



120W DC/DC POWER SUPPLY FOR AUTOMOBILE

1 Function Description

DC/DC power supply, 6V~30V (6-36V option) input, 12V/10A,

2 Operation Environment

Item	Unit	Minimum	Typical	Maximum	Test Conditon
Temperature	°C	-20		50	
RH	%RH	40		90	No Condensation

3 Technique Requirement

3.1 Input Characteristic

Item	Unit	Minimum	Typical	Maximum	Test Conditon
DC INPUT	Vdc	6	12/24	30	
Input Current	A		12		

3.2 Output Characteristic

3.2.1 Output Voltage Regulation

Output	Min. Load	Max. Load	Peak Load	Output Voltage range	Ripple (pk-pk) (rated load、20MHz limit) *
+12V	0.1A	10A**		11.40~12.60V	120mV

*: Need to add 47μF tantalum capacitor and 0.1μF high frequency capacitor on test point when testing.

**:.When output current is more than 5A,the power supply need Fan cooling

3.2.2 Others Output Characteristics

Item	Unit	Minimum	Typical	Maximum	Test Conditon
Output Power	W		120		DC output power
Efficiency	%		94		Rated load
Turn on Overshoot	%			10	
Rise Time	ms		20		Output voltage up from 0% to 95%, rated load
Hold up Time	ms		2		Rated load

3.3 EMC Requirement

Item	Request	Standard	Judgement Grade
Conducted interference	CLASS A, 3dB margin	EN55022	Ensure system pass the CLASS A and have 3dB margin
Radiation interference	CLASS A, 3dB margin	EN55022	Ensure system pass the CLASS A and have 3dB margin

3.4 Protection Function

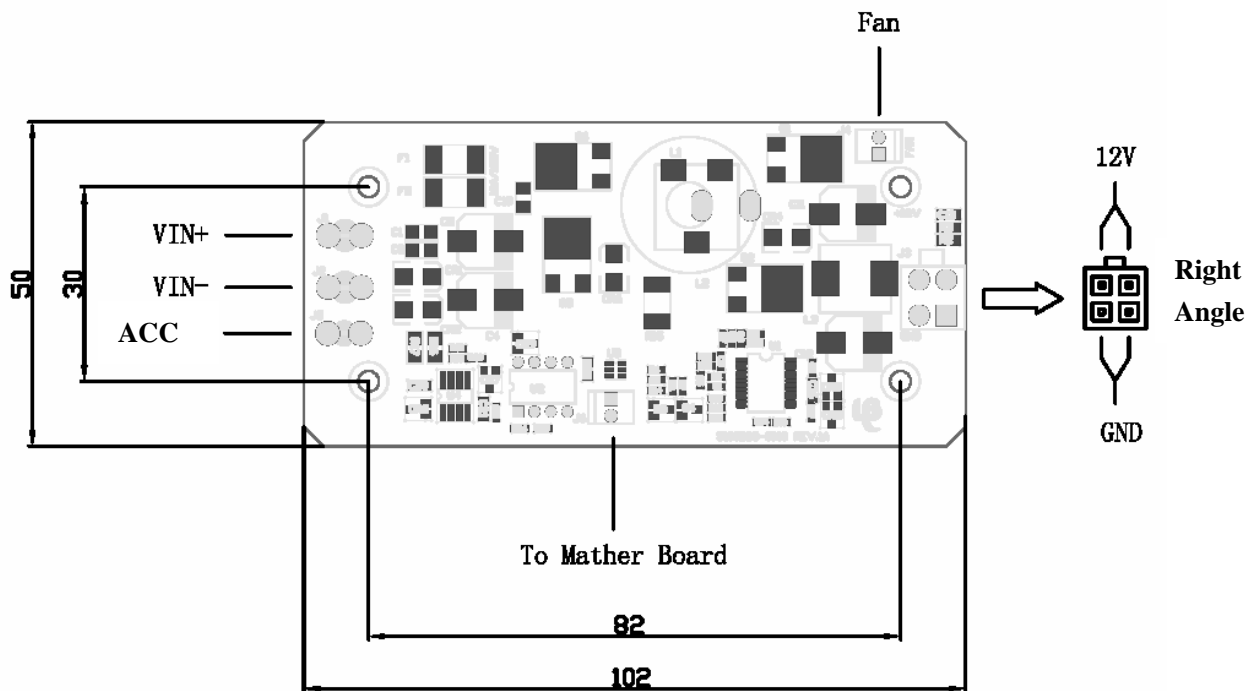
Item	Unit	Yes/No	Minimum	Typical	Maximum	Recovery Characteristic
Input inversion protection		Yes				
Input OVP	V		36		40	
+12V OVP	V	Yes	13.2		15.6	Latched
Short Circuit Protection (+12V)		Yes				Latched

4 Monitoring ,Signal Control

4.1 Process Sequence

Item	Name	Characteristic
1	Ignition (The Ignition signal controlled by the voltage signal from the key)	1) Ignition=OFF, Nothing happens, waiting for Ignition signal ON. 2) Ignition=ON, wait for 5s, turn ON power supply. 3) Ignition=ON, nothing happens, power supply will remain ON. 4) Ignition=OFF ,wait about 10s and then it turned mo power supply OFF. 5) Go back to step 1, until ignition is turned ON again.

5 Mechanical Requirement



The heigh is 16 MM.

6 Reliability Requirement

MTBF should exceed 60,000Hours under 80% loading, 25°C ambient

7 Package, Store and Traffic Requirement

standard