltage Tolerance (Note 2)	±2.0%: 3.3;12~48Volts(DC)
	±1.0%: 5~7.5Volts(DC)
Ripple/Noise (Note 1)	150mVpk-pk: 3.3~24Volts(DC)
	200mVpk-pk: 27Volts(DC)
	220mVpk-pk: 36Volts(DC)
	240mVpk-pk: 48(DC)
Hold Up Time @ FL	16mS /230VAC
	16mS /115VAC
Setup, Rise Time @ FL	800mS, 50mS /230VAC
	2500mS, 50mS /115VAC
Over Voltage Protection	See Selection Chart
	Shut down o/p voltage,re-power
Over Current Protection	105 ~ 135% rated output power
	Hiccup mode, auto recover
Over Temperature	80°C ±5°C (70°C±5°C 3.3;5V only)
	TSW1: detect on
	heatsink of power transistor
	Shut down o/p voltage, auto recover
	after cool down
DC Volt Adjust	See Selection Chart

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted

GENERAL SPECIFICATIONS

Safety	UL60950-1,
	TUV EN60950-1 Approved
Insulation Resistance	≥ 100MΩ / 500Volts(DC)
EMI	Compliance to EN55022B (CISPR22B)
Harmonic Current	Compliance to EN61000-3-2,-3
Efficiency	See Selection Chart
Isolation	3000VAC Input - Output
	1500VAC Input - Ground
	500VAC Output - Ground
EMS	Compliance to
	EN61000-4-2,3,4,5,6,8,11
	ENV50204,EN55024,
	light Industry Level, Criteria A

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	-20°C to +65°C (See Derate Curve)
Storage Temperature	-40°C to +85°C, 10~95% RH
Relative Humidity	20~90% RH non cond
Temperature Coefficient	±0.03% / °C (0-50°C)
MTBF	207KHrs min,MIL-HDBK-217F(25°C)
Vibration	10~500Hz, 2G10min./1cycle, period for
	60min. each along X, Y, Z axes

PHYSICAL SPECIFICATIONS

Size	215x115 x 50mm (8.46"x4.53 "x1.97")
Weight	38.80 oz (1100g)

NOTE

1. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
2. Tolerance : includes set up tolerance, line regulation and load regulation.
3. Derating may be needed under low input voltages. Please check the derating curve for more details.

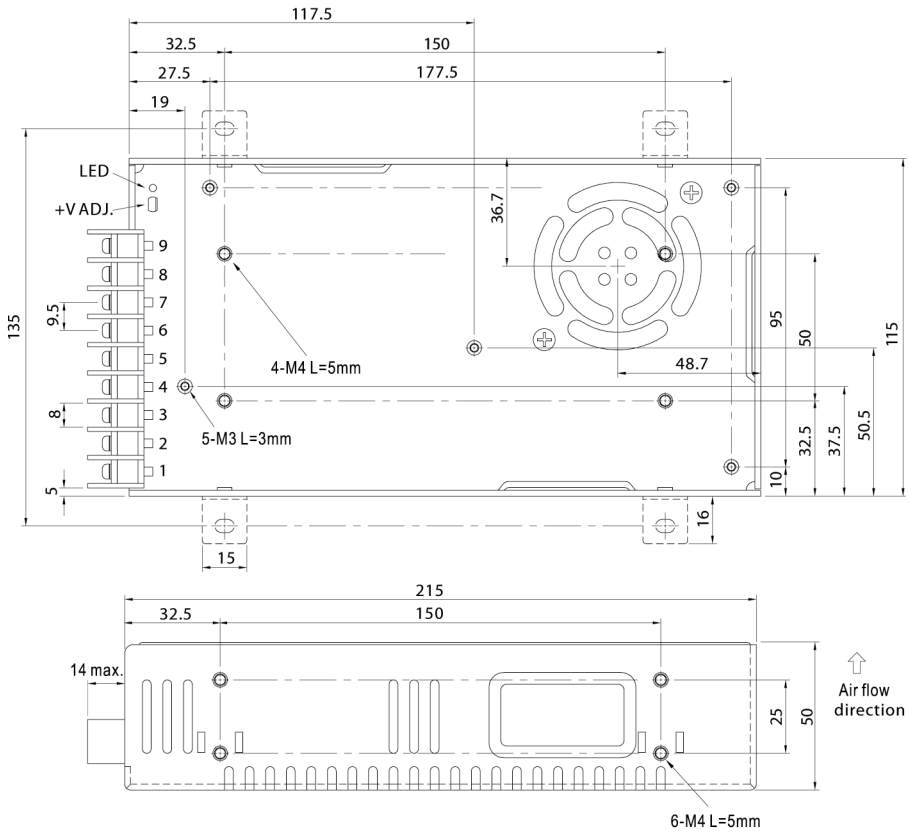
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■ Mechanical Specification

Case No. 912G Unit:mm

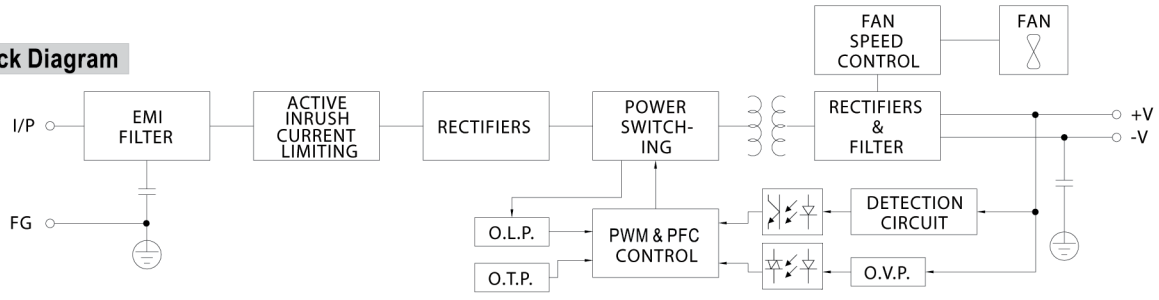


Terminal Pin No. Assignment :

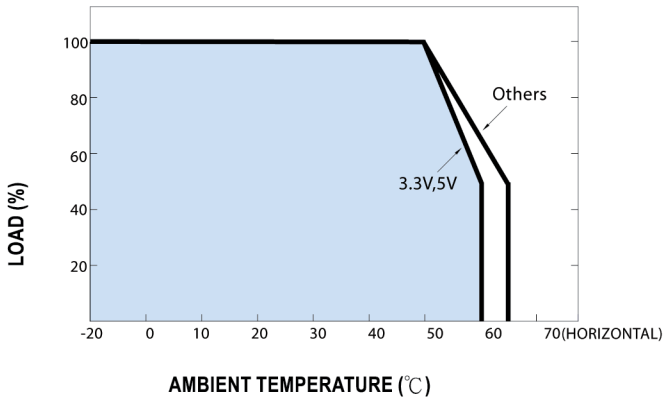
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4~6	DC OUTPUT -V
2	AC/N	7~9	DC OUTPUT +V
3	FG ⏚		

■ Block Diagram

fosc : 100KHz



■ Derating Curve



■ Static Characteristics

