

# DC200-1

S E R I E S

## 2 WATT WIDE INPUT DC-DC CONVERTERS



### FEATURES

- 2W Isolated Output
- Compact SIP-8 Package
- Efficiency to 84%
- 2 : 1 Input Range
- Regulated Outputs
- Under Voltage Protection
- Remote On/Off Control
- 1500VDC Isolation
- Continuous Short Circuit Protection
- CE Mark Meets 2004/108/EC
- Safety Meets UL60950-1, EN60950-1, and IEC60950-1

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	Capacitor Load max.
			MIN.	MAX.	NO LOAD	FULL LOAD		
DC203-1	4.5-9.0 VDC	3.3 VDC	0 mA	500 mA	60 mA	452 mA	73	500uF
DC204-1		5 VDC	0 mA	400 mA		526 mA	76	400uF
DC205-1		12 VDC	0 mA	167 mA		501 mA	80	167uF
DC206-1		15 VDC	0 mA	134 mA		503 mA	80	134uF
DC207-1		±5 VDC	±0 mA	±200 mA		519 mA	77	200uF
DC208-1		±12 VDC	±0 mA	±83 mA		504 mA	79	83uF
DC209-1		±15 VDC	±0 mA	±67 mA		503 mA	80	67uF
DC210-1	9-18 VDC	3.3 VDC	0 mA	500 mA	30 mA	181 mA	76	500uF
DC211-1		5 VDC	0 mA	400 mA		211 mA	79	400uF
DC212-1		12 VDC	0 mA	167 mA		204 mA	82	167uF
DC213-1		15 VDC	0 mA	134 mA		202 mA	83	134uF
DC214-1		±5 VDC	±0 mA	±200 mA		211 mA	79	200uF
DC215-1		±12 VDC	±0 mA	±83 mA		202 mA	82	83uF
DC216-1		±15 VDC	±0 mA	±67 mA		202 mA	83	67uF
DC217-1	18-36 VDC	3.3 VDC	0 mA	500 mA	18 mA	90 mA	76	500uF
DC218-1		5 VDC	0 mA	400 mA		105 mA	79	400uF
DC219-1		12 VDC	0 mA	167 mA		102 mA	82	167uF
DC220-1		15 VDC	0 mA	134 mA		101 mA	83	134uF
DC221-1		±5 VDC	±0 mA	±200 mA		105 mA	79	200uF
DC222-1		±12 VDC	±0 mA	±83 mA		102 mA	81	83uF
DC223-1		±15 VDC	±0 mA	±67 mA		100 mA	84	67uF
DC224-1	36-75 VDC	3.3 VDC	0 mA	500 mA	9 mA	46 mA	74	500uF
DC225-1		5 VDC	0 mA	400 mA		53 mA	79	400uF
DC226-1		12 VDC	0 mA	167 mA		51 mA	82	167uF
DC227-1		15 VDC	0 mA	134 mA		50 mA	84	134uF
DC228-1		±5 VDC	±0 mA	±200 mA		53 mA	78	200uF
DC229-1		±12 VDC	±0 mA	±83 mA		51 mA	82	83uF
DC230-1		±15 VDC	±0 mA	±67 mA		50 mA	84	67uF

NOTE: 1. Nominal Input Voltage 5, 12, 24 or 48 VDC

## Specifications

### INPUT SPECIFICATIONS:

Input Voltage Range.....	5V.....	4.5-9V
	12V.....	9-18V
	24V.....	18-36V
	48V.....	36-75V
Input Surge Voltage (100ms max.) .....	5V .....	15Vdc max.
	12V .....	25Vdc max.
	24V .....	50Vdc max.
	48V .....	100Vdc max.

### Under Voltage Protection: (Note5)

5Vin Power Up .....	4.2Vdc max.
Power Down .....	3Vdc min.
12Vin Power Up .....	7.3Vdc max.
Power Down .....	5.8Vdc min.
24Vin Power Up .....	15.5Vdc max.
Power Down .....	12Vdc min.
48Vin Power Up .....	31Vdc max.
Power Down .....	24Vdc min.

Input Filter.....Capacitive

### Remote on/off control: (Note6)

Module Off (input idle current) .....1mA max.

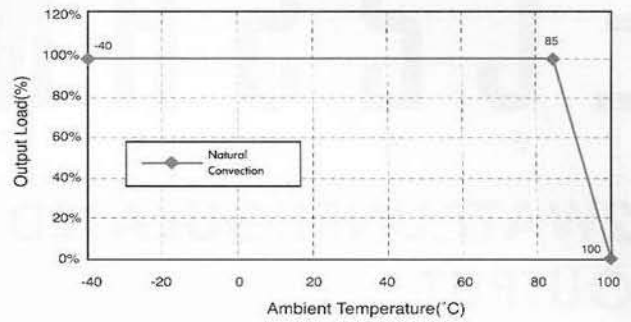
### OUTPUT SPECIFICATIONS:

Voltage Accuracy : .....	±1.5% max.
Voltage Balance(Dual) .....	±1.0% max.
Cross regulation(Dual)¹.....	Asymmetrical load 25%/100%..... ±5.0% max.
Transient Response: 25% Step Load Change	
Error Band .....	±6% Vout nominal
Recovery Time .....	< 500µs
Ripple & Noise, 20MHz BW.....	75mV pk-pk, max.
Temperature Coefficient.....	±0.03%/°C
Line Regulation² .....	±0.5% max.
Load Regulation³.....	Single.....±0.5% max.
	Dual.....±1.0% max.
Output Short Circuit Protection .....	Continuous
Start up time .....	1ms typ.

### GENERAL SPECIFICATIONS:

Efficiency.....	See Table
Isolation Voltage .....	1500VDC min.
Isolation Resistance .....	10 <sup>9</sup> ohm min.
Isolation Capacitance .....	500pF typ.
Switching Frequency .....	100kHz min.
Operating Ambient Temperature.....	-40°C to +85°C
De-rating, Above 85°C .....	Linearly to Zero power at 100°C
Case Temperature⁴.....	100°C max.
Cooling.....	Natural Convection
Storage Temperature .....	-55°C to +125°C
Humidity .....	95% RH max. Non condensing
MTBF .....	MIL-STD-217F, GB, 25°C, Full Load .....
	2500khrs typ.
Dimensions .....	0.86x0.36x0.44 inches(21.80x9.20x11.10 mm)
Case Material .....	Non-Conductive Black Plastic
Weight.....	4.8g

## DC200 Series Derating Curve



### NOTE:

1. For asymmetric loading, Both channels must be at 25% load or more.
2. Measured From High Line to Low Line.
3. Measured From Full Load to 10% Load.
4. Maximum case temperature under any operating condition should not be exceeded 100°C.
5. Suffix "N" to the Model with Under Voltage Protection.
6. Suffix "N" Models: Module On .....< 0.8VDC or Open Circuit  
Module Off .....4 to 15VDC  
Other Models: Module On .....< 1.2VDC or Open Circuit  
Module Off.....5.5 to 15VDC

## PIN CONNECTION

Pin	Single Output	Dual Output
1	-V Input	-V Input
2	+V Input	+V Input
3	On/Off	On/Off
5	NC	NC
6	+V Output	+V Output
7	-V Output	Common
8	NC	-V Output

## CASE SIP-8

All Dimensions In Inches (mm)

Tolerance	Inches	Millimeters
	X.XX ±0.02	X.X ±0.5
Pin	±0.002	±0.05

