DC/DC 铁路机车电源模块

DC/DC Railway locomotive power supply module

JWDR--100W 单路输出系列

JWDR--100W single output series

典型性能 Typical Performance

◆外形尺寸：127*88.9*17.3（mm）
Dimension：127*88.9*17.3（mm）
◆宽输入电压范围
Wide range input voltage
◆105℃长寿命电解电容
105℃ long life electrolytic capacitors
◆高效率、高功率密度、低纹波
High efficiency、High power density、Low ripple & noise
◆黑金属外壳，八面屏蔽，通孔安装
Black metal shell，Eight face shield，Hole is installed
◆安 规：EN60950
Ann rules：EN60950

输入特性 Input Features

输入电压范围 Input voltage range	标称 110V Nominal voltage110V 标称 110V（W) Nominal voltage110V(W)	66~160VDC 45~135VDC
遥控端(低电平遥控) Remote ON/OFF(Low level remote)	ON 高电平或悬空工作 Hight level or vacant-Turn on OFF 低电平或接地关断 Low level or connect ground-Turn off	3.5Vdc ~ +Vin ≤0.3Vdc
输入欠压保护 Input undervoltage protection	低于低端输入电压，电源关断输出，自恢复 Lower than the low-inputvoltage protection Self-furbish	

输出特性 Output Features

输出电压精度 Voltage tolerance	标称电压 Nominal voltage	≦±1%（3.3V、5V≦±2%)
电压调整率 Line regulation (full load)	输入电压从低端到高端变化 Change of input voltage from lowend to highend	≦±0.5%
负载调整率 Load regul	20%~100%负载变化 20%~100% Load change	V_O≦±0.5%
纹波噪声 Ripple&Noise	20M 带宽 20M Bandwidth	≦1%
温度系数 Temperature coefficient		±0.02%/℃
过流保护 Output overcircuit Protection		115~150%额定电流,自恢复 115~150%rated output circuit,auto recovery
短路保护 Short Circuit Protection		长期，自恢复 Long-term,auto recovery
启动延迟时间 Turn-on delay time	典型值 Typical value	≦200mS
输出电压调节 Voltage adjust	标称输出电压 Nominal output	可调±10% Adjustable±10%
过冲幅度 Overshoot	25%额定负载变化 25% rated load change	≦500μ S
	Δ $V_{01/}$ / V_{01}	≦±4.0%

一般特性 General Features

隔离耐压 Withstand voltage	输入对输出 I/P-O/P （1 分钟，漏电流≦5mA ） (1Mintute ,leakage current)≦5mA)	1500VDC
绝缘电阻 Isolation resistance	500V	≧100MΩ
MTBF	环境 25℃ Environment 25℃	2.0*10^5Hrs
开关频率 switching frequency		300KHz
最大壳温 The highest shell temperature	工作环境温度较高时，需加装辅助散热措施，确保模块表面温度低于 95℃ When workingenvironment temperature is higher,need to add auxiliary colling measures,to ensure that the surface temperature below 95℃	＋95℃
工作温度 Operating temperature	70℃以上降额使用 Above 75℃ derating make	-45~85℃
储存温度 Storage temperature		-45℃~105℃
工作相对湿度 Operating humidity	无凝露及结冰现象 (non condensing)	10%~-90%RH
储存相对湿度 Storage humidity	无凝露及结冰现象 (non condensing)	5%~-95%RH
冷却方式 Cooling method		自然冷却 Convection

命名方式 Naming Rules

JWDR100-110S5

- 输出电压 Output voltage
- 单路输出 Single Output
- 标称输入电压 Nominal Input voltage
- 输出功率 Output power
- 铁路机车系列 Railway locomotive series
- DC/DC 电源模块 DC/DC power module

