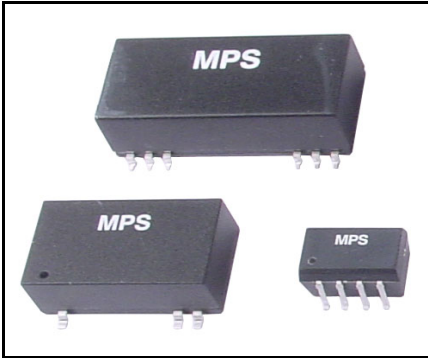


DDC1000 SERIES

3W, Wide Input Range SMD, Single & Dual Output DC/DC Converters



Key Features

- Efficiency up to 83%
- 1500VDC Isolation
- MTBF > 1,000,000 Hours
- 2:1 Wide Input Range
- UL1950 Safety Approval
- Short Circuit Protection
- Temperature Performance
-40°C to +71°C
- Industry Standard Pinout
- UL 94V-0 Package Material
- Internal SMD Construction

Selection Guide

Model Number	Input Voltage	Output Voltage	Output Current	Efficiency	Reflected Ripple Current
	VDC	VDC	mA	% Typ.	mA Typ.
DDC1021	12 (9 – 18)	3.3	700	75	25
DDC1022		5	600	79	
DDC1023		12	250	82	
DDC1024		15	200	82	
DDC1025		±5	±300	78	
DDC1026		±12	±125	81	
DDC1027		±15	±100	81	
DDC1031	24 (18 – 36)	3.3	700	76	15
DDC1032		5	600	80	
DDC1033		12	250	83	
DDC1034		15	200	83	
DDC1035		±5	±300	79	
DDC1036		±12	±125	82	
DDC1037		±15	±100	82	
DDC1041	48 (36 – 75)	3.3	700	76	10
DDC1042		5	600	80	
DDC1043		12	250	83	
DDC1044		15	200	83	
DDC1045		±5	±300	79	
DDC1046		±12	±125	82	
DDC1047		±15	±100	82	

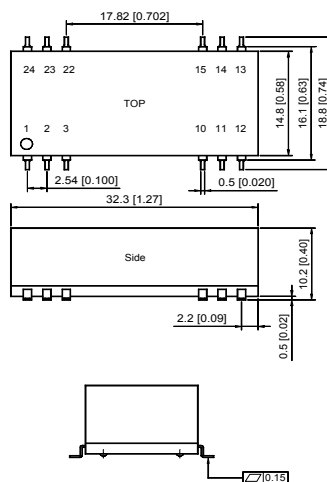
MPS Industries DDC1000 3W DC/DC's are in "gull-wing" SMT package and meet 245°C/10sec in solder-reflow for lead free process.

The series consists of 21 models that operate over input voltage ranges of 9-18VDC, 18-36VDC and 36-75VDC which provide precisely regulated output voltages of 3.3V, 5V, 12V, 15V, ±5V, ±12V and ±15VDC.

The -40°C to +71°C operating temperature range makes it ideal for data communication equipment, mobile battery driven equipment, distributed power systems, telecommunication equipment, mixed analog/digital subsystems, process/machine control equipment, computer peripheral systems, and industrial robot systems.

The modules have a maximum power rating of 3W and a typical full-load efficiency of 83%, continuous short circuit, 50mV output ripple, built-in filtering for both input and output minimize the need for external filtering.

Mechanical Dimensions



Pin Connections

Pin	Singles	Duals
1	-Vin	-Vin
2	-Vin	-Vin
3	NC	NC
10	NC	Common
11	NC	NC
12	NC	-Vout
13	+Vout	+Vout
14	NC	NC
15	-Vout	Common
22	NC	NC
23	+Vin	+Vin
24	+Vin	+Vin
NC: No Connection		

Case Size –

32.3x14.8x10.2mm (1.27x0.58x0.40inch)

Case Material –

Non-Conductive Black Plastic

Weight –

8.8g (0.31Oz)

Tolerance	Millimeters	Inches
	X.X±0.25	X.XX±0.01
	X.XX±0.13	X.XXX±0.005
Pin	±0.05	±0.002

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Absolute Maximum Ratings

Parameter		Min.	Max.	Units
Input Surge Voltage (1000mS)	12VDC Input Models	-0.7	25	VDC
	24VDC Input Models	-0.7	50	VDC
	48VDC Input Models	-0.7	100	VDC
Lead Temperature (1.5mm from case for 10sec.)		---	260	°C
Internal Power Dissipation		---	2500	mW

Exceeding the unit absolute maximum ratings could cause damage.
These are not continuous operating ratings.

General Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	1500	---	---	VDC
Isolation Resistance	500VDC	1000	---	---	MΩ
Isolation Capacitance	100kHz, 1V	---	65	100	pF
Switching Frequency		---	300	---	kHz
MTBF	MIL-HDBK-217F @25°C Ground Benign	1	---	---	MHrs

Environmental Characteristics

Parameter	Conditions	Min.	Max.	Units
Operating Temperature	Ambient	-40	71	°C
Operating Temperature	Case	-40	90	°C
Storage Temperature		-40	125	°C
Humidity		---	95	%
Cooling	Free-Air Convection			

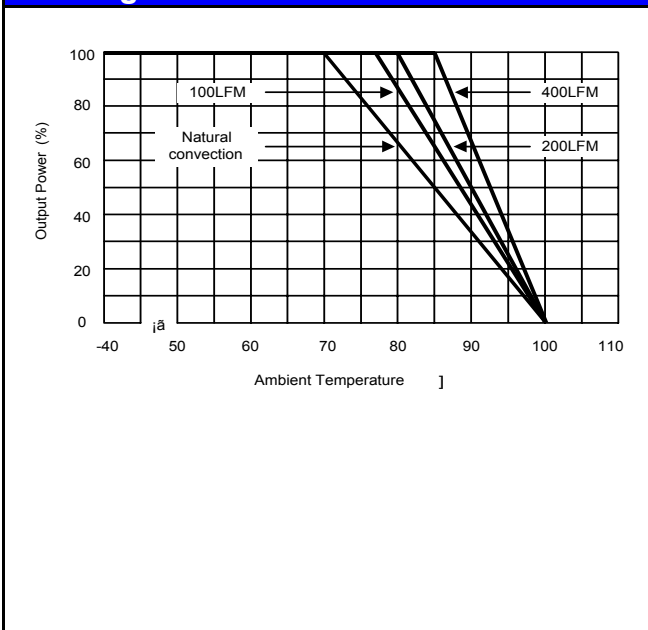
Output Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Units
Line Regulation	Vin = Min. to Max.	---	±0.1	±0.3	%
Load Regulation	Io = 10% to 100%	---	±0.3	±1.0	%
Ripple & Noise	20MHz BW	---	50	75	mV P-P
Short Circuit	Continuous				

Maximum Capacitive Load

Models by Output Voltage (Each Output on Duals)	Singles	Duals	Units
	4700	180	uF

Derating Curve



Notes:

1. Specifications typical at Ta=+25°C, resistive load, nominal input voltage, rated output current unless otherwise noted.
2. Transient recovery time is measured to within 1% error band for a load step change of 75% to 100%.
3. These power converters require a minimum output load to maintain specified regulation.
4. Operation under no-load conditions will not damage these modules; however, they may not meet all specifications listed.
5. All DC/DC converters should be externally fused at the front end for protection.
6. Other input and output voltage may be available, please contact factory.
7. All specifications subject to change without notice.
8. For detailed data sheet, please contact MPS directly.