

- Universal AC input
- Low leakage current $\leq 180 \mu\text{A}$
- Protections: Short circuit / Overload / Over voltage
- Fixed switching frequency at 45KHz



Model Number	Output Volts	Output Amps(25CFM)	Ripple & Noise	Convection	Line Reg	Load Reg	Volt Tolerance
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SINGLE OUTPUT

MPS120-3.3	3.3 Volts(DC)	24 Amps	80mV pk-pk	16	$\pm 1.0\%$	$\pm 3.0\%$	$\pm 3.0\%$
MPS120-5	5 Volts(DC)	22 Amps	80mV pk-pk	14.7	$\pm 1.0\%$	$\pm 3.0\%$	$\pm 3.0\%$
MPS120-12	12 Volts(DC)	10 Amps	100mV pk-pk	6.7	$\pm 1.0\%$	$\pm 2.0\%$	$\pm 2.0\%$
MPS120-15	15 Volts(DC)	8 Amps	100mV pk-pk	5.3	$\pm 1.0\%$	$\pm 2.0\%$	$\pm 2.0\%$
MPS120-24	24 Volts(DC)	5 Amps	120mV pk-pk	3.3	$\pm 1.0\%$	$\pm 2.0\%$	$\pm 2.0\%$
MPS120-48	48 Volts(DC)	2.5 Amps	120mV pk-pk	1.7	$\pm 1.0\%$	$\pm 2.0\%$	$\pm 2.0\%$

DUAL OUTPUT

MPD-120A	5 Volts(DC)	10 Amps	80mV pk-pk	7.3	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 2.0\%$
	12 Volts(DC)	5 Amps	120mV pk-pk	3.6	$\pm 2.0\%$	$\pm 3.5\%$	$\pm 7.0\%$
MPD-120B	5 Volts(DC)	10 Amps	80mV pk-pk	7.0	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 2.0\%$
	24 Volts(DC)	2.9 Amps	250mV pk-pk	1.9	$\pm 2.0\%$	$\pm 4.0\%$	$\pm 8.0\%$



MPS/D/T/Q120 series

120W Single Output for Medical Type

Model Number Output Volts Output Amps(25CFM) Ripple & Noise Convection Line Reg Load Reg Volt Tolerance

TRIPLE OUTPUT

MPT-120A	5 Volts(DC)	10 Amps	80mV pk-pk	7.3Amps	±0.5%	±1.0%	±2.0%
	12 Volts(DC)	4.8 Amps	120mV pk-pk	3.5Amps	±1.5%	±3.5%	+8,-6%
	-5 Volts(DC)	0.6 Amps	80mV pk-pk	0.3Amps	±0.5%	±1.0%	±5.0%
MPT-120B	5 Volts(DC)	10 Amps	80mV pk-pk	7.3Amps	±0.5%	±1.0%	±2.0%
	12 Volts(DC)	4.4 Amps	120mV pk-pk	3.2Amps	±1.5%	±3.5%	±6.0%
	-12 Volts(DC)	0.6 Amps	80mV pk-pk	0.4Amps	±0.5%	±1.0%	±5.0%
MPT-120C	5 Volts(DC)	10 Amps	80mV pk-pk	7.0Amps	±0.5%	±1.0%	±2.0%
	15 Volts(DC)	4 Amps	150mV pk-pk	2.6Amps	±2.0%	±3.2%	+6, -7%
	-15 Volts(DC)	0.6 Amps	80mV pk-pk	0.4Amps	±0.5%	±1.0%	±5.0%
MPT-120D	5 Volts(DC)	10 Amps	80mV pk-pk	7.3Amps	±0.5%	±1.0%	±2.0%
	24 Volts(DC)	2.2 Amps	300mV pk-pk	1.6Amps	±3.0%	+4, -3%	+8, -6%
	12 Volts(DC)	0..6 Amps	120mV pk-pk	0.4Amps	±0.5%	±1.0%	±5.0%

