



MicroPower Direct



5 - 6W , Ultra-Wide Input
Single and Dual Output
DC/DC Converters
C500RU Series

Key Features

- 4-1 Input Range
- 5W Output Power
- Tightly Regulated Outputs
- Internal Filter
- High Efficiency
- Low Cost

Electrical Specifications

Specifications typical @ +25°C with nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

Parameter	Nominal Input	Min.	Typ.	Max.	Units
Input Start Voltage	24 VDC Input Models	8.0	8.5	9.0	VDC
	48 VDC Input Models	13.0	15.0	18.0	
Input Filter	π Filter				

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±0.5	±1.0	%
Output Voltage Balance	Dual Output Balanced Load		±0.5	±1.0	%
Line Regulation	For V_{IN} = Min. to Max.		±0.1	±0.2	%
Load Regulation	For I_{OUT} = 10% to 100%		±0.2	±0.5	%
Ripple & Noise (20 MHz)			65	100	mV Pk-Pk
Ripple & Noise (20 MHz)	Over Line, Load & Temp.			120	mV Pk-Pk
Ripple & Noise (20 MHz)				10	mV Rms
Output Power Protection		120			%
Transient Recovery Time	25% Load Step Change		250	500	μSec
Transient Response Deviation	25% Load Step Change		1.5	3.0	%
Temperature Coefficient			±0.01	±0.02	%/°C
Output Short Circuit Protection	Continuous				

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	500			VDC
Isolation Resistance	500 VDC	1000			MΩ
Isolation Capacitance	100 kHz, 1V		500	650	pF
Switching Frequency		80	100	120	kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature		-25	+25	+71	°C
Storage Temperature		-40		+105	°C
Humidity				95	%
Cooling	Free Air Convection				
EMI	Six Sided Shielded Metal Case				

Physical Characteristics

Case Size	2.0 x 2.0 x 0.40 Inches (50.8 x 50.8 x 10.2 mm)
Case Material	Metal With Non-Conductive Base
Weight	2.12 Oz (60.0g)

Absolute Maximum Ratings

Parameter	Nominal Input	Min.	Typ.	Max.	Units
Input Voltage Surge (1 Sec)	24 VDC Input Models	-0.7		42.0	VDC
	48 VDC Input Models	-0.7		84.0	
Internal Power Dissipation	All Models			4000	mW

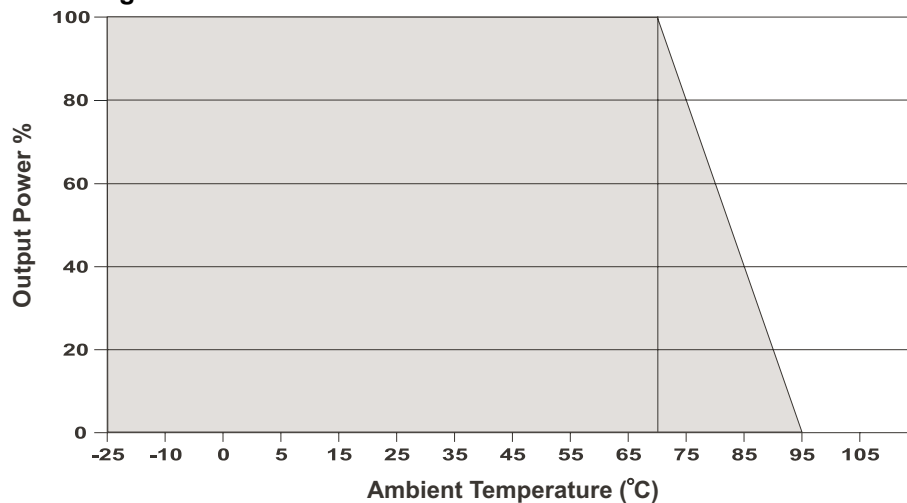
Caution: Exceeding Absolute Maximum Ratings may damage the module. These are not continuous operating ratings.

Model Selection Guide

Model Number	Input					Output		Efficiency %, Typ.
	Voltage (VDC)		Current (mA)		Reflected Ripple Current (mA)	Voltage (VDC)	Current (mA Max.)	
	Nominal	Range	No-Load	Full-Load				
C501RU	24	9 - 36	20.0	300.0	30	5.0	1000	70
C502RU	24	9 - 36	20.0	290.0	29	9.0	550	71
C503RU	24	9 - 36	20.0	340.0	34	12.0	500	74
C504RU	24	9 - 36	20.0	340.0	34	15.0	400	74
C505RU	24	9 - 36	20.0	340.0	34	±12.0	±250	74
C506RU	24	9 - 36	20.0	335.0	34	±15.0	±200	75
C511RU	48	18 - 72	10.0	145.0	15	5.0	1000	72
C512RU	48	18 - 72	10.0	142.0	14	9.0	550	73
C513RU	48	18 - 72	10.0	167.0	17	12.0	500	75
C514RU	48	18 - 72	10.0	167.0	17	15.0	400	75
C515RU	48	18 - 72	10.0	167.0	17	±12.0	±250	75
C516RU	48	18 - 72	10.0	167.0	17	±15.0	±200	75

- Notes:** 1. Transient recovery time is measured to within a 1% error band for a step change in output load of 75% to 100%.
 2. A minimum output load of 10% must be maintained to operate to within specifications
 3. Total output power should not exceed the specified output ratings for any particular model.

Derating Curve

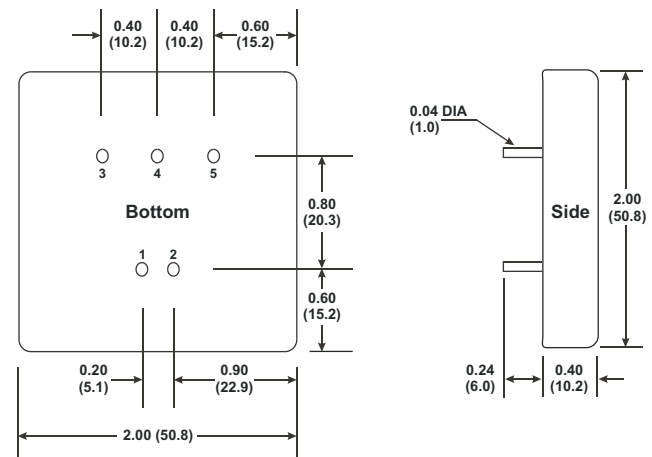


Mechanical Dimensions

Pin Connections

Pin	Single Output	Dual Output
1	+V _{in}	+V _{in}
2	-V _{in}	-V _{in}
3	+V _{out}	+V _{out}
4	NC	Common
5	-V _{out}	-V _{out}

Note All dimensions are typical in inches (mm).
 NC = No Connection
 Tolerance x.xx = ±0.01 (±0.25)



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