



Size: 0.77in x 0.39in x 0.49in (19.5mm x 9.8mm x 12.5mm)

### FEATURES

- Wide Input Voltage Range
- 7PIN SIP Package
- High Efficiency
- Unregulated Output Types
- RoHS Compliant
- Industry Standard Pinout
- Continuous Short Circuit Protection
- 5000VAC or 6000VDC Isolation
- Isolation Capacitance as Low as 4pF
- Meets IEC60601 Standard

### DESCRIPTION

The DCSPM2 series of DC/DC converters in an ultra-compact 0.77" x 0.39" x 0.49" 7pin SIP package. This series consists of single and dual unregulated output models with a wide input voltage range. Features of this series include industry standard pinout, 5000VAC or 6000VDC isolation, as well as high efficiency. This series is RoHS compliant and the design meets IEC60601 approvals.

### MODEL SELECTION TABLE

#### Single Output Models

Model Number	Input Voltage Range	Output Voltage	Output Current	Efficiency	Maximum Capacitive Load	Output Power
DCSPM2-05S05	5VDC	5VDC	400mA	80%	1000µF	2 Watts
DCSPM2-05S09		9VDC	222mA	80%	680µF	
DCSPM2-05S12		12VDC	167mA	81%	330µF	
DCSPM2-05S15		15VDC	133mA	81%	330µF	
DCSPM2-05S24		24VDC	84mA	81%	100µF	
DCSPM2-12S05	12VDC	5VDC	400mA	80%	1000µF	2 Watts
DCSPM2-12S09		9VDC	222mA	82%	680µF	
DCSPM2-12S12		12VDC	167mA	84%	330µF	
DCSPM2-12S15		15VDC	133mA	84%	330µF	
DCSPM2-12S24	24VDC	84mA	84%	100µF		
DCSPM2-15S05	15VDC	5VDC	400mA	80%	1000µF	2 Watts
DCSPM2-15S09		9VDC	222mA	82%	680µF	
DCSPM2-15S12		12VDC	167mA	84%	330µF	
DCSPM2-15S15		15VDC	133mA	84%	330µF	
DCSPM2-15S24		24VDC	84mA	84%	100µF	
DCSPM2-24S05	24VDC	5VDC	400mA	80%	1000µF	2 Watts
DCSPM2-24S09		9VDC	222mA	82%	680µF	
DCSPM2-24S12		12VDC	167mA	84%	330µF	
DCSPM2-24S15		15VDC	133mA	84%	330µF	
DCSPM2-24S24		24VDC	84mA	84%	100µF	

### MODEL SELECTION TABLE

#### Dual Output Models

Model Number	Input Voltage Range	Output Voltage	Output Current	Efficiency	Maximum Capacitive Load	Output Power
DCSPM2-05D05	5VDC	±5VDC	±200mA	80%	±470µF	2 Watts
DCSPM2-05D09		±9VDC	±111mA	80%	±330µF	
DCSPM2-05D12		±12VDC	±84mA	81%	±100µF	
DCSPM2-05D15		±15VDC	±67mA	81%	±100µF	
DCSPM2-05D24		±24VDC	±42mA	81%	±47µF	
DCSPM2-12D05	12VDC	±5VDC	±200mA	80%	±470µF	2 Watts
DCSPM2-12D09		±9VDC	±111mA	82%	±330µF	
DCSPM2-12D12		±12VDC	±84mA	84%	±100µF	
DCSPM2-12D15		±15VDC	±67mA	84%	±100µF	
DCSPM2-12D24	±24VDC	±42mA	84%	±47µF		
DCSPM2-15D05	15VDC	±5VDC	±200mA	80%	±470µF	2 Watts
DCSPM2-15D09		±9VDC	±111mA	82%	±330µF	
DCSPM2-15D12		±12VDC	±84mA	84%	±100µF	
DCSPM2-15D15		±15VDC	±67mA	84%	±100µF	
DCSPM2-15D24		±24VDC	±42mA	84%	±47µF	
DCSPM2-24D05	24VDC	±5VDC	±200mA	80%	±470µF	2 Watts
DCSPM2-24D09		±9VDC	±111mA	82%	±330µF	
DCSPM2-24D12		±12VDC	±84mA	84%	±100µF	
DCSPM2-24D15		±15VDC	±67mA	84%	±100µF	
DCSPM2-24D24		±24VDC	±42mA	84%	±47µF	

**SPECIFICATIONS**

All specifications are based on 25°C, Nominal Input Voltage, and Rated Output Current unless otherwise noted.  
We reserve the right to change specifications based on technological advances.

