

2 Watts

- 4:1 Input Range
- Remote on off
- 3000VDC High Isolation
- SMD 12pin Package
- 5 Year warranty



The SU2W series of low cost surface mount DC/DC converters come in both single and dual outputs in a 12 pin package with remote on off. Inputs are available in 12 & 24V versions and outputs from 5 to 15V single and dual. The units operate from -40 to +75°C and offer high isolation of 3000VDC with a All models have a FiDUS 5 year warranty.

Dimensions:

0.58 x 0.56 x 0.35" (14.7 x 14.2 x 8.9mm)

Models & Ratings

Model Number ⁽¹⁾	Input Voltage	Output Voltage	Output Current	Input Current		Maximum Capacitive Load	Efficiency
				No Load	Full Load		
SU2W1205S	4.5-18V	5V	400mA	50mA	214mA	1000uF	78%
SU2W1212S	4.5-18V	12V	166.7mA	50mA	211mA	220uF	79%
SU2W1215S	4.5-18V	15V	133.3mA	50mA	206mA	100uF	81%
SU2W1212D	4.5-18V	±12V	±83.3mA	±50mA	±214mA	±100uF	79%
SU2W1215D	4.5-18V	±15V	±66.7mA	±50mA	±211mA	±47uF	81%
SU2W2405S	9-36V	5V	400mA	30mA	107mA	1000uF	78%
SU2W2412S	9-36V	12V	166.7mA	30mA	105mA	220uF	79%
SU2W2415S	9-36V	15V	133.3mA	30mA	103mA	100uF	81%
SU2W2412D	9-36V	±12V	±83.3mA	±30mA	±105mA	±100uF	79%
SU2W2415D	9-36V	±15V	±66.7mA	±30mA	±103mA	±47uF	81%

Notes

1. For parts on reel add -R to part number

2. Under no load conditions the unit may not meet all specifications

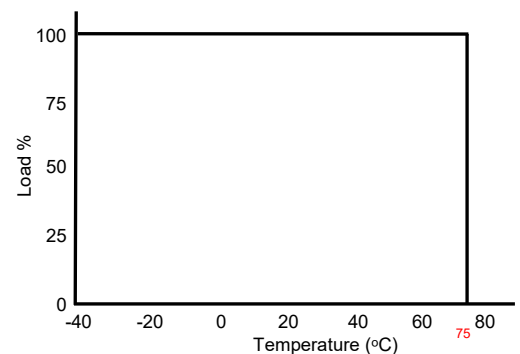
Input

Parameter	Rating
Input reflected ripple current	20mA pk-pk through 12uH inductor & 47uF ESR<1Ωat 100KHz
Input surge (1000mS max)	12V Models 25VDC Max. 24V Models 50VDC Max.
Input filter	Capacitor
Remote on off	Pin 2-3 ON: open circuit, OFF short with 1KΩ. Stand by current 3mA max

Physical

Parameter	Rating
Case material	Non-conductive black plastic (UL94V-0)
Pin material	0.5mm C5191R-H Solder coated
Weight	2g
Dimensions	0.58 x 0.56 x 0.35" (14.7 x 14.2 x 8.9mm)
Reflow soldering temperature	Peak 245°C 10 sec max
Reflow solder process	IPC/JEDEC J-STD-020D.1
Vibration	MIL-STD-810F

Derating curve



Output					
Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	5		15	VDC	See Model & Ratings table
Set point accuracy			±1	%	
Line regulation			±0.2	%	
Cross regulation			±5	%	Change from 25% to 100% load (other output at 100% load)
Load regulation			0.5	%	From 10% to 100% load change
Minimum load		0		%	Under no load conditions the unit may not meet all specifications
Ripple & Noise			100	mV pk-pk	Measured with 20MHz bandwidth, 0.1uF ceramic and 10uF electrolytic. May be larger at low loads
Short circuit protection					Continuous with automatic recovery
Maximum capacitive load					See Model and Ratings table

