

**JWDG 工程机械电源模块--20W 单路输出**

JWDG Engineering machinery power module--20W Single Output

**典型性能 Typical Performance**

- ◆外形尺寸: 72\*50\*28 (mm)  
Dimension: 72\*50\*28 (mm)
- ◆超宽电压输入范围  
Supper 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



**输入特性 Input Features**

输入电压范围 Input voltage range	9~100VDC	标称电压 Nominal voltage	12VDC 24VDC
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**输出特性 Output Features**

输出电压精度 Voltage tolerance	标称电压 Nominal voltage	$\cong \pm 1\%$ (3.3V、5V $\cong \pm 2\%$ )
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	$\cong \pm 0.5\%$
负载调整率 Load regul	20%~100%负载变化 20%~100% Load change	$V_O \cong \pm 0.5\%$
温度系数 Temperature coefficient		$\pm 0.02\%/^{\circ}\text{C}$
容性负载 Capacitive load	输入标称电压、满载 Input rated voltage、Fullload	见附表 As per list enclosed
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
效率 Efficiency	输入标称电压、满载 Input rated voltage、Fullload	82% (典型值) 82%(typical)
启动时间 Rise time	12VDC 满载 12VDC Fullload	500mS (典型值) 500ms (typical)
保持时间 Hold up time	12VDC 满载 12VDC Fullload	50mS (典型值) 50ms (typical)
过冲幅度 Overshoot	25%额定负载变化 25% rated load change	$\cong 500\mu\text{S}$
	$\Delta V_{O1} / V_{O1}$	$\cong \pm 5.0\%$

**一般特性 General Features**

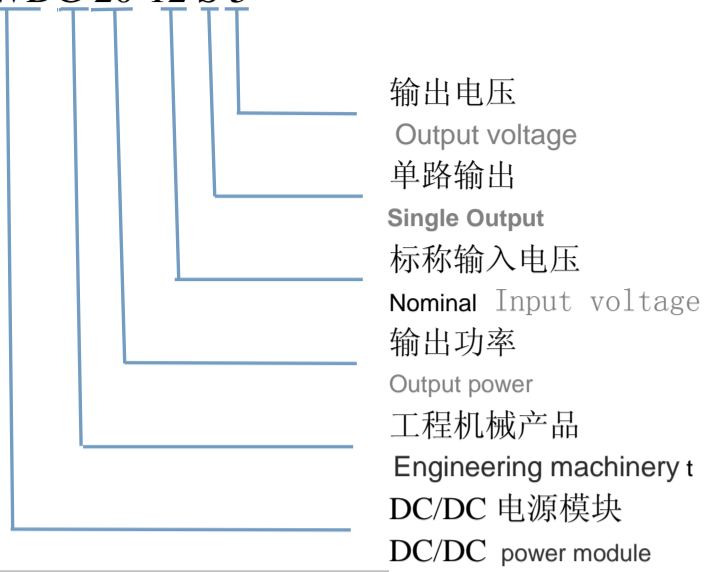
隔离耐压 Withstand voltage	输入对输出、输入对地 I/P-O/P、I/P-F/G 输出对地 O/P -F/G (1分钟,漏电流 $\cong 5\text{mA}$ ) (1Mintute ,leakage current) $\cong 5\text{mA}$ )	2500VAC  500VAC
绝缘电阻 Isolation resistance	500V	$\cong 100\text{M}\Omega$
MTBF	环境 25℃ Environment 25℃	$2.0 \times 10^5 \text{Hrs}$
工作温度 Operating temperature	65℃以上降额使用 Above 55℃ derating make	-40℃~75℃
储存温度 Storage temperature		-40℃~85℃
工作相对湿度 Operating humidity	无凝露及结冰现象 (non condensing)	10%~90RH
储存相对湿度 Storage humidity	无凝露及结冰现象 (non condensing)	5%~95RH
冷却方式 Cooling method		自然冷却 Convection

