

JWDG 工程机械电源模块--20W 双路输出

JWDG Engineering machinery power module--20W dual 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°C长寿命电解电容
105°C 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
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输出特性 Output Features

输出电压精度 Voltage tolerance	标称电压 Nominal voltage	$V_{o1} \leq \pm 1\%$ (3.3V、5V $\leq \pm 2\%$), $V_{o2} \leq \pm 3\%$
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	$V_{o1} \leq \pm 0.5\%$, $v_{o2} \leq \pm 1.5\%$
负载调整率 Load regul	20%~100%负载变化 20%~100% Load change	$V_{o1} \leq \pm 0.5\%$, $v_{o2} \leq \pm 3\%$
纹波噪声 Ripple&Noise	20M 带宽 20M Bandwidth	$\leq 1\%$
温度系数 Temperature coefficient		$\pm 0.02\%/^{\circ}\text{C}$
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
过冲幅度 Overshoot	25% 额定负载变化 25% rated load change	$\leq 25\mu\text{S}$
	$\Delta V_{o1} / V_{o1}$	$\leq \pm 5.0\%$

一般特性 General Features

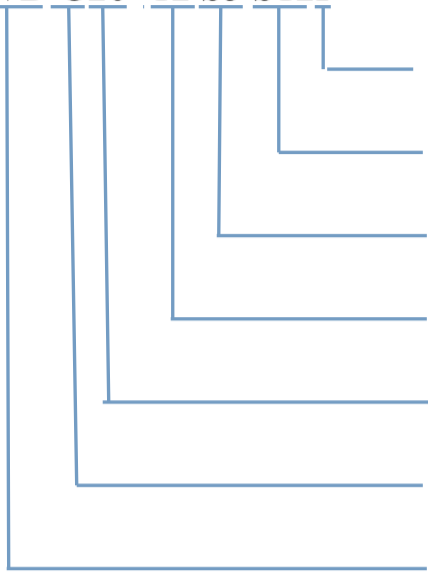
隔离耐压 Withstand voltage	输入对输出、输入对地 I/P-O/P、I/P-F/G 输出对地 O/P -F/G 输出对输出 (隔离) O/P-O/P (1分钟, 漏电流 $\leq 5\text{mA}$) (1Mintute ,leakage current) $\leq 5\text{mA}$)	2500VAC 500VAC 500VDC
绝缘电阻 Isolation resistance	500V	$\geq 100\text{M}\Omega$
MTBF	环境 25°C Environment 25°C	$2.0 \times 10^5 \text{Hrs}$
工作温度 Operating temperature	65°C 以上降额使用 Above 55°C derating make	-40°C ~ 75°C
储存温度 Storage temperature		-40°C ~ 85°C
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

注: 模块的输出端可以外加电解电容, 但过大的容量和过低的 ESR 值可能会引起模块工作的不稳定, 或造成限流点变低, 推荐输出电容值为 100μ F/A, 此处的电流指额定输出电流。

Note: The output end of the module can be coupled with electrolytic capacitor, but too much capacity and low ESR value may cause the instability of the module, or current limit points of lower output capacitance of the recommended value of 100 u F/A, the current here refers to the rated output current.