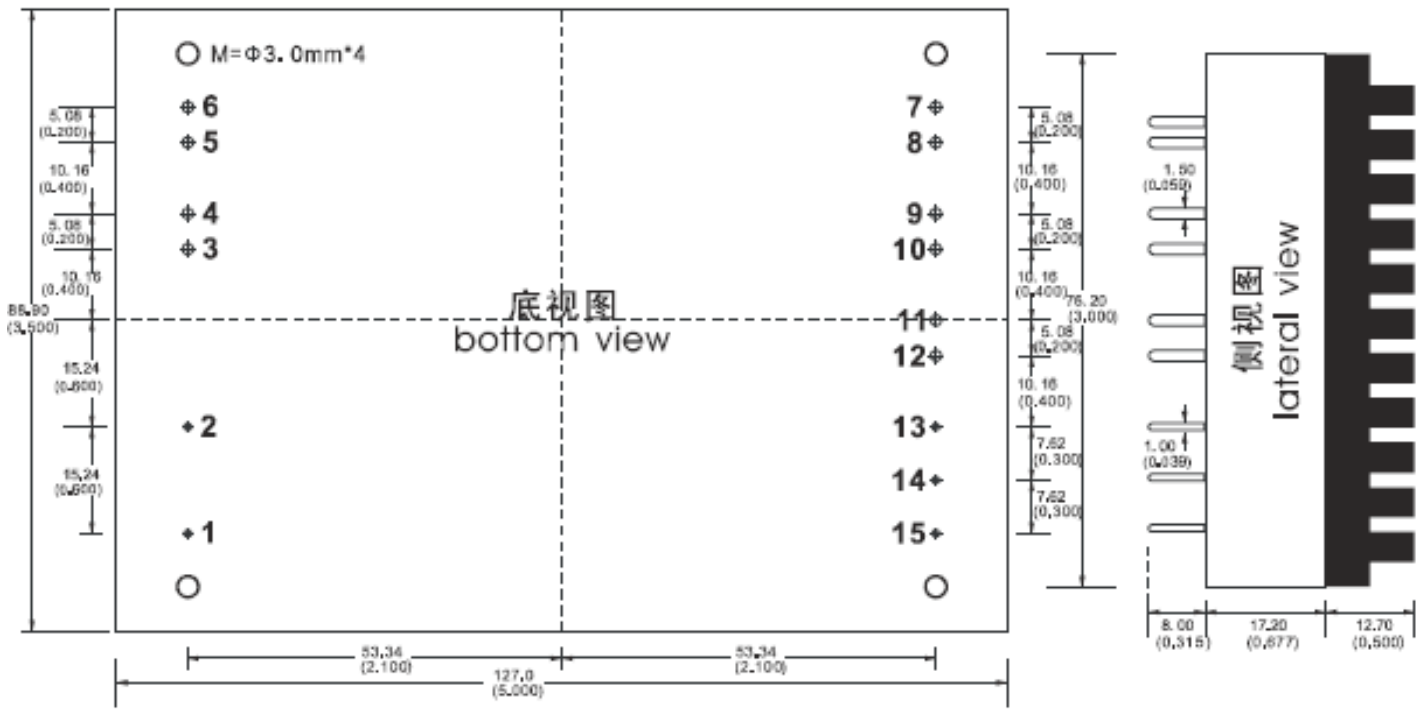
产品选型 Product selection

产品型号 Model No.	输入电压范围 Input voltage V_{in}	输出电压 Output voltage V_O	输出电流 Output current I_O	纹波噪声 R &N $V_{(P-P)mV}$	最大容性负载 Capacitive load maximum	效率 Efficiency
JWDR100-110S5	66~160V	5V	20.00A	50	7500uF	84%
JWDR100-110S12		12V	8.33A	100	6000uF	86%
JWDR100-110S15		15V	6.67A	100	4700uF	87%
JWDR100-110S24		24V	4.17A	120	3000uF	89%
JWDR100-72S5	45~135V	5V	20.00A	50	7500uF	84%
JWDR100-72S12		12V	8.33A	100	6000uF	86%
JWDR100-72S15		15V	6.67A	100	4700uF	87%
JWDR100-72S24		24V	4.17A	120	3000uF	89%

注：因篇幅有限，以上只是部分产品列表，若需列表以外产品，请与本公司销售部联系。
输出纹波噪声（峰–峰值）的测量，请参照模块测试说明中介绍的方法进行。

Note:Due to space limitations ,the above list is only for some products, If other than a list of products, please contact the Company's sales department.
Output ripple noise measurement (peak - peak), please refer to the module test notes method is introduced.

