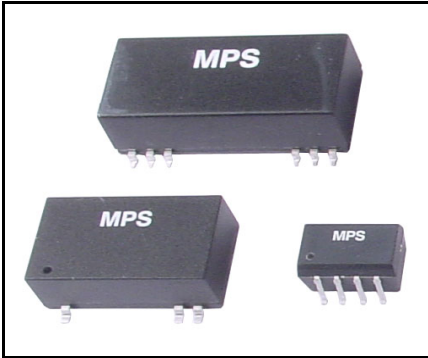


# SWDC1000 SERIES

2W, Wide Input Range SMD, Single & Dual Output DC/DC Converters



## Key Features

- Efficiency up to 81%
- 1500VDC Isolation
- MTBF > 1,000,000 Hours
- 2:1 Wide Input Range
- Low Cost
- Low Ripple and Noise
- Temperature Performance -40°C to +71°C
- Complies with EN55022 Class A
- UL 94V-0 Package Material
- Internal SMD Construction

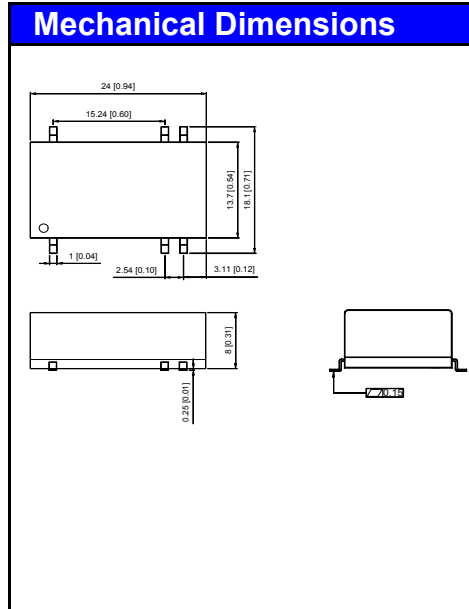
Selection Guide					
Model Number	Input Voltage	Output Voltage	Output Current	Efficiency	Load Regulation
	VDC	VDC	mA	% Typ.	% Max.
SWDC1011	5 (4.5 – 9)	3.3	500	70	100
SWDC1012		5	400	73	
SWDC1013		12	167	75	
SWDC1014		15	134	73	
SWDC1015		±5	±200	64	
SWDC1016		±12	±83	69	
SWDC1017		±15	±67	71	
SWDC1021	12 (9 – 18)	3.3	500	73	25
SWDC1022		5	400	77	
SWDC1023		12	167	80	
SWDC1024		15	134	80	
SWDC1025		±5	±200	73	
SWDC1026		±12	±83	78	
SWDC1027		±15	±67	78	
SWDC1031	24 (18 – 36)	3.3	500	72	15
SWDC1032		5	400	77	
SWDC1033		12	167	80	
SWDC1034		15	134	81	
SWDC1035		±5	±200	74	
SWDC1036		±12	±83	78	
SWDC1037		±15	±67	80	
SWDC1041	48 (36 – 72)	3.3	500	71	10
SWDC1042		5	400	73	
SWDC1043		12	167	79	
SWDC1044		15	134	79	
SWDC1045		±5	±200	71	
SWDC1046		±12	±83	77	
SWDC1047		±15	±67	77	

MPS Industries SWDC1000 2W 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 28 models that operate over input voltage ranges of 4.5-9VDC, 9-18VDC, 18-36VDC and 36-72VDC which provide precisely regulated output voltages of 3.3V, 5V, 12V, 15V, ±5, ±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 2W and a typical full-load efficiency of 81%, continuous short circuit, 30mV output ripple, EN55022 Class A conducted noise compliance minimize design-in time, cost and eliminate the need for external filtering.



### Pin Connections

Pin	Singles	Duals
1	-Vin	-Vin
7	NC	NC
8	NC	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

NC: No Connection

**Case Size –**  
24.0x13.7x8.0mm (0.94x0.54x0.31inch)

**Case Material –**  
Non-Conductive Black Plastic

**Weight –**  
5.1g (0.18Oz)

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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2W, Wide Input Range SMD, Single & Dual Output DC/DC Converters



Absolute Maximum Ratings				
Parameter		Min.	Max.	Units
Input Surge Voltage (1000ms)	5VDC Input Models	-0.7	11	VDC
	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		---	1800	mW

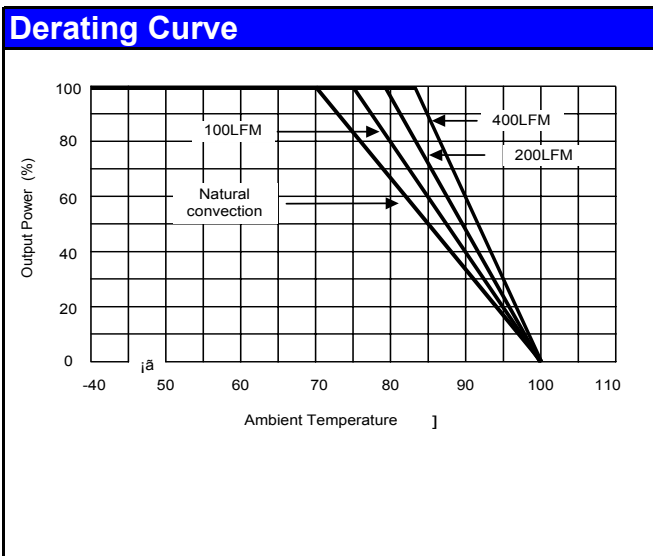
Exceeding the unit absolute maximum ratings could cause damage.  
These are not continuous operating ratings.

General Characteristics					
Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	1500	---	---	VDC
Isolation Resistance	500VDC	1000	---	---	MΩ
Isolation Capacitance	100kHz, 1V	---	250	420	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			
Conducted EMI	EN55022 Class A			

Output Characteristics					
Parameter	Conditions	Min.	Typ.	Max.	Units
Line Regulation	Vin = Min. to Max.	---	±0.3	±0.5	%
Load Regulation	Io = 25% to 100%	---	±0.5	±0.75	%
Ripple & Noise	20MHz BW	---	30	50	mV P-P
Short Circuit	Continuous				

Maximum Capacitive Load								
Models by Output Voltage	3.3V	5V	12V	15V	±5V	±12V	±15V	Units
(Each Output on Duals)	2200	1000	170	110	470	100	47	uF



- 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.