

SCW20 Series

20W DIP package DC-DC Regulated Converter Power Supply



Case:
31.8 x 20.3 x 12.2mm

Features

- DIP24 package with industry standard pinout
- 2:1 wide input range
- Operating Temperature range -40 ~ +80°C
- -40°C ~ +70°C wide operating range
- No minimum load required
- Comply to EN55032 radiated Class A without additional components
- Protections: Short circuit: (Continuous) / Overload
- High Efficiency up to 89%
- 1.5KVDC I/O isolation
- Remote ON/OFF control
- 3 years warranty



Specification

INPUT	Voltage	A: 9~18Vdc, B: 18~36Vdc, C: 36~75Vdc
	Filter	Pi type
	Protection	Fuse recommended. 12Vin models: 4A Slow-Blow Type, 24Vin models: 2A Slow-Blow Type, 48Vin models: 1A Slow-Blow Type
Internal Power Dissipation		500mW
MODEL No.		SCW20 (see page 2 for model selection)
OUTPUT	Voltage Accuracy	±2.0%
	Rated Power	20W
	Ripple and Noise	80mVp-p
	Line Regulation	±0.5%
	Load Regulation	±0.5%
Switching Frequency		400KHz
PROTECTION	Short Circuit	Protection type : Continuous, automatic recovery
	Over Load	120 ~ 190% rated output power Protection type : Recovers automatically after fault condition is removed
FUNCTION	Remote Control	Power ON: R.C. ~ -Vin > 2.5VDC or open ; Power OFF: R.C. ~ -Vin < 0.8VDC or short
	Cooling	Free-air convection
ENVIRONMENT	Working Temperature	-40 ~ +80 °C (Refer to "Derating Curve")
	Case Temperature	+110°C max.
	Working Humidity	20 ~ 95% RH non-condensing
	Storage Temp., Humidity	-40 ~ +105 °C, 10 ~ 95%RH non-condensing
	Temp Coefficient	±0.03%/°C (0 ~ 85°C)
	Soldering Temperature	1.5mm from case 1 ~ 3 sec./260°C. Max
	Vibration	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes
SAFETY & EMC	Safety Standards	EAC TP TC 004 approved
	Withstand Voltage	I/P-O/P:1.5KVDC
	Isolation Resistance	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH
	Isolation Capacitance	1200pF
	EMC Emission	Compliance to EN55032 (CISPR32), Class A
EMC Immunity		Compliance to EN61000-4-2,3,4,5,6,8, Level 2,±8KV air,±4KV contact, Level 1, 0.5KV Line-Line
OTHERS	M.T.B.F.	224Khrs min. MIL-HDBK-217F (25°C)
	Case Metal	Five-sided shield metal case
	Packing	18.5Kg

1. All parameters are specified at normal input A: 12Vdc, B: 24Vdc, C: 48Vdc, rated load, 25°C 70% RH ambient temperature.

2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.

3. Line regulation is measured from low line to high line at rated load.

4. Load regulation is measured from 2% to 100% rated load.

5. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to 'EMI testing of component power supplies.'

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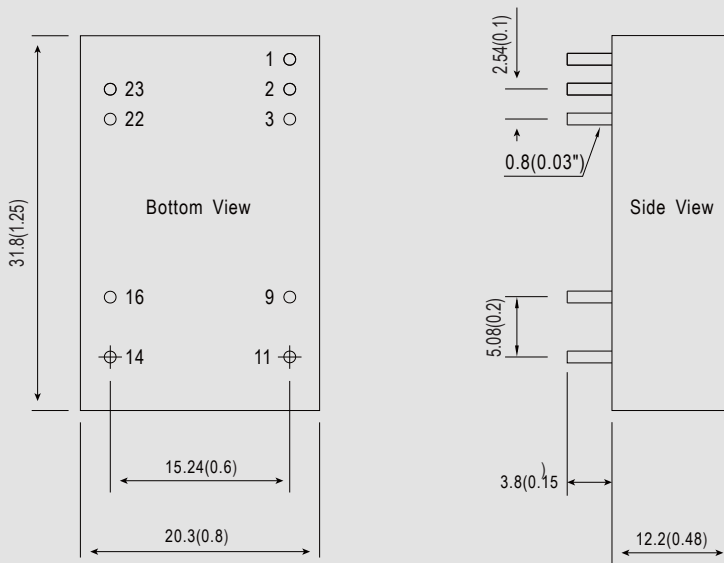
Model Selection Table

Model No.	Input Voltage Range	INPUT		OUTPUT		Efficiency (Typ.)	Capacitor Load
		No Load	Full Load	Output Voltage	Output Current		
SCW20A-05	NORMAL 12V (9 ~ 18V)	110mA	1938mA	5V	4000mA	86%	1000µF
SCW20A-12		30mA	1938mA	12V	1666mA	86%	220µF
SCW20A-15		25mA	1915mA	15V	1333mA	87%	220µF
SCW20B-05	NORMAL 24V (10.8 ~ 13.2V)	60mA	969mA	5V	4000mA	86%	1000µF
SCW20B-12		25mA	957mA	12V	1666mA	87%	220µF
SCW20B-15		25mA	957mA	15V	1333mA	88%	220µF
SCW20C-05	NORMAL 48V (21.6 ~ 26.4V)	45mA	484mA	5V	4000mA	86%	1000µF
SCW20C-12		15mA	479mA	12V	1666mA	87%	220µF
SCW20C-15		15mA	479mA	15V	1333mA	89%	220µF

Mechanical Diagram

All dimensions in mm (inch)

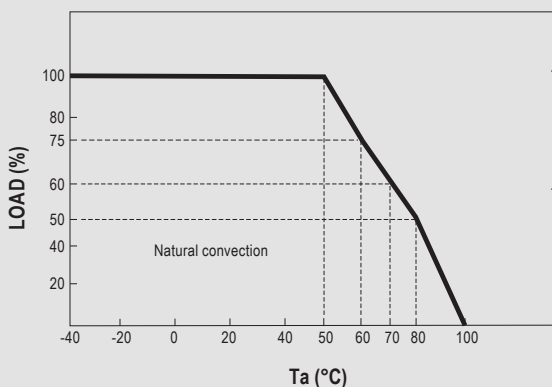
- Tolerance: x.x±0.5mm (x.xx±0.02")
x.xx±0.25mm (x.xxx±0.010")
- Pin size is: 0.8 ± 0.05mm (0.03 ± 0.002")



Pin Assignment

Pin No.	Output
1	Remote ON/OFF
2,3	-Vin
9	N.C.
11	N.C.
14	+Vout
16	-Vout
22,23	+Vin

Derating Curve



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Recommended Filter for EN55032 Class B Compliance

The components used in the above figure, together with the manufacturer's part numbers for these components, are as follows:

	C1	C2	C3	C4	L1
SCW20 12Vin	3.3 μ F/50V 1812 MLCC	N/A	1000pF/2KV MLCC	1000pF/2KV MLCC	325 μ H Common Choke
SCW20 24Vin	4.7 μ F/50V 1812 MLCC	N/A	1000pF/2KV MLCC	1000pF/2KV MLCC	325 μ H Common Choke
SCW20 48Vin	2.2 μ F/100V 1812 MLCC	2.2 μ F/100V 1812 MLCC	1000pF/2KV MLCC	1000pF/2KV MLCC	325 μ H Common Choke