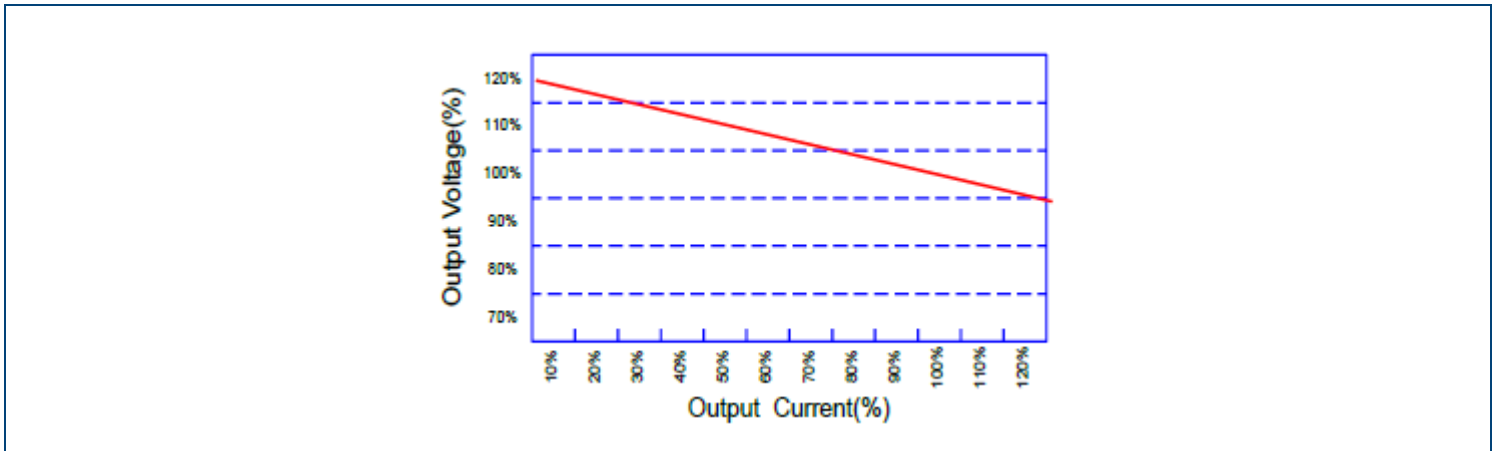
SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
<b>INPUT SPECIFICATIONS</b>					
Input Voltage Range	Vo, Io Nom			±10	%
Input Filter		Capacitor			
<b>OUTPUT SPECIFICATIONS</b>					
Output Voltage		See Table			
Voltage Tolerance	100% Full Load			±5	%
Line Regulation	For 1% of Vin		1.2		%
Load Regulation	10% to 100%, FL	5V Models	20		%
		Other Outputs	15		%
Output Power		See Table			
Output Current		See Table			
Maximum Capacitive Load		See Table			
Ripple & Noise	BW=DC to 20MHz @Vo: 5V		100	150	mVp-p
	BW=DC to 20MHz @Other		80	120	
<b>PROTECTION</b>					
Short Circuit Protection		Continuous			
<b>ENVIRONMENTAL SPECIFICATIONS</b>					
Operating Temperature		-40		+105	°C
Storage Temperature		-55		+125	°C
Humidity	Non-Condensing			95	%
Cooling		Free Air Convection			
MTBF	MIL-HDBK-217F@25°C	3,500,000			Hours
<b>GENERAL SPECIFICATIONS</b>					
Efficiency		See Table			
Switching Frequency	Full Load, Nominal Input @5Vin		215		KHz
	Full Load, Nominal Input @Other Vin		250		
Isolation Resistance	500VDC	1000			MΩ
Isolation Capacitance	Input-Output, 100KHz/0.1V		4		pF
			5000		VAC
Isolation			6000		VDC
Patient Leakage Current	250VAC, 50/60Hz			2	µA
<b>PHYSICAL SPECIFICATIONS</b>					
Weight		0.14oz (4.0g)			
Dimensions (L x W x H)		0.77in x 0.39in x 0.49in (19.5mm x 9.8mm x 12.5mm)			
Case Material		DAP			
<b>SAFETY CHARACTERISTICS</b>					
Safety Standards		IEC60601			
EMI	CE	EN60601-1-2/CISPR 11 Group1			Class B <sup>(1)</sup>
	RE	EN60601-1-2 /CISPR 11 Group 1			Class B <sup>(1)</sup>
EMS	ESD	EN60601-1-2 (IEC/EN61000-4-2)	Air ±15kV, Contact ±8kV		Perf. Criteria B

