



■ Features

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

■ Applications

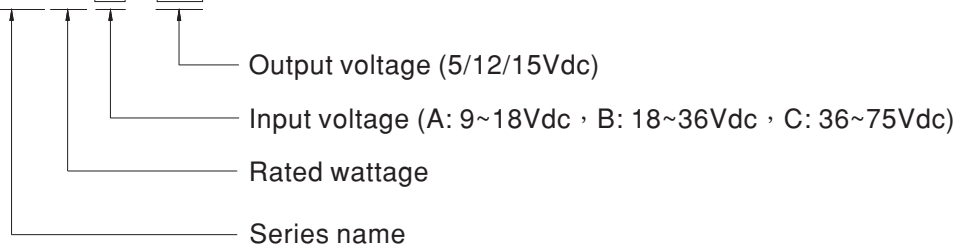
- Telecom/datacom system
- Wireless network
- Industrial control facility
- Instrument
- Analyzer
- Detector
- Data switch

■ Description

SCW20 series is 20W isolated and regulated module type DC-DC converter with DIP24 package. It features international standard pins, a high efficiency up to 89%, wide working temperