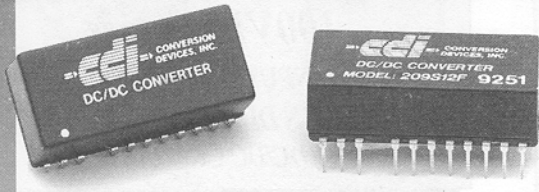


Distributed By: B. J. Wolfe Enterprises, Inc.
 info@bjwe.com, (800) 554-1224, Fax (818) 889-8417

Key Features:

- ▶ Low Profile, 24 Pin DIP Package
- ▶ 500 VDC Input/Output Isolation
- ▶ 7.38W/In³ Power Density
- ▶ No Derating to +71°C
- ▶ Internal π (Pi) Filter
- ▶ Low Noise Operation
- ▶ Low Cost
- ▶ 72 Hour Burn-in (100% of Production)



200F Series

General Description

The **200F** series is a family of low cost, 2.25W DC/DC converters specifically designed for applications such as local area networks where low cost, miniature size and long reliable operation are critical. Four models operate from power bus voltages of 5 or 12 VDC, providing a single 9 VDC output. Two packaging options are offered.

High performance features include efficiency as high as 80%, 500 VDC input/output isolation and low noise. Each model also includes an input π filter to reduce reflected ripple current and output short circuit protection with automatic recovery.

Two models of the **200F** series are packaged in a miniature, low profile 24 pin DIP case measuring 1.27 x 0.6 x 0.4 inches. The two "A" models are packaged in a compact, low profile 24 pin DIP compatible case measuring 1.25 x 0.80 x 0.40 inches. Both cases are non-conductive, black plastic. This miniature size yields a power density as high as 7.38W/in³.

Operation is specified over the wide operating temperature range of -0°C to +71°C with no derating required. Cooling is by free-air convection.

Electrical Specifications

Input Specifications:

Input Voltage Range	See Model Selection Guide
Input Filter	π (Pi) Network
Reflected Ripple Current	See Model Selection Guide

Output Specifications:

Output Voltage and Current ⁽¹⁾	See Model Selection Guide
Output Voltage Accuracy	$\pm 5\%$, Max.
Ripple & Noise (20 MHz BW)	50 mV Pk-Pk, Max.
Line Regulation	See Table 1 and Table 2
Load Regulation	See Table 1 and Table 2
Temperature Coefficient @ FL ⁽²⁾	$\pm 0.02\%/^{\circ}\text{C}$
Short Circuit Protection	Momentary
Short Circuit Restart	Automatic

General Specifications:

Efficiency	See Model Selection Guide
Isolation Voltage (1 min)	500 VDC, Min.
Isolation Resistance	$10^9\Omega$
Isolation Capacitance	80 pF
Switching Frequency	20 kHz Min.

Environmental Specifications:

Operating Temperature Range (Ambient)	-0°C to +71°C
Storage Temperature Range	-25°C to +125°C
Derating	None Required
Humidity	Up to 95%, Non-condensing
Cooling	Free-air Convection

Physical Characteristics:

Size (Case A)	1.27 x 0.6 x 0.4 inches (32.3 x 15.24 x 10.2 mm)
Size (Case A1)	1.25 x 0.8 x 0.4 inches (32 x 20.3 x 10.2 mm)
Weight	0.5 Oz (14g)
Case Material	Non-conductive Black Plastic

Absolute Maximum Ratings: ⁽³⁾

Input Voltage	130% of Input Range
Internal Power Dissipation	1.45W

Specifications typical @+25°C with nominal input voltage and under full output load conditions, unless otherwise noted. Specifications subject to change without notice.

Specification Notes

1. Total output power should not exceed the specified output ratings for any particular model.
2. Temperature coefficient for "A" suffix models is $\pm 0.03\%/^{\circ}\text{C}$.
3. Absolute Maximum Ratings are specifications that, if exceeded, could permanently damage the unit. These are not continuous operating ratings.

* For information on the standard conditions and methods used or approved by CDI to test DC/DC converter parameters, see the application note "Testing DC/DC converters" on page 92.

Typical Applications:

- ▶ Local Area Networks
- ▶ Distributed Power Networks
- ▶ Telecommunications Equipment
- ▶ General Purpose, Board Mountable DC/DC Converter

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200F Series
LOW COST, HIGH POWER DENSITY
24 PIN DIP COMPATIBLE, 2.25W
LAN DC/DC CONVERTERS

Model Selection Guide

Model Number	Input				Reflected Ripple (mA P-P)	Output		Efficiency @FL (%)	Case Style
	Voltage (VDC)		Current (mA)			Voltage (VDC)	Current (mA)		
	Nominal	Range	No-Load	Full-Load					
209S5F	5	4.5 - 5.5	170	560	57	9	250	78	A
209S12F	12	10.8 - 13.2	75	240	24	9	250	80	A
209S5FA	5	4.5 - 5.5	170	560	57	9	250	78	A1
209S12FA	12	10.8 - 13.2	75	240	24	9	250	80	A1

Line and Load Regulation: Table 1

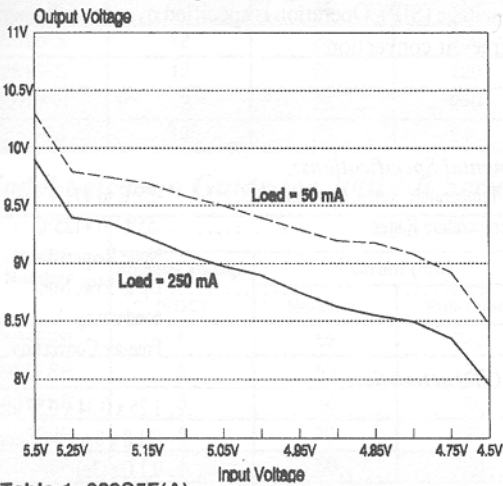
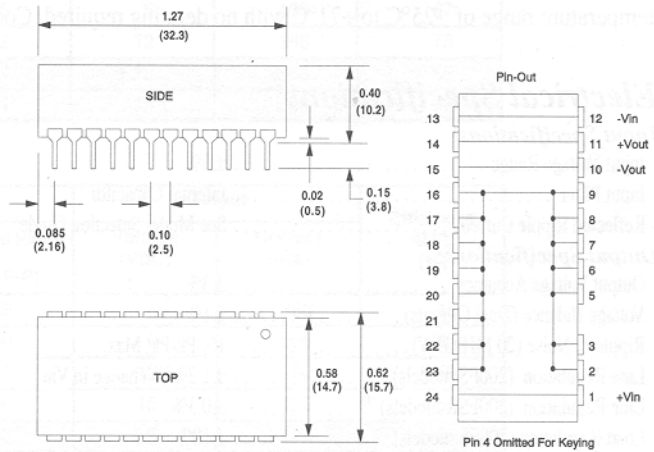


Table 1. 209S5F(A)

Mechanical Configuration: Case A



Mechanical Configuration: Case A1

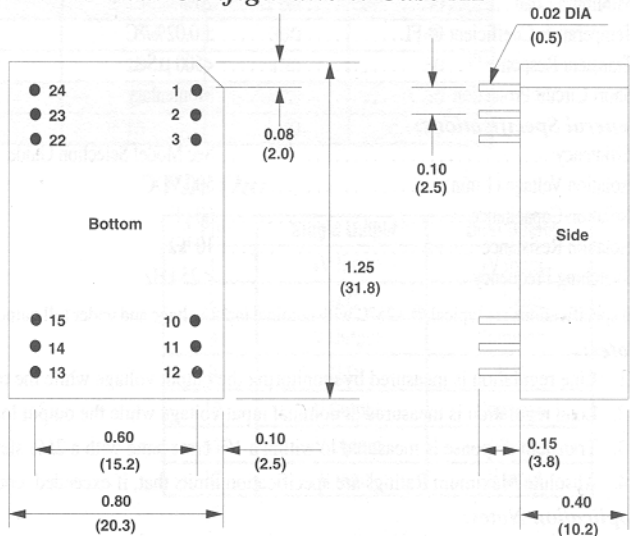


Table 2

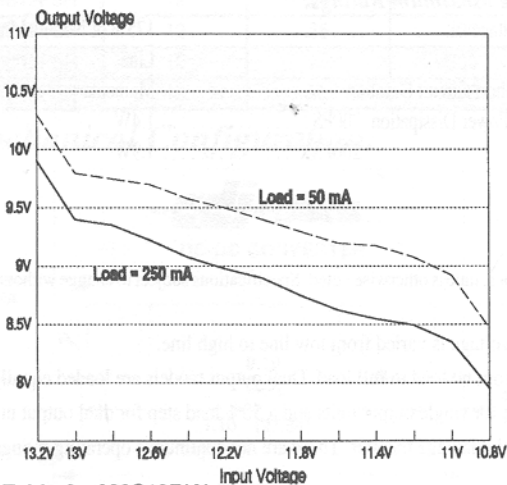


Table 2. 209S12F(A)

Pin-Out Case A1

Pin	Description	Pin	Description
1,24	+V Input	11,14	+V Output
2,3	N/C	12,13	-V Input
10,15	-V Output	22,23	N/C

Ordering Information:

Case www.DataSheet4U.com
 models do not require a suffix.
 Case A is alternate. These models require a "A" suffix when ordering, i.e. 209S5FA

Note: All dimensions are typical in inches (mm).
 Tolerance X.XX = ± 0.02, (± 0.5)
 X.XXX = ± 0.010, (± 0.25)
 N/C = No Connection
 Pin 1 (A1 case) may be shown by a dot on the case top