

30 Watts

JCK Series



- 2:1 Input Range
- Operating Temperature -40°C to $+105^{\circ}\text{C}$
- Single and Dual Outputs
- High Efficiency – Up to 92%
- 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
Undervoltage Lockout	• 12 V models: ON 8.6 V, OFF 7.9 V typical • 24 V models: ON 17.8 V, OFF 16 V typical • 48 V models: ON 33.5 V, OFF 30.5 V typical
Input Reflected Ripple Current	• 20 mA pk-pk through 12 μH inductor
Input Surge	• 12 V models 25 VDC for 100 ms • 24 V models 50 VDC for 100 ms • 48 V models 100 VDC for 100 ms
Input Filter	• Pi network

Output

Output Voltage	• See table
Output Voltage Trim	• $\pm 10\%$ on single outputs models only
Start Up Delay	• 30 ms max
Minimum Load	• No minimum load required
Line Regulation	• $\pm 0.5\%$ max
Load Regulation	• Single output models: $\pm 0.5\%$ max • Dual output models: $\pm 1\%$ max balanced outputs
Cross Regulation	• $\pm 5\%$ (see note 2)
Setpoint Accuracy	• $\pm 1\%$
Ripple & Noise	• 100 mV pk-pk, 20 MHz bandwidth (see note 3)
Transient Response	• 3% max deviation, recovery to within 1% in $<250 \mu\text{s}$ for a 25% load change
Temperature Coefficient	• $0.02\%/^{\circ}\text{C}$
Overvoltage Protection	• 3.3 V models: 3.9 V typical • 5 V models: 6.2 V typical • 12 V models: 15 V typical • 15 V models: 18 V typical • ± 5 V models: ± 6.2 V typical • ± 12 V models: ± 15 V typical • ± 15 V models: ± 18 V typical
Overload Protection	• $>150\%$ of full load
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Remote On/Off	• See application notes
Maximum Capacitive Load	• See table

General

Efficiency	• See table
Isolation	• 1600 VDC Input to Output • 1600 VDC Input to Case • 1600 VDC Output to Case
Isolation Capacitance	• 1500 pF typical
Switching Frequency	• 330 kHz typical
Power Density	• 37.5 W/in^3
MTBF	• 430 kHrs min to MIL-HDBK-217F at 25°C, GB

Environmental

Operating Temperature	• -40°C to 105°C, derate from 100% load at 50°C to no load at 105°C
Case Temperature	• $+105^{\circ}\text{C}$ max
Cooling	• Convection-cooled
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40°C to $+125^{\circ}\text{C}$

EMC

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

