

# F2000ERW Series

## Low Cost, Compact 20W, 2:1 Input Range DC/DC Converters



### Key Features:

- 20W Output Power
- 2:1 Input Voltage Range
- 1,500 VDC Isolation
- Single & Dual Outputs
- Efficiency to 86%
- Compact 1.6 x 2 In. Case
- -40°C to +71°C Operation
- Industry Standard Pin-Out
- **Lowest Cost!!**



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### Electrical Specifications

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

#### Input

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Start Voltage	12 VDC Input	8.6	8.8	9.0	VDC
	24 VDC Input	17.5	17.8	18.0	
	48 VDC Input	34.0	35.0	36.0	
Input Filter	LC Filter				
Short Circuit Input Power			3,500		mW

#### Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±1.0	±3.0	%
Output Voltage Balance	Dual Output, Balanced Loads		±0.5		%
Line Regulation	Vin = Min to Max		±0.2	±0.5	%
Load Regulation	Iout = 10% to 100%		±0.5	±1.0	%
Ripple & Noise (20 MHz)	See Note 1		75	150	mV P - P
Output Power Protection	See Note 3	120	130	150	%
Transient Recovery Time (Note 4)	25% Load Step Change		200	300	µSec
Transient Response Deviation			±2.0	±5.0	%
Temperature Coefficient			±0.02		%/°C
Output Short Circuit	Continuous (Autorecovery)				

#### General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	1,500			VDC
Isolation Resistance	500 VDC	500			MΩ
Isolation Capacitance	100 kHz, 1V		1,000		pF
Switching Frequency			300		kHz

#### Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-40	+25	+71	°C
Storage Temperature Range		-50		+105	°C
Cooling	Free Air Convection				
Humidity	RH, Non-condensing			95	%

#### Physical

Case Size	2.0 x 1.6 x 0.41 Inches (50.8 x 40.6 x 10.5 mm)				
Case Material	Metal With Non-Conductive Base (UL94-V0)				
Weight	1.37 Oz (39g)				

#### Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	100			kHours

#### Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Surge (1 Sec)	12 VDC Input	-0.7		20.0	VDC
	24 VDC Input	-0.7		40.0	
	48 VDC Input	-0.7		80.0	
Lead Temperature	1.5 mm From Case for 10 Sec			300	°C
Internal Power Dissipation	All Models			5,000	mW

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

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