QUAD OUTPUT

MPQ-120B	5 Volts(DC)	10 Amps	80mV pk-pk	7.3Amps	±0.5%	±0.5%	±2.0%
	12 Volts(DC)	4.2 Amps	120mV pk-pk	3.1Amps	±1.5%	±3.5%	+8,-6%
	-5 Volts(DC)	0.6 Amps	80mV pk-pk	0.4Amps	±0.5%	±1.0%	±5.0%
	-12 Volts(DC)	0.6 Amps	80mV pk-pk	0.4Amps	±0.5%	±1.0%	± 0.5%
MPQ-120C	5 Volts(DC)	10 Amps	80mV pk-pk	7.3Amps	±0.5%	±0.5%	±2.0%
	15 Volts(DC)	3.2 Amps	150mV pk-pk	2.4Amps	±2.0%	±3.5%	±6.0%
	-5 Volts(DC)	0.6 Amps	80mV pk-pk	0.4Amps	±0.5%	±1.0%	±5.0%
	-15 Volts(DC)	0.6 Amps	80mV pk-pk	0.4Amps	±0.5%	±1.0%	±0.5%
MPQ-120D	5 Volts(DC)	10 Amps	80mV pk-pk	7.0Amps	±0.5%	±0.5%	±2.0%
	12Volts(DC)	1 Amps	150mV pk-pk	0.7Amps	±2.0%	±3.35%	+6, -7%
	24 Volts(DC)	2.1 Amps	300mV pk-pk	1.4Amps	±3.5%	±1.0%	±5.0%
	-12 Volts(DC)	0.6 Amps	80mV pk-pk	0.3Amps	±2.0%	±1.0%	±0.5%
MPQ-120E	5 Volts(DC)	10 Amps	80mV pk-pk	7.3Amps	±0.5%	±0.5%	±2.0%
	12 Volts(DC)	3.0 Amps	120mV pk-pk	2.3Amps	±2.0%	±3.0%	+8, -6%
	15 Volts(DC)	0..6 Amps	80mV pk-pk	0.4Amps	±2.0%	±3.0%	±5.0%
	24 Volts(DC)	0.6 Amps	80mV pk-pk	0.4Amps	±0.5%	±1.0%	±0.5%



120W Single Output for Medical Type

MPS/D/T/Q120 series

INPUT SPECIFICATIONS

Input Voltage Range	90-264VAC / 127-370 Volts(DC)
Frequency Range	47-440 Hz
Inrush Current, typ:	cold start <22 Amps @ 115VAC Input 45 Amps @ 230VAC
Input Current	2.9 Amps max @ 115VAC 1.7 Amps max @ 230VAC
Leakage current	0.18mA / 230 VAC

OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart
Line Regulation	See Selection Chart
Load Regulation	See Selection Chart
Voltage Tolerance (Note 2)	See Selection Chart
Ripple/Noise (Note 1)	See Selection Chart
Hold Up Time @ FL	80mS @ 230VAC 14mS @ 115VAC
Setup, Rise Time @ FL:	
	MPS-120: 800mS, 20mS/230VAC / 2000mS, 50mS/115VAC
	MPD,T,Q-120: 500mS, 20mS/230VAC / 1200mS, 30mS/115VAC
Over Voltage Protection	120~140%(MPS-120-15/24/48) 115~135%(MPD/T/Q-120)
	Output shutdown when activated auto recover
Over Current Protection	120~160%(MPS-120-15/24/48) 110~150%(MPD/T/Q-120)
	rated output power, auto recover
Peak Load (Note 3)	108% of output min.
Min load	
	Single O/P 0%
	Multi O/P 20%

GENERAL SPECIFICATIONS

Safety	UL60601-1 / UL60950-1 TUV EN60601-1 / TUV EN60950-1 IEC60601-1 approved
Insulation Resistance	≥ 100MΩ
EMI	Compliance to EN55011B,EN55022B

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

* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Proper operation under conditions other than the standard operating conditions is neither warranted nor implied.

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Harmonic Current	Compliance to EN61000-3-2,-3
Efficiency	75% typ.
Isolation	4000VAC Input - Output 1500VAC Input - Ground 500VAC Output- Ground
EMS	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, EN60601-1-2, medical level, criteria A

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	-20°C to +70°C (See Derate Curve)
Storage Temperature	-40°C to +85°C, 10~90% RH
Relative Humidity	20 to +90% RH
Temperature Coefficient	0.04% / °C (0-50°C)
MTBF	262.1KHrs min, MIL-HDBK-217F(25°C)
Vibration	10~500Hz, 2G10min./1cycle, period for 60min. each along X, Y, Z axes

PHYSICAL SPECIFICATIONS

Size	
	Millimeters 177.8 x 107.95 x 35.5
	Inches 7" x 4.25" x 1.4"
Weight	14.40 oz (550g)