命名方式 Naming Rules

JWD G20 -12 S5 S12I

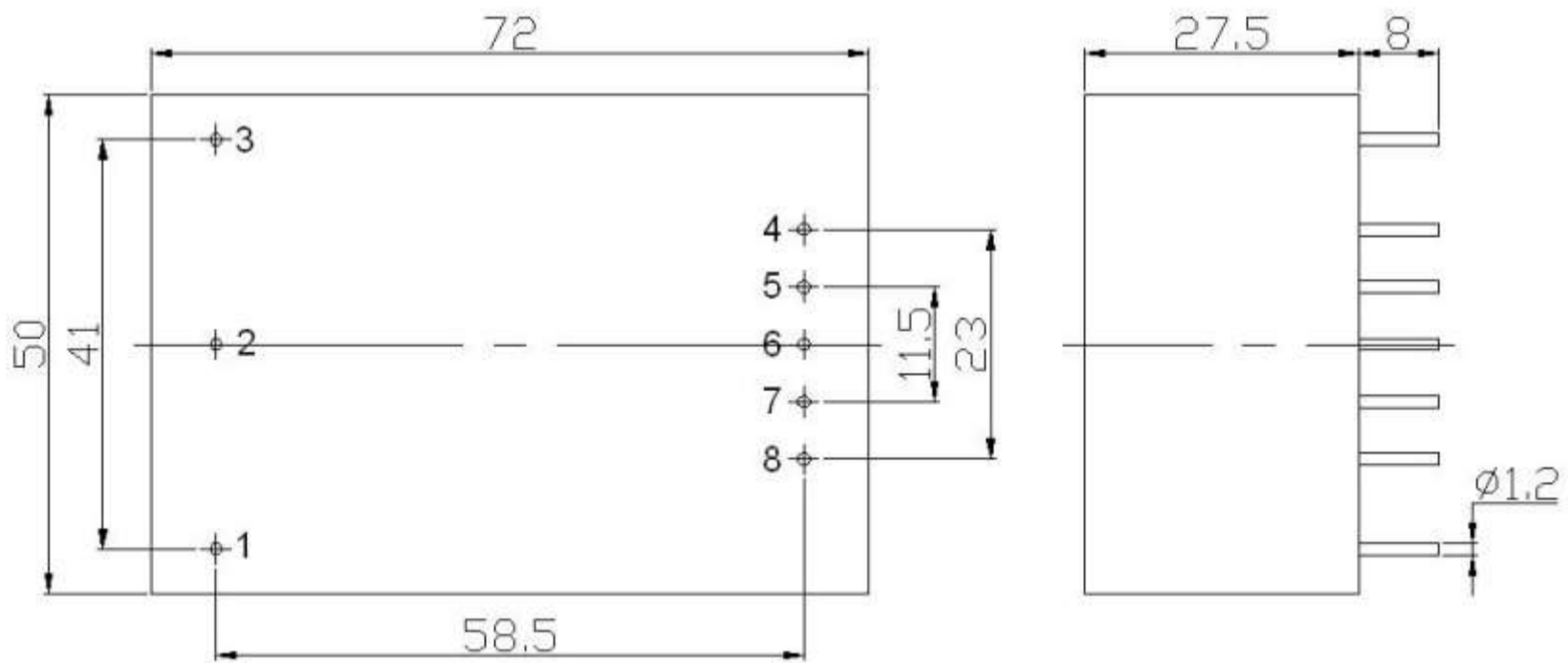


- 隔离输出
Isolate output
- 输出电压 V_{O2}
Output voltage V_{O2}
- 输出电压 V_{O1}
Output voltage V_{O1}
- 标称输入电压
Nominal Input voltage
- 输出功率
Output power
- 工程机械产品
Engineering machinery
- DC/DC 电源模块
DC/DC power module

产品选型 Product selection

产品型号 Model No.	输入电压 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
JWDG20-12S5S5I	9~100V	+5V	0.30~3.00A	±2%	80mV	76%
JWDG20-12S5S12I		+5V	0.10~1.00A	±5%	80mV	
JWDG20-12S5S15I		+5V	0.30~3.00A	±2%	80mV	78%
JWDG20-12S5S24I		+12V	0.04~0.42A	±3%	100mV	
JWDG20-12S12S5I		+5V	0.30~3.00A	±2%	80mV	78%
JWDG20-12S12S12I		+15V	0.03~0.34A	±3%	120mV	
JWDG20-12S12S15I		+5V	0.30~3.00A	±2%	80mV	80%
JWDG20-12S12S24I		+24V	0.02~0.21A	±3%	150mV	
JWDG20-12S12S5I		+12V	0.10~1.25A	±1%	100mV	78%
JWDG20-12S12S12I		+5V	0.10~1.00A	±5%	80mV	
JWDG20-12S12S15I		+12V	0.10~1.25A	±1%	100mV	81%
JWDG20-12S12S24I		+12V	0.04~0.42A	±3%	100mV	
JWDG20-12S12S5I		+12V	0.10~1.25A	±1%	100mV	81%
JWDG20-12S12S15I		+15V	0.03~0.34A	±3%	120mV	
JWDG20-12S12S24I	+12V	0.08~0.83A	±1%	100mV	83%	
JWDG20-12S12S24I	+24V	0.04~0.42A	±3%	150mV		

