



90W DC/DC POWER SUPPLY FOR AUTOMOBILE

1 Function Description

DC/DC power supply, 7V~30V input, 12V/2A, 5V/14A,

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	7	12	30	
Input Current	A		10		

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	2A		11.40~12.60V	120mV
+5V	0.5A	14A		4.75~5.25V	50mV

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

3.2.2 Others Output Characteristics

Item	Unit	Minimum	Typical	Maximum	Test Conditon
Output Power	W		90		DC output power
Efficiency	%		88		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

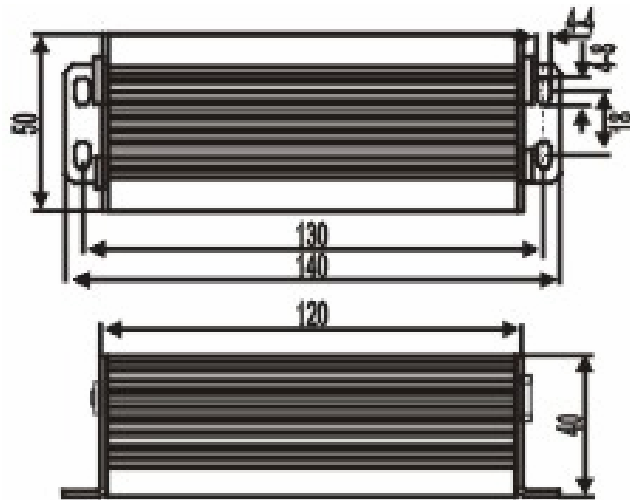
3.3 EMC Requirement

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				
+12V OVP	V	Yes	13.2		15.6	Latched
+5V OVP	V	Yes	5.8		6.8	
Short CircuitProtection (+12V)		Yes				Lached
Short CircuitProtection (+5V)		Yes				Lached

4 Dimension



5 Reliability Requirement

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

6 Package, Store and Traffic Requirement

standard