

12/15 Watts

JCG Series



- High Power Density
- 2:1 Input Range
- Operating Temperature -40°C to $+100^{\circ}\text{C}$
- Single & Dual Outputs
- Remote On/Off
- 1600 VDC Isolation
- 3 Year Warranty

Specification

Input

Input Voltage Range	• 12 V (9-18 VDC) • 24 V (18-36 VDC) • 48 V (36-75 VDC)
Input Current	• See table
Input Filter	• Pi network
Input Reflected Ripple Current	• 20 mA pk-pk through 12 μH inductor
Input Surge	• 12 V models 36 VDC for 1000 ms • 24 V models 50 VDC for 1000 ms • 48 V models 100 VDC for 1000 ms
Undervoltage Lockout	• None
Input Reverse Voltage Protection	• None

Output

Output Voltage	• See table
Minimum Load	• No minimum load required
Initial Set Accuracy	• $\pm 1.2\%$ max for JCG12, $\pm 1.0\%$ for JCG15
Start Up Delay	• 20 ms max
Line Regulation	• $\pm 0.5\%$ max
Load Regulation	• $\pm 0.5\%$ max single, $\pm 1.0\%$ max dual
Cross Regulation	• $\pm 5\%$ on dual output models (see note 2)
Transient Response	• $< 3\%$ deviation, recovery to within 1% in 250 μs for a 25% load change
Ripple & Noise	• 85 mV pk-pk, 20 MHz bandwidth for JCG12, • 60 mV pk-pk, 20 MHz bandwidth for JCG15 (see note 3)
Overload Protection	• $> 150\%$ of full load
Overvoltage Protection	• 2.5/3.3 V models: 3.9 V typical • 5 V models: 6.2 V typical • 12 V models: 15.0 V typical • 15 V models: 18.0 V typical • ± 12 V models: ± 15.0 V typical • ± 15 V models: ± 18.0 V typical
Short Circuit Protection	• Trip & restart (hiccup) with auto recovery
Maximum Capacitive Load	• See table
Temperature Coefficient	• $\pm 0.02/^{\circ}\text{C}$ max
Remote On/Off	• ON > 3.0 VDC or open circuit • OFF < 1.2 VDC or short circuit pin 1, 2 & 3

General

Efficiency	• See tables
Isolation Voltage	• 1600 VDC Input to Output • 1600 VDC Input to Case • 1600 VDC Output to Case
Isolation Capacitance	• 2000 μF max
Switching Frequency	• 330 kHz typical
Power Density	• 30 W/in³ for JCG12, 37.5 W/in³ for JCG15
MTBF	• > 1.0 Mhrs to MIL-HDBK-217F at 25°C, GB

Environmental

Operating Temperature	• -40°C to $+100^{\circ}\text{C}$, derate from 100% load at $+60^{\circ}\text{C}$ to no load at $+100^{\circ}\text{C}$
Case Temperature	• $+100^{\circ}\text{C}$ max
Storage Temperature	• -40°C to $+125^{\circ}\text{C}$
Humidity	• Up to 95%, non-condensing
Cooling	• Natural convection

EMC

Emissions	• EN55022 Class A conducted and radiated with external components - see application note
ESD Immunity	• EN61000-4-2, level 3, Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3, Perf Criteria A*
Surge	• EN61000-4-5, installation class 3, Perf Criteria A*
Conducted Immunity	• EN61000-4-6, 10 Vrms, Perf Criteria A
Magnetic Field	• EN61000-4-8, 1 A/m, Perf Criteria A

* A 330 μF , 100 V capacitor is required across input terminals to meet performance criteria A.

