40 Watts

JCP Series

- 2:1 Input Range
- Single, Dual & Triple Outputs
- -40 °C to +100 °C Operating Temperature
- High Efficiency up to 92%
- Six-sided Metal Case
- Fixed 350 kHz Switching Frequency
- Continuous Short Circuit Protection

Specification

Input

Input Voltage Range	• 12 VDC (9-18 VDC) 24 VDC (18-36 VDC) 48 VDC (36-75 VDC)
Input Current	• See table
Input Filter	• Pi network
Undervoltage Lockout	• Turn on >71% nominal input Turn off <67% nominal input

Output

Output Voltage	• See table
Output Voltage Trim	• ±10%
Minimum Load	• See table
Line Regulation	• ±0.5% max for single & dual outputs, ±1.0% max for V1 of triple outputs, ±5.0% for V2 & V3
Load Regulation	• ±0.5% max single & dual outputs, ±2.0% max for V1 of triple outputs, ±5.0% for V2 & V3
Setpoint Accuracy	• ±1.5% max
Voltage Balance	• ±2.0% max
Ripple & Noise	• 2.5, 3.3 & 5.0 V models 50 mV pk-pk max 12.0 & 15.0 V models 75 mV pk-pk max (20 MHz bandwidth)
Transient Response	• 5% max deviation, recovery to within 1% in 300 µs for a 25% load change
Temperature Coefficient	• ±0.02%/°C
Overvoltage Protection	• 2.5 V models 3.6 V typical, 3.3 V models 3.9 V typical, 5.0 V models 6.2 V typical, 12.0 V models 15.0 V typical, 15.0 V models 18.0 V typical
Overcurrent Protection	• 110-140%
Short Circuit Protection	• Continuous, trip & restart (Hiccup mode)
Remote On/Off	• ON >3.5 VDC or open circuit OFF <1.8 VDC
Thermal Protection	• Shuts down when case temperature measures +110 °C typical
Remote Sense	• Compensates for up to 10% voltage drop single output models only

General

Efficiency	• See table
Isolation Voltage	• 1500 VDC Input to Output 1500 VDC Input to Case Output return connected to case
Switching Frequency	• 350 kHz typical
MTBF	• >600 kHrs to MIL-STD-217F

Environmental

Operating Temperature	• -40 °C to +100 °C, derate from 100% load at +60 °C to 0% load at +100 °C
Case Temperature	• +100 °C max
Storage Temperature	• -55 °C to +125 °C
Cooling	• Convection-cooled
Operating Humidity	• Up to 90%, non-condensing
Shock	• 30 g, half sine wave 18 ms pulse applied 3 times on each of 6 axes
Vibration	• 5-500 Hz, 3 g, for 10 mins on each of 3 axes

EMC

Emissions	• EN55022 Level A conducted & radiated with external components - contact technical sales
ESD Immunity	• EN61000-4-2, Level 2 Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3 V rms Perf Criteria A

