



SW

SWITCHING POWER SUPPLY SPECIFICATION

CP-53020

CLAYPOWER
C O M P A N Y

TEL 626.303.8885 FAX 626.301.0588 727 Phillips Drive City of Industry, CA 91748 www.claypower.com

1. Input Characteristics

- 1.1 Input Voltage Range -----90 Vac to 264 Vac, Universal Input.
 1.2 Input Frequency Range ----- 47 Hz to 63 Hz
 1.3 Input AC Current (Max) ----- 2.2A @ 115 Vac, 1.2A @ 230 Vac Full Load.
 1.4 Inrush Current ----- 35A @ 115 Vac, 70A @ 230 Vac
 1.5 Power Factor ----- >0.95
 1.6 Earth Leakage Current ----- <0.15mA @ 115 Vac, <0.25mA @ 230 Vac
 1.7 Input Protection ----- 4A/250V on Board Fuse
 1.8 Efficiency ----- up to 90% @ Typical Line Input Full Load

2. Output Characteristics

2.1 Output Table

Max Power Convectional/ Forced Air	Output 1 (Major)			Output 2 (Optional)			Model #
	V out	I out	Tolerance	V out	I out	Tolerance	
150W/200W	12V	12.5A/16.7A	±3%	/	/	/	CP-53020-12
150W/200W	12V	12.5A/16.7A	±3%	3.3V	3.8A/5A	±3%	CP-53020-12-3.3
150W/200W	12V	12.5A/16.7A	±3%	5V	3.8A/5A	±3%	CP-53020-12-5
150W/200W	15V	10A/13.3A	±3%	/	/	/	CP-53020-15
150W/200W	15V	10A/13.3A	±3%	3.3V	3.8A/5A	±3%	CP-53020-15-3.3
150W/200W	15V	10A/13.3A	±3%	5V	3.8A/5A	±3%	CP-53020-15-5
150W/200W	24V	6.25A/8.3A	±2%	/	/	/	CP-53020-24
150W/200W	24V	6.25A/8.3A	±2%	3.3V	3.8A/5A	±3%	CP-53020-24-3.3
150W/200W	24V	6.25A/8.3A	±2%	5V	3.8A/5A	±3%	CP-53020-24-5
150W/200W	24V	6.25A/8.3A	±2%	12V	3.8A/5A	±3%	CP-53020-24-12
150W/200W	36V	4.17A/5.56A	±2%	/	/	/	CP-53020-36
150W/200W	36V	4.17A/5.56A	±2%	3.3V	3.8A/5A	±3%	CP-53020-36-3.3
150W/200W	36V	4.17A/5.56A	±2%	5V	3.8A/5A	±3%	CP-53020-36-5
150W/200W	36V	4.17A/5.56A	±2%	12V	3.8A/5A	±3%	CP-53020-36-12
150W/200W	48V	3.13A/4.17A	±2%	/	/	/	CP-53020-48
150W/200W	48V	3.13A/4.17A	±2%	3.3V	3.8A/5A	±3%	CP-53020-48-3.3
150W/200W	48V	3.13A/4.17A	±2%	5V	3.8A/5A	±3%	CP-53020-48-5
150W/200W	48V	3.13A/4.17A	±2%	12V	3.8A/5A	±3%	CP-53020-48-12

Notes: Max Power includes Output1 & Output2

- 2.2 Output Voltage Trim ----- ±1V typical
 2.3 Initial Set Accuracy ----- ±1%
 2.4 Minimum Load ----- No minimum load required
 2.5 Start Up Delay ----- 2 s max
 2.6 Start Up Rise Time ----- 2 ms

- 2.7 Hold Up Time ----- >12ms
- 2.8 Line Regulation ----- 1% maximum, 0.5% typical
- 2.9 Load Regulation ----- 3% maximum, 1% typical
- 2.10 Transient Response ----- 4% max. deviation, 500 μ s recovery time for a 50% load change
- 2.11 Ripple & Noise ----- 1% pk-pk max

3. Protections

- 3.1 Over Voltage Protection ----- 105-135%, Recycle Input to Reset
- 3.2 Over Load Protection ----- 105-135%, Rated Output
- 3.3 Over Temperature Protection ----- 110° C Detected on Heat Sink
- 3.4 Temperature Coefficient 0.04% /° C

4. Dielectric Withstand Voltage

- 4.1 Isolation ----- 3000 Vac Input to Output
1500 Vac Input to Ground
- 4.2 Switching Frequency ----- 100kHz Typical
- 4.3 Power Density ----- 9.78 W/ In³

