



200UFR series

Single & Dual Output DC/DC Converter



DESCRIPTIONS

The 200UFR series are 2 watts power modules designed to provide low output ripple and wide operating temperature range of -40°C to +85°C in a low-profile SIP package. The series consists of 14 models with input voltages of 24V and 48V, and offers regulated output voltages of 3.3V, 5V, 12V, 15V, $\pm 5V$, $\pm 12V$ and $\pm 15V$.

The 200UFR are ideal for datacom, mobile battery driven equipment, distributed power architectures, telecommunication equipment, mixed analog/digital subsystems, automatic test instrumentation and industrial robot systems.

OUTPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Output Voltage Set Point			± 2.0	% Output voltage at nominal line & FL
Line Regulation		± 0.2	± 0.5	% Output voltage measured from min. input line to maximum
Load Regulation			± 0.75	% Output voltage measured from FL to 25% load
Ripple/Noise			75	mV p-p, Over Line, Load & Temp., 20 MHz B.W., 25% to 100% FL
Overload Protection				see Note 1
Short Circuit Protection				see Note 1
Temperature Coefficient		± 0.01	± 0.02	% per degree C

Note 1: Overload time should be limited to 10 sec and/or the temperature should be maintained <85°C

FEATURES

- Up to 80% Efficiency
- 1500 VDC Isolation
- 4:1 Input Range
- Low Ripple and Noise
- Short Circuit and Over Current Protection
- Remote On/Off
- Internal SMD construction

INPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Input Voltage				
24 VDC Input Models	9	24	36	VDC
48 VDC Input Models	18	48	75	VDC
Input Fuse Requirements				
24 VDC Input Models		350		mA; Slow blow type
48 VDC Input Models		135		mA; Slow blow type
Start Voltage		7	9	VDC
Under Voltage Shutdown		6	9	VDC
Remote On			0.6	VDC
Remote Off			2.7	VDC
Control Input Current (ON)			1	mA
Control Input Current (OFF)			1	mA
Input Filter				Pi Filter

GENERAL CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Switching Frequency		300		kHz
Isolation Voltage	1500			VDC, 1 minute
Isolation Resistance	1000			Mohm, 500VDC
Isolation Capacitance		250	500	pF, 100kHz, 1Volt
MTBF (MIL-HBK-217F)	1			Million Hours, +25°C, Ground Benign



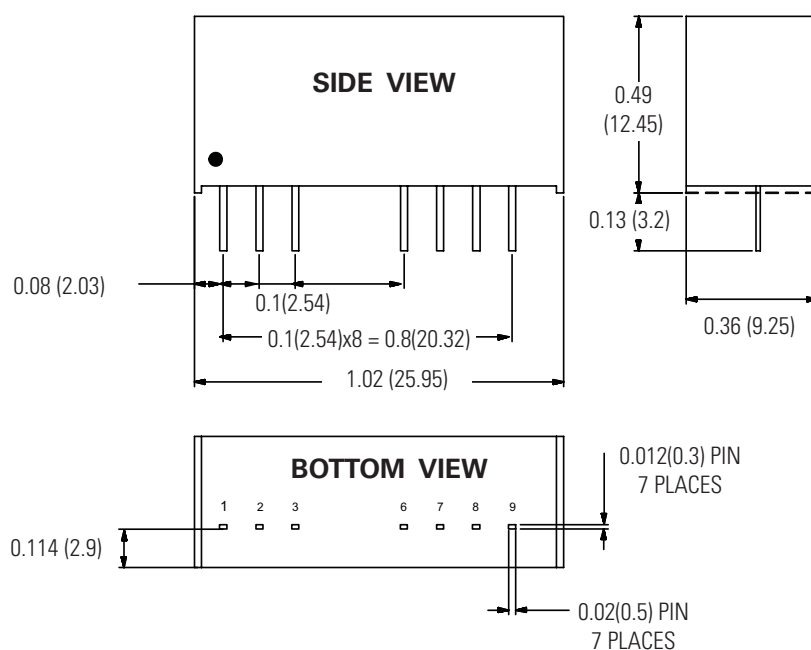
ENVIRONMENTAL SPECIFICATIONS

	Min	Typ	Max	Unit/Comments
Operating Temp. Range	-40		+85	°C; Ambient
Storage Temp. Range	-40		+105	°C
Relative Humidity			95	% Humidity; non-condensing
Cooling				Free-Air Convection

PHYSICAL CHARACTERISTICS

	Unit/Comments
Case Size	1.02 X 0.36 X 0.49 inches (25.95 X 9.25 X 12.45 mm)
Case Material	Non-Conductive Black Plastic
Flammability	UL94V-0
Weight	6.5 Grams

OUTLINE DRAWING



PIN OUT CHART

Pins	SINGLE	DUAL
1	- V in	- V in
2	+ V in	+ V in
3	Remote On/Off	Remote On/Off
6	+ V out	+ V out
7	NC	COMMON
8	NC	NC
9	- V out	- V out

NC = No Connection

Notes:

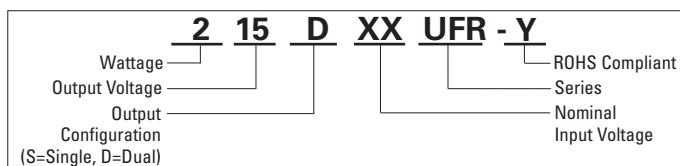
1. Unless otherwise specified dimensions are in inches (mm).

Tolerances	Inches	mm
	X.XX = ±0.01	X.X = ±0.25
	X.XXX = ±0.005	X.XX = ±0.13
Pin :	±0.002	±0.05



How To ORDER

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MODEL SELECTION CHART

Model	Nominal Input Voltage (VDC)	Input Voltage Range (mA)	Output Voltage (VDC)	Full Load Output Current (mA)	No Load Input Current (mA)	Full Load Input Current (mA)	Efficiency (%) Full Load
203S24UFR	24	9 - 36	3.3	500	20	97	71
205S24UFR	24	9 - 36	5	400	20	110	76
212S24UFR	24	9 - 36	12	167	20	106	79
215S24UFR	24	9 - 36	15	134	20	105	80
203S48UFR	48	18 - 75	3.3	500	15	49	70
205S48UFR	48	18 - 75	5	400	15	58	72
212S48UFR	48	18 - 75	12	167	15	54	78
215S48UFR	48	18 - 75	15	134	15	54	78
205D24UFR	24	9 - 36	±5	±200	20	144	73
212D24UFR	24	9 - 36	±12	±83	20	108	77
215D24UFR	24	9 - 36	±15	±67	20	106	79
205D48UFR	48	18 - 75	±5	±200	15	60	70
212D48UFR	48	18 - 75	±12	±83	15	55	76
215D48UFR	48	18 - 75	±15	±67	15	55	76



DERATING CURVES