Models and Ratings

JCP XP

Input Voltage	Output Voltage	Output Current		Input Current[2]		Efficiency	Model Number[1]
		Min	Max	No Load	Full Load		
9-18 V	2.5 V	0 A	10.00 A	200 mA	2422 mA	86%	JCP4012S2V5
	3.3 V	0 A	10.00 A	200 mA	3161 mA	87%	JCP4012S3V3
	5.0 V	0 A	8.80 A	200 mA	3745 mA	89%	JCP4012S05
	12.0 V	0 A	3.33 A	200 mA	3703 mA	90%	JCP4012S12
	15.0 V	0 A	2.66 A	200 mA	3702 mA	90%	JCP4012S15
	±12.0 V	±0.09 A	±1.80 A	100 mA	4186 mA	86%	JCP4012D12
	±15.0 V	±0.07 A	±1.40 A	100 mA	4070 mA	86%	JCP4012D15
	3.3 V/±12.0 V	0.60 A/±0.04 A	6.00 A/±0.40 A	200 mA	2917 mA	84%	JCP4012T0312
	3.3 V/±15.0 V	0.60 A/±0.03 A	6.00 A/±0.30 A	200 mA	2857 mA	84%	JCP4012T0315
	5.0 V/±12.0 V	0.60 A/±0.04 A	6.00 A/±0.40 A	200 mA	3837 mA	86%	JCP4012T0512
	5.0 V/±15.0 V	0.60 A/±0.03 A	6.00 A/±0.30 A	200 mA	3779 mA	86%	JCP4012T0515
18-36 V	2.5 V	0 A	10.00 A	100 mA	1184 mA	88%	JCP4024S2V5
	3.3 V	0 A	10.00 A	100 mA	1545 mA	89%	JCP4024S3V3
	5.0 V	0 A	8.80 A	110 mA	1831 mA	91%	JCP4024S05
	12.0 V	0 A	3.33 A	100 mA	1811 mA	92%	JCP4024S12
	15.0 V	0 A	2.66 A	100 mA	1810 mA	92%	JCP4024S15
	±12.0 V	±0.09 A	±1.80 A	100 mA	2069 mA	87%	JCP4024D12
	±15.0 V	±0.07 A	±1.40 A	100 mA	2011 mA	87%	JCP4024D15
	3.3 V/±12.0 V	0.60 A/±0.04 A	6.00 A/±0.40 A	100 mA	1441 mA	85%	JCP4024T0312
	3.3 V/±15.0 V	0.60 A/±0.03 A	6.00 A/±0.30 A	100 mA	1412 mA	85%	JCP4024T0315
	5.0 V/±12.0 V	0.60 A/±0.04 A	6.00 A/±0.40 A	100 mA	1897 mA	87%	JCP4024T0512
	5.0 V/±15.0 V	0.60 A/±0.03 A	6.00 A/±0.30 A	100 mA	1868 mA	87%	JCP4024T0515
36-75 V	2.5 V	0 A	10.00 A	50 mA	599 mA	87%	JCP4048S2V5
	3.3 V	0 A	10.00 A	50 mA	781 mA	88%	JCP4048S3V3
	5.0 V	0 A	8.80 A	60 mA	926 mA	90%	JCP4048S05
	12.0 V	0 A	3.33 A	60 mA	916 mA	91%	JCP4048S12
	15.0 V	0 A	2.66 A	60 mA	906 mA	92%	JCP4048S15
	±12.0 V	±0.09 A	±1.80 A	50 mA	1034 mA	87%	JCP4048D12
	±15.0 V	±0.07 A	±1.40 A	50 mA	1006 mA	87%	JCP4048D15
	3.3 V/±12.0 V	0.60 A/±0.04 A	6.00 A/±0.40 A	50 mA	712 mA	86%	JCP4048T0312
	3.3 V/±15.0 V	0.60 A/±0.03 A	6.00 A/±0.30 A	50 mA	698 mA	86%	JCP4048T0315
	5.0 V/±12.0 V	0.60 A/±0.04 A	6.00 A/±0.40 A	50 mA	938 mA	88%	JCP4048T0512
	5.0 V/±15.0 V	0.60 A/±0.03 A	6.00 A/±0.30 A	50 mA	923 mA	88%	JCP4048T0515

Notes

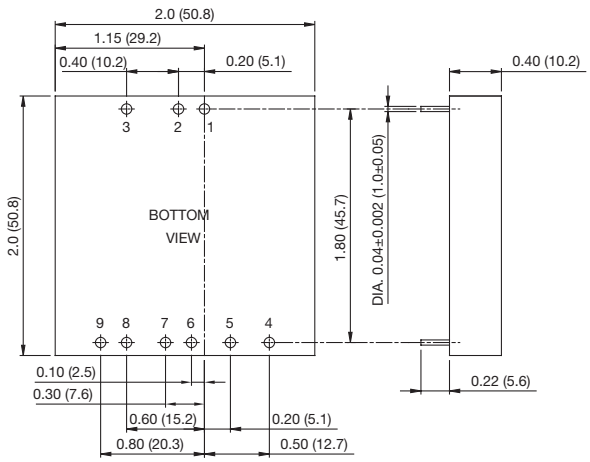
1. Add suffix '-N' to model number for negative logic Remote On/Off.

2. Input current measured at nominal input voltage.

Mechanical Details

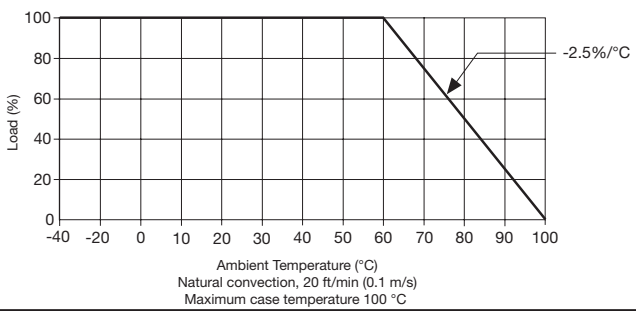
All dimensions are in inches (mm)
Weight: 65 g (0.14 lbs)

PIN CONNECTIONS			
Pin	Single	Dual	Triple
1	+V Input	+V Input	+V Input
2	-V Input	-V Input	-V Input
3	On/Off	On/Off	On/Off
4	NC	NC	+Aux. Output
5	-Sense	+V Output 1	Rtn
6	+Sense	Rtn	-Aux. Output
7	+Vout	Rtn	+V Output 1
8	Rtn	-V Output 2	Rtn
9	Trim	Trim	NC



Application Notes

Derating Curve



Remote On/Off Control

Standard ROF logic is positive.
Output On >3.5 VDC or open circuit
Output Off <1.8 VDC

Optional ROF logic is negative ('-N' version).
Output On <1.8 VDC
Output Off >3.5 VDC or open circuit

Remote Sense

If remote sense is not being used:
+Sense should be connected to +Vout
-Sense should be connected to -Vout.