5. Conducted EMI and Product Safety

- 5.1 Emissions ----- EN55022, FCC, Level B conducted
- 5.2 Harmonic Currents ----- EN61000-3-2 Class D
- 5.3 Voltage Flicker ----- EN61000-3-3
- 5.4 ESD Immunity ----- EN61000-4-2, level 2 Criteria B
- 5.5 Radiated Immunity ----- EN61000-4-3, 3 V/m Criteria B
- 5.6 EFT/Burst ----- EN61000-4-4, level 2 Criteria B
- 5.7 Surge ----- EN61000-4-5, level 3 Criteria B
- 5.8 Conducted Immunity ----- EN61000-4-6, level 2 Criteria B
- 5.9 Dips & Interruptions ----- EN61000-4-11, 70% UT for 10 ms, 40% UT for 100 ms, <5% UT for 5000 ms Criteria A, B, B
- 5.10 Safety Approval ----- EN60950-1, UL60950-1, CSA60950-1 per cUL, CE Mark LVD

6. Environmental

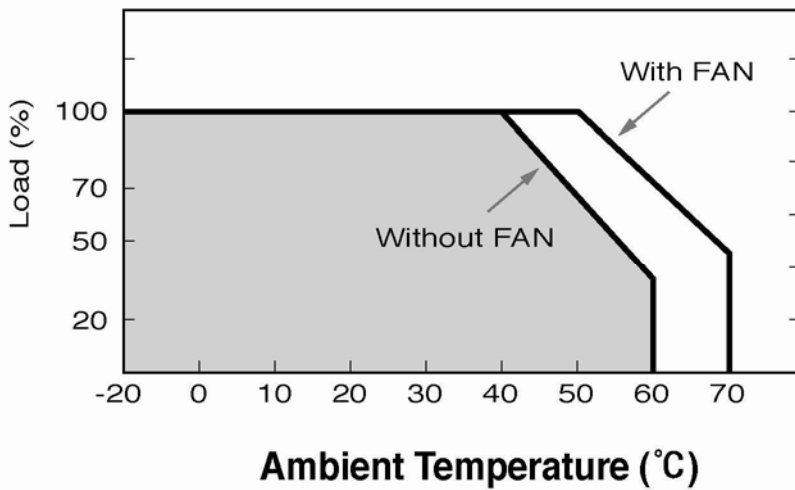
- 6.1 Operating Temperature ----- -20oC to +70oC (Refer to output load derating curve)
- 6.2 Cooling ----- Convection cooled (150W), and 200W with 10 CFM forced air
- 6.3 Operating Humidity ----- 5-95% RH, non-condensing
- 6.4 Storage Temperature ----- -40oC to +85oC
- 6.5 Vibration ----- 2 G on 3 axis