封装尺寸图 MechanicalData



注：3、4、5、6、7、8、9、10、11、12管脚针为1.5mm, 其余为1mm

Note:3, 4, 5, 6, 7, 8, 9, 10, 11, 12 pin Φ 1.5mm,others1mm

管脚定义 Pin Assignments

P1	P2	P3、 P4	P5、 P6	P7、 P8	P9、 P10	P11 、P12	P13	P14	P15
CNT	CASE	Vin-	Vin+	Vout+	GND	NP	+S	TRIM	-S

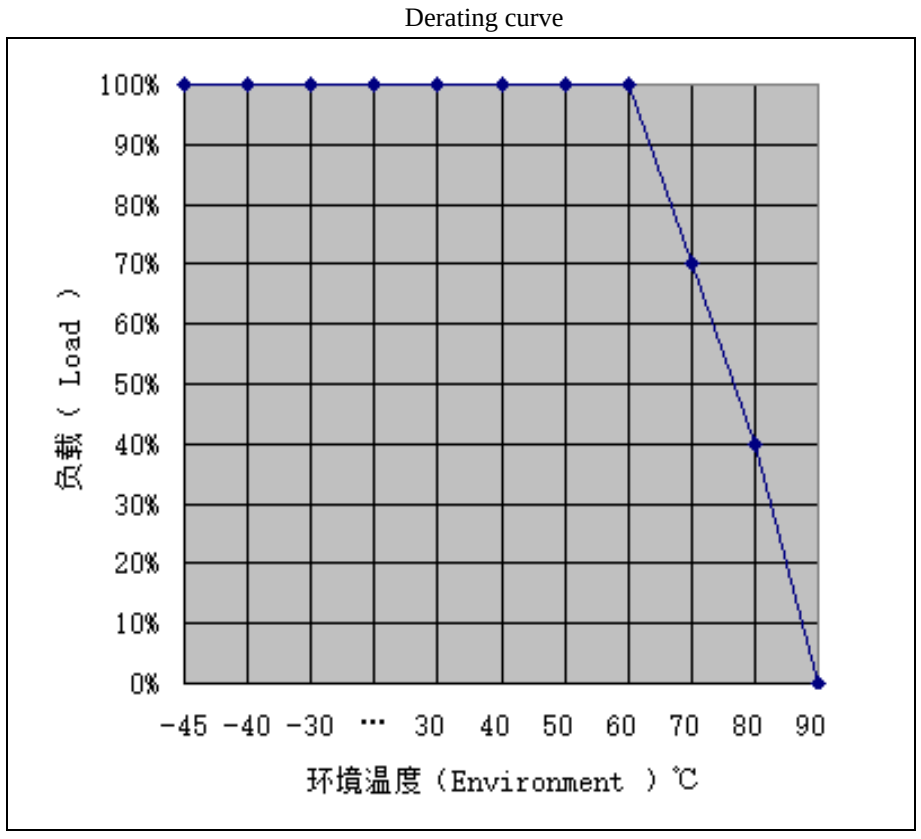
注：电源模块的外形尺寸和管脚定义如与选型手册不符，请以实物实际尺寸为准。

Note：Dimensions and pin definitions of power module such as inconsistent with the hand book, please in kind prevail actual size

典型曲线 Typical curve

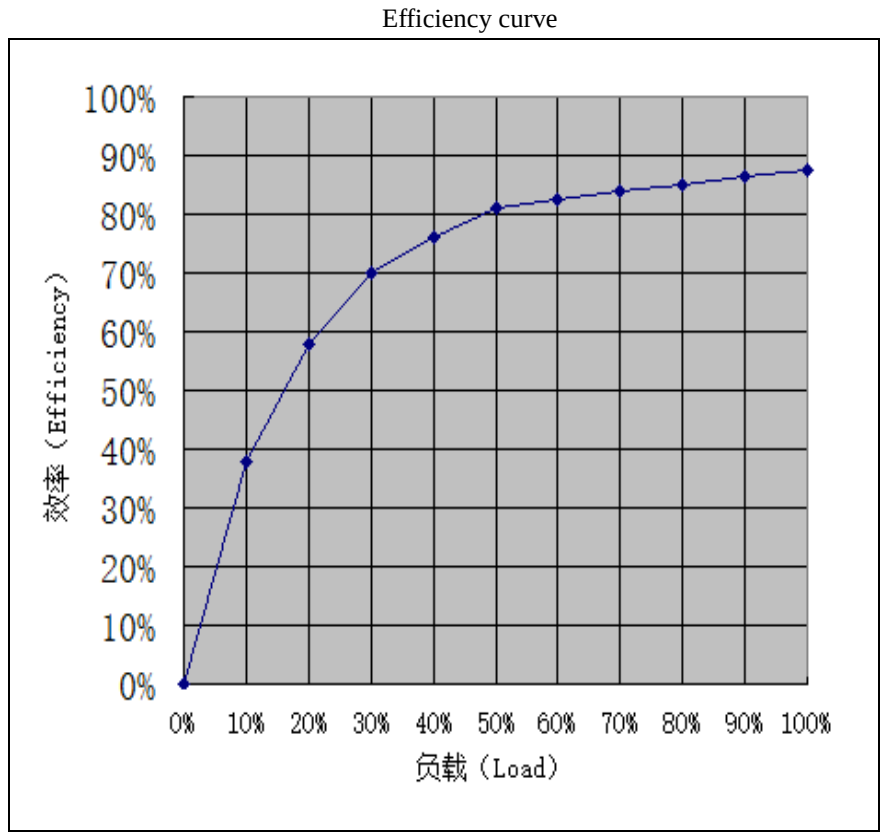
降额曲线

Derating curve



效率曲线

Efficiency curve



纹波噪声测试：（靠测法 20MHz）

测试方法：纹波&噪声用示波器来测试。测试模块噪声时为了避免引入额外噪声，须用示波器探头直接接触模块输出引脚