封装尺寸图 Mechanical Data



管脚定义 Pin Assignments

P1	P2	P3	P4	P5	P6	P7	P8
FG	V_{in+}	V_{in-}	V_{O2+}	GND2	NP	V_{O1+}	GND1

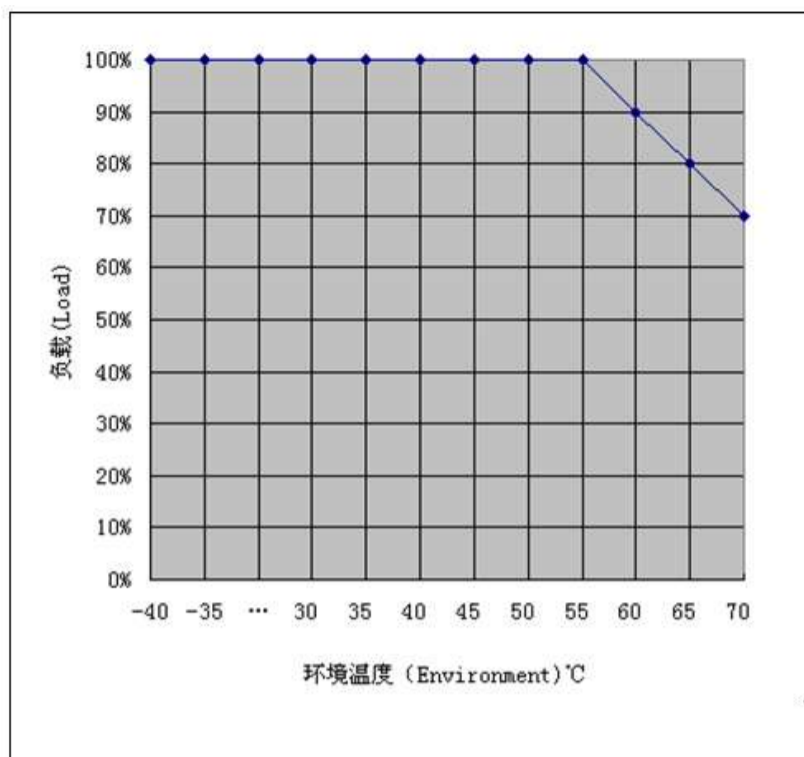
注：电源模块的外形尺寸和管脚定义如与选型手册不符，请以实物实际尺寸为准。

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

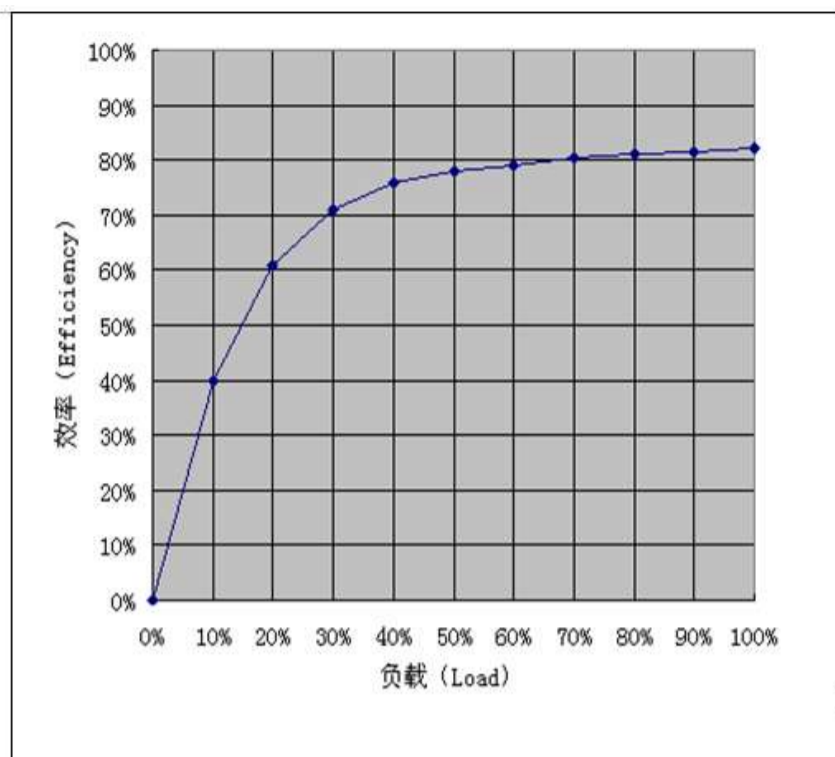
降额曲线

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