**NOTES**

1. See Fig. 1 for recommended circuit.

*\*Due to advances in technology, specifications subject to change without notice.*

TOLERANCE ENVELOPE GRAPH



MECHANICAL DRAWINGS

Unit: mm, unless otherwise specified  
All tolerances: ±0.25

PIN Connections

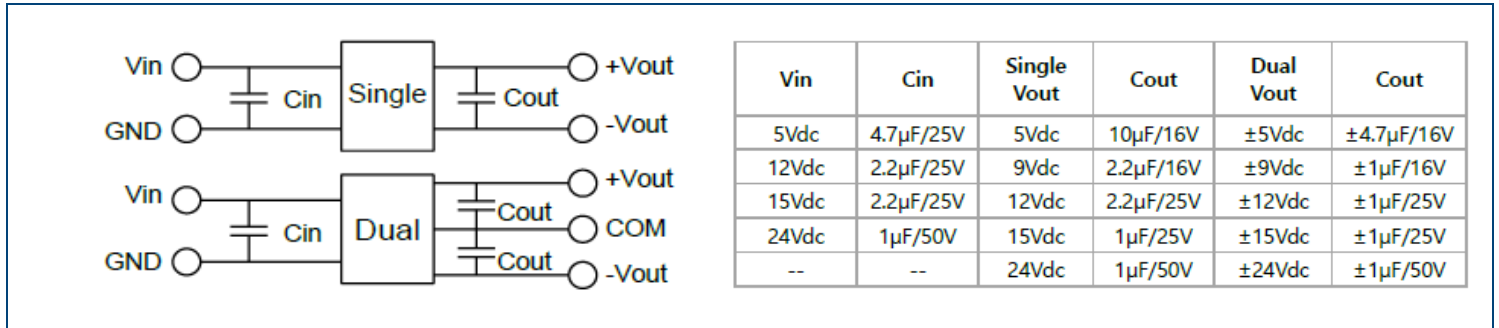
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Com
7	+Vout	+Vout

Packaging

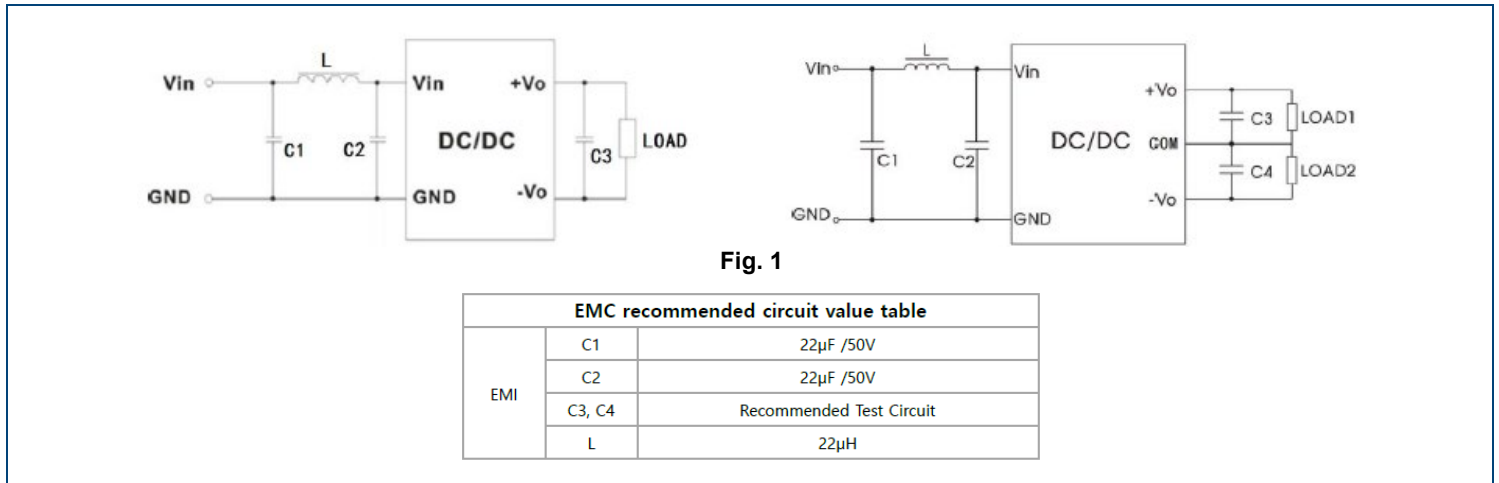
UNIT:mm

Size (mm)			
A	B	C	D
12.0	28.55	550	6.00

RECOMMENDED TEST CIRCUIT



EMC (CLASS B) COMPLIANCE CIRCUIT



COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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