NOTE

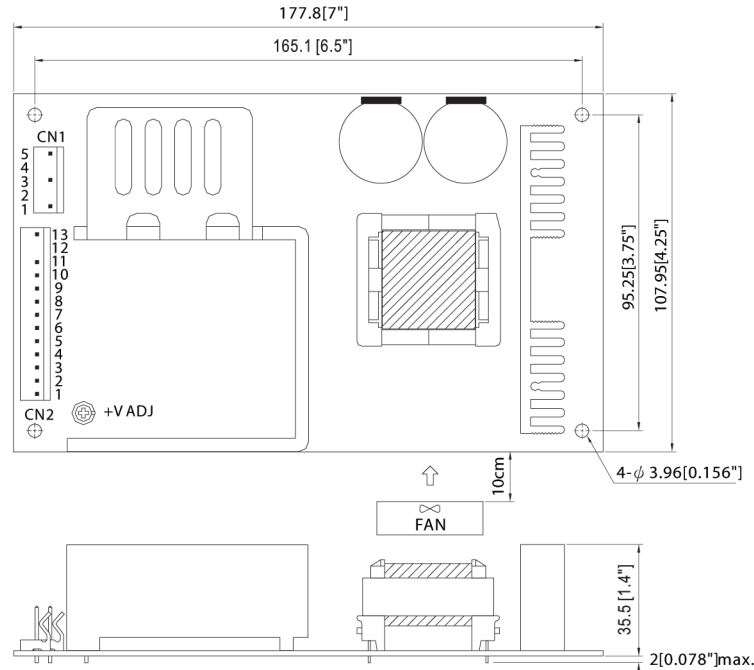
1. Ripple and Noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47 uf parallel capacitor.
2. Tolerance: includes set up tolerance, line regulation and load regulation.
3. 33% Duty cycle max within every 30S. Average output power should not exceed the rated power.

Astrodyne products are not authorized or warranted for use as critical components in life support systems, equipment used in hazardous environments, nuclear controls systems, or other mission-critical applications.

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ASTRODYNE PACIFIC: 886-2-26983458

Mechanical Specification

Unit:mm



Pin Assignment

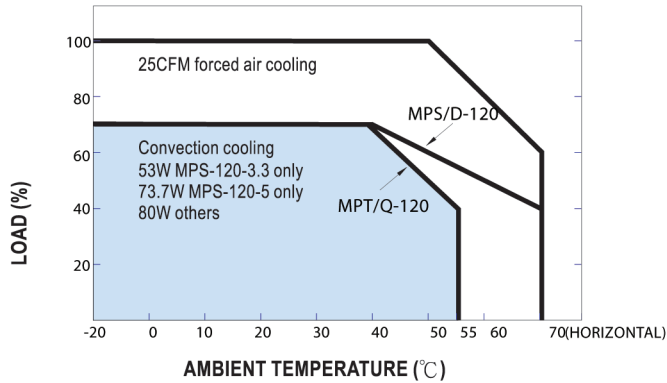
AC Input Connector (CN1) : Molex 5273-05 or equivalent

Pin No.	MPS-120	MPD-120	MPT-120	MPQ-120	Mating Housing	Terminal
1	FG \perp	FG \perp	FG \perp	FG \perp	Molex 5195 or equivalent	Molex 5194 or equivalent
2,4	No Pin	No Pin	No Pin	No Pin		
3	AC/N	AC/N	AC/N	AC/N		
5	AC/L	AC/L	AC/L	AC/L		

DC Output Connector (CN2) : Molex 5273-13 or equivalent

Pin No.	MPS-120	MPD-120	MPT-120	MPQ-120	Mating Housing	Terminal
1	+V	V1	V1	V1	Molex 5195 or equivalent	Molex 5194 or equivalent
2	+V	V1	V1	V1		
3	+V	V1	V1	V1		
4	-V	COM	COM	COM		
5	-V	COM	COM	COM		
6	-V	COM	COM	COM		
7	-V	COM	COM	COM		
8	+V	V2	V2	V2		
9	+V	V2	V2	V2		
10	P.F.D.	P.F.D.	P.F.D.	P.F.D.		
11	NC	NC	V3	V3		
12	No Pin	No Pin	No Pin	No Pin		
13	NC	NC	NC	V4		

Derating Curve



Static Characteristics

