



# 150W DC/DC POWER SUPPLY FOR AUTOMOBILE

## 1 Function Description

DC/DC power supply, 7V~18V input, 12V/5A, 19V/5A, 13.6V/0.2A. With ITPS and UPS function.

## 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	18	
Input Current	A		15		

### 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	5A		11.40~12.60V	120mV
+19V	0.5A	5A		18.40~19.60V	120mV
+13.6V	0.1A	0.2A		Battery voltage	120mV

\*: Need to add 47 $\mu$ F tantalum capacitor and 0.1 $\mu$ 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		150		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

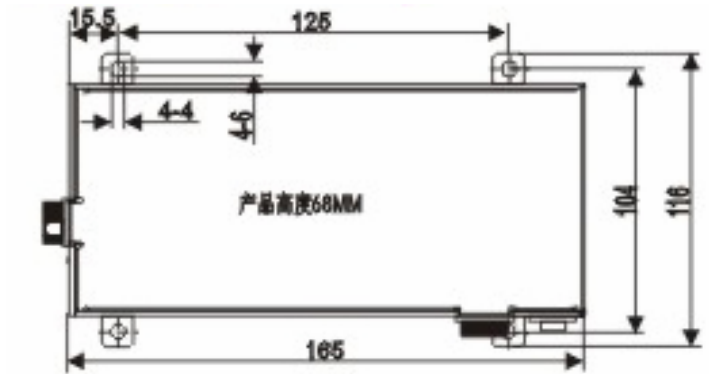
### 3.3 EMC Requirement

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
+19V OVP	V	Yes	19.8		22.8	
Short CircuitProtectio (+12,+19V,+13.6V)		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