



# TOTAL POWER INT'L

MPW1000 25 ~ 30 Watts 2:1 Wide Input Range DC/DC Converters

Single Outputs

Key Features:

- High-Efficiency
- High Power Density
- 2:1 Input Range
- I/O Isolation 1500VDC
- Industry Standard Pinout
- SMT Technology
- Short Circuit Protection
- EMI Complies with EN55022 Class A
- MTBF >1,000,000



## Model Selection Guide

Model Number	Input Voltage	Output Voltage	Output Current		Input Current		Reflected Ripple Current	Over Voltage Protection	Efficiency
			Max.	Min.	@Max. Load	@Min. Load			
	VDC	VDC	mA	mA	mA (Typ.)	mA (Typ.)	mA (Typ.)	VDC	% (Typ.)
MPW1021	12 (9-18)	3.3	5500	400	1867	40	100	3.9	81
MPW1022		5	5000	350	2480			6.8	84
MPW1023		12	2500	166	2841			15	88
MPW1024		15	2000	133	2841			18	88
MPW1026		+/- 12	+/- 1250	+/- 83	2841			+/- 15	88
MPW1027		+/- 15	+/- 1000	+/- 65	2841			+/- 18	88
MPW1031		24 (18-36)	3.3	5500	400			922	20
MPW1032	5		5000	350	1225	6.8	85		
MPW1033	12		2500	166	1404	15	89		
MPW1034	15		2000	133	1404	18	89		
MPW1036	+/- 12		+/- 1250	+/- 83	1404	+/- 15	89		
MPW1037	+/- 15		+/- 1000	+/- 65	1404	+/- 18	89		
MPW1041	48 (36-75)		3.3	5500	400	461	10	25	
MPW1042		5	5000	350	613	6.8			85
MPW1043		12	2500	166	702	15			89
MPW1044		15	2000	133	702	18			89
MPW1046		+/- 12	+/- 1250	+/- 83	702	+/- 15			89
MPW1047		+/- 15	+/- 1000	+/- 65	702	+/- 18			89

## Absolute Power Ratings

Parameter		Min.	Max.	Unit
Input Surge Voltage (1000mS)	12VDC Input Models	-0.70	25	VDC
	24VDC Input Models	-0.70	50	VDC
	48VDC Input Models	-0.70	100	VDC
Lead Temperature (1.5mm from case for 10 sec.)			260	C
Internal Power Dissipation			5500	mW



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### Input Specifications

Parameter	Model	Min.	Typ.	Max.	Unit
Start Voltage	12V Input Models	8.6	8.8	9	VDC
	24V Input Models	17	17.5	18	
	48V Input Models	34	35	36	
Under Voltage Shutdown	12V Input Models	8.1	8.3	8.5	
	24V Input Models	16	16.5	17	
	48V Input Models	32	33	34	
Reverse Polarity Input Current	All Models			2	A
Short Circuit Input Power				4500	mW
Input Filter		Pi Filter			

### Output Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy			+/- 0.5	+/- 1.0	%
Output Voltage Balance	Dual Output Balance Load		+/- 0.5	+/- 2.0	%
Line Regulation	Vin = Min. to Max.		+/- 0.1	+/- 0.3	%
Load Regulation	Io = 10% to 100%		+/- 0.1	+/- 0.5	%
Ripple & Noise (20MHz)			55	80	mVP-P
Ripple & Noise (20MHz)	Over Line Load & Temp.			100	mVP-P
Ripple & Noise (20MHz)				10	mV rms.
Over Power Protection		110		160	%
Transient Recovery Time	25% Load Step Change		150	300	uS
Transient Response Deviation			+/- 2	+/- 4	%
Temperature Coefficient			+/- 0.01	+/- 0.02	% C
Output Short Circuit	Continuous				

### General Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	60 Seconds	1500			VDC
Isolation Test Voltage	Flash Tested for 1 Second	1650			VDC
Isolation Resistance	500VDC	1000			M Ohms
Isolation Capacitance	100KHz 1V		1200	1500	pF
Switching Frequency		290	330	360	KHz
Over Temperature Protection	Case Temperature, auto recovery	107	112	117	C
MTBF	MIL-HDBK-217F @ 25 C. Ground Benign	1000			K Hours

### Environmental Specifications

Parameter	Conditions	Min.	Max.	Unit
Operating Temperature	Ambient	-40	50	C
Operating Temperature	Case	-40	105	C
Storage Temperature		-50	125	C
Humidity			95	%
Cooling	Free-Air Convection			
RFI	Six-Side Shielded Metal Case			
Conducted EMI	EN55022 Class A			



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MPW1000 Series