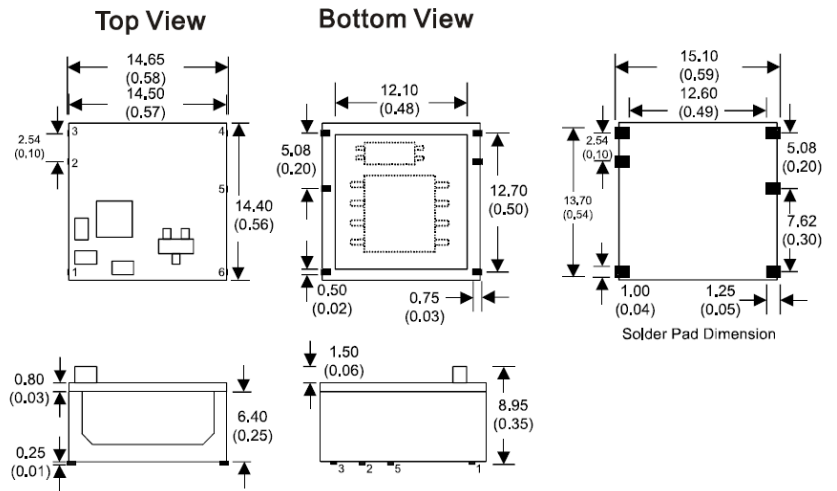
General					
Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	78		81	%	See Model & Ratings table
Isolation	3000			VDC	Input to output 60sec
Isolation resistance	1000			M Ohm	
Isolation capacitance			25	pF	
Switching frequency	100			kHz	
Power density			17.59	W/In ³	
MTBF		>890		kHrs	As per MIL-HDBK-217F, 25°C GB

Environmental					
Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		75	°C	
Storage temperature	-55		125	°C	
Cooling					Convection cooled 30-65LFM
Humidity			95	% RH	Non-condensing
Moisture sensitivity level (MSL)	IPC/JEDEC J-STD-020D.1 LEVEL 1				
Temperature coefficient			±0.02	%/°C	

EMC					
	Standard	Test level	Criteria	Notes & Conditions	
Conducted	EN55032	A	-	See application note	
Radiated	EN55032	A	-		
ESD	IEC 61000-4-2	3	A	8kV air discharge, 6kV contact discharge	
RS	IEC 61000-4-3	3	A	80~1000 MHz, 10V/m, 80% AM (1kHz)	
EFT	IEC 61000-4-4	3	A	Power line : 2kV. See application note	
Surge	IEC 61000-4-5	2	A	1.2/50 µs Open Circuit Voltage, 8/20 µs Short Circuit Current, DC Port, Line to line : 1.0kV. See application note	
CS	IEC 61000-4-6	3	A	0.15 ~ 80 MHz, 10Vrms, 80% AM (1kHz)	
PFFM	IEC 61000-4-8	1	A	50Hz, 1A/m	

Mechanical Details

Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	Remote on/off	Remote on/off
4	+Vout	+Vout
5	N.C.	Common
6	-Vout	-Vout



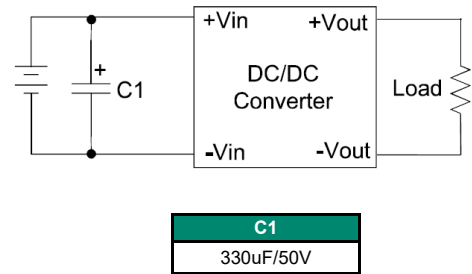
Notes

- All dimensions shown in millimetres (inches)

Application notes

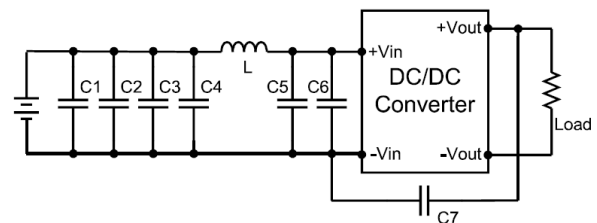
Surge Filter

The input surge and EFT filter components can be fitted to help meet conducted immunity requirements for the system. They should be mounted as close as possible to the module. Lead lengths should be minimized and where possible avoid running input and output tracks under the module as part of good design practice for best EMC performance. If the module is embedded in a system running from an AC/DC converter, this will have its own additional immunity protection and EMI filtering that will impact the overall system EMI performance.



EMI Filter

The input filter components can be fitted to help meet conducted emission requirements for the system. They should be mounted as close as possible to the module. Lead lengths should be minimized and where possible avoid running input and output tracks under the module as part of good design practice for best EMC performance. If the module is embedded in a system running from an AC/DC converter, this will have its own additional immunity protection and EMI filtering that will impact the overall system EMI performance.



Model	C1	C2-C6	L	C7
SU2W12	1206, 10uf/50V		2.2uH	1808, 100pF/3Kv
SU2W24	1206, 10uf/50V	1206, 10uf/50V	47uH	1808, 100pF/3Kv