**容性负载 Capacitive Load**

Vout:5V		Vout:12V、15V		Vout:24V	
推荐值 Recommendations	最大值 Maximum	推荐值 Recommendations	最大值 Maximum	推荐值 Recommendations	最大值 Maximum
1000 $\mu\text{F}$	4700 $\mu\text{F}$	1000 $\mu\text{F}$	3300 $\mu\text{F}$	470 $\mu\text{F}$	1000 $\mu\text{F}$

## 命名方式 Naming Rules

JWDG 20-12 S 5



## 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 $I_O$	输出电压精度 Output voltage tolerance	纹波噪声 R&N $V_{(P-P)mV}$	效率 Efficiency
JWDG20-12S3.3	9~100VDC	3.3V	5.56A	±2%	100mV	75%
JWDG20-12S5		5V	4.00A	±2%	100mV	78%
JWDG20-12S9		9V	0.27A	±1%	100mV	80%
JWDG20-12S12		12V	1.67A	±1%	120mV	82%
JWDG20-12S15		15V	1.34A	±1%	120mV	83%
JWDG20-12S24		24V	0.84A	±1%	150mV	85%

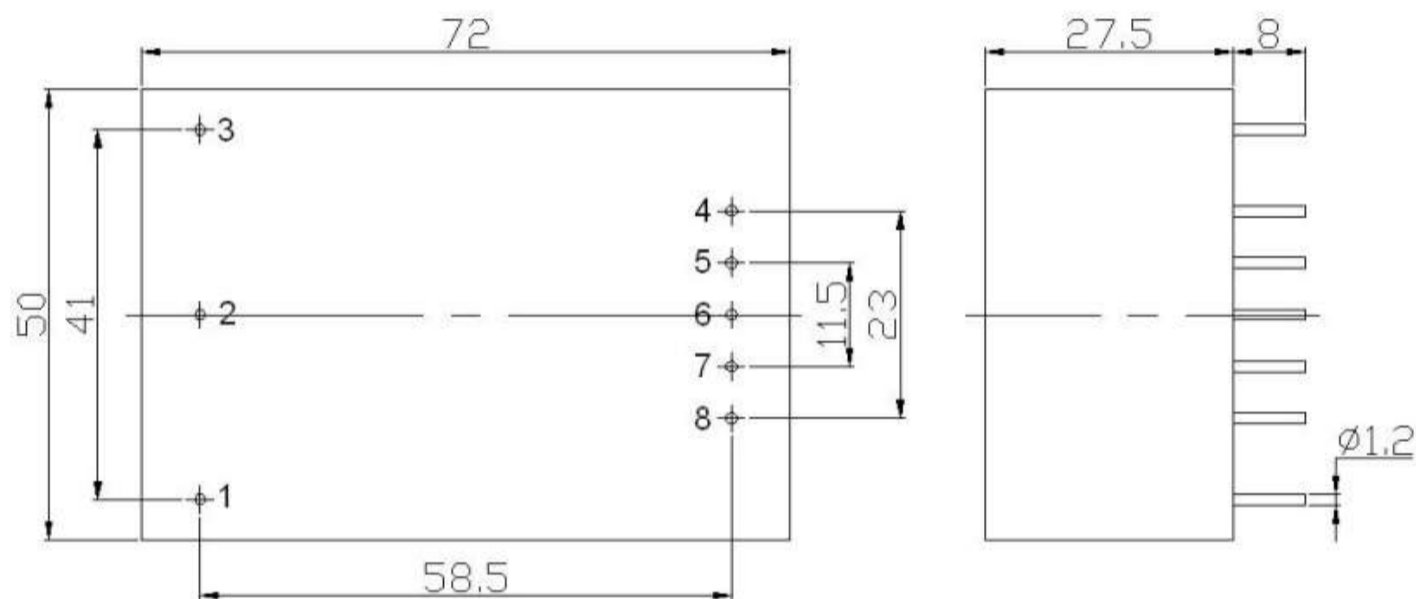
注：因篇幅有限，以上只是部分产品列表，若需列表以外产品，请与本公司销售部联系。

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 Mechanical Data



注：电源模块的各管脚定义如与选型手册不符，应以实物标签上的标注为准。

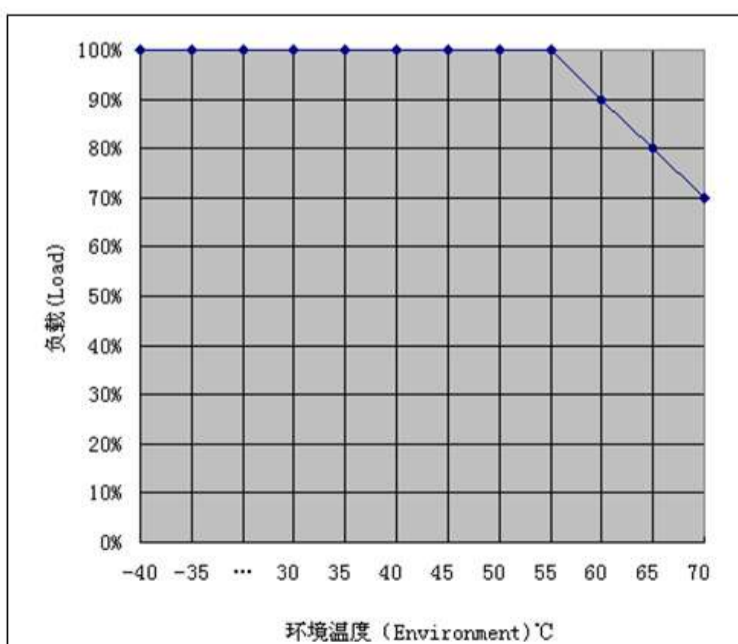
Note: The power modules such as the definition of the pin does not match with the hand book, please refer to the actual item

## 管脚定义 Pin Assignments

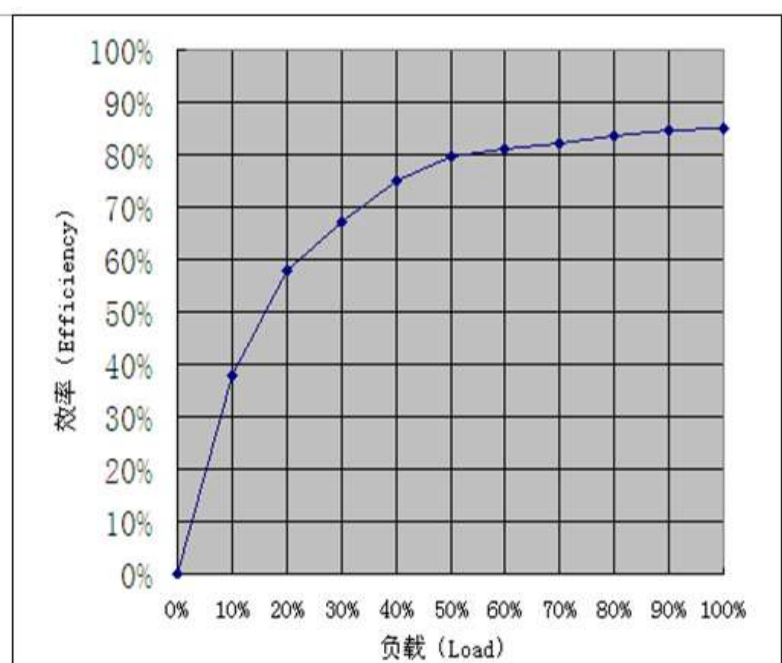
管脚说明	P1	P2	P3	P4	P5	P6	P7	P8
单路 (S)	FG	Vin+	Vin-	V <sub>O+</sub>	NP	GND	NP	GND

## 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