7. MTBF ----- >100 kHrs per MIL-HDBK-217F

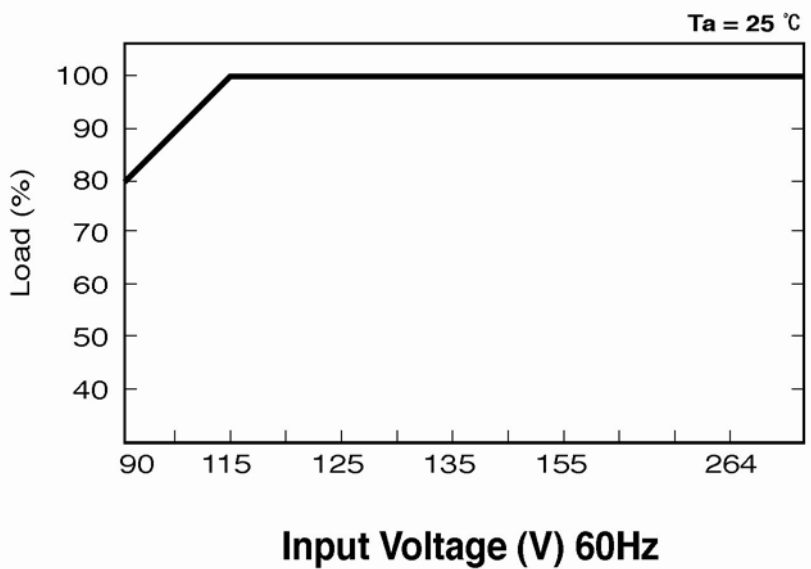
8. Dimensions

8.1 W x D x H ----- 127 x 76 x 35 (mm)

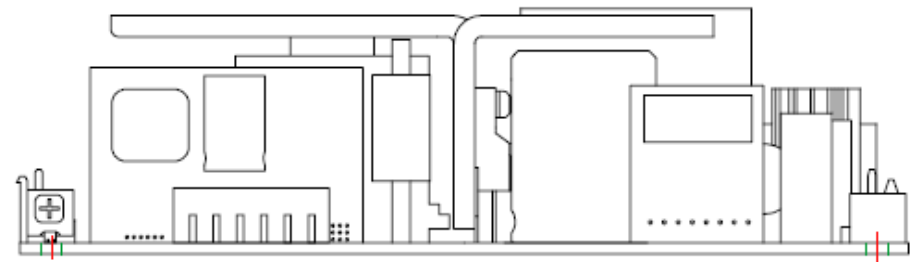
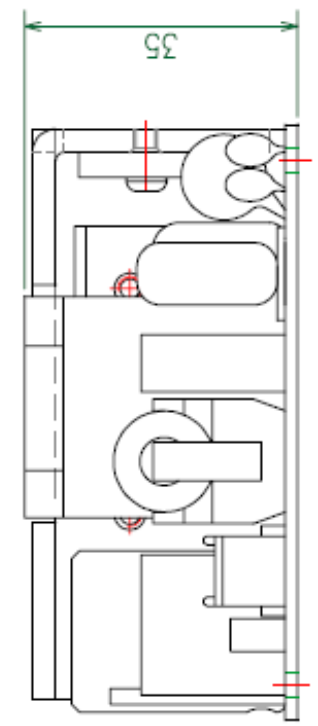
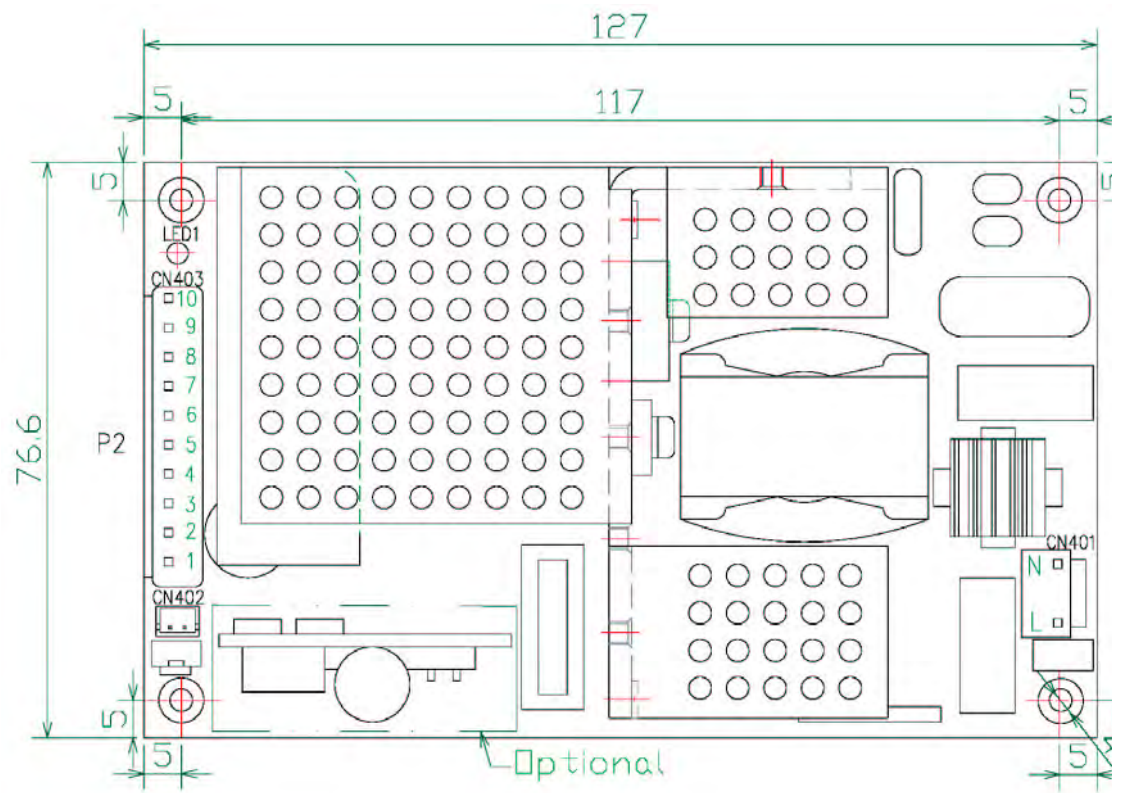
Derating Curve



Output Derating V.S. Input Voltage



REVISIONS			
NO	DESCRIPTION	DATE	APPROVED



P2 - PIN CONNECTIONS			
Pin	Function	Pin	Function
1	Output 2	6	Output 1
2	Output 2	7	GND
3	Output 1	8	GND
4	Output 1	9	GND
5	Output 1	10	GND

CLAYPOWER COMPANY				
APPROVED	DATE	TITLE CP-53020		
CHECKED	DATE	DRAWING NO. IPRA350MV5-A0	PART NO. IPRA350MV5	REV. A0
DESIGNED	DATE	SCALE: MM(INCHES) 1:4	TOLERANCES: 0.1 (0.004)	MODEL NO. SHEET 1 of 1

第三版 (Projection)	FINISH:	MATERIAL:
採購	生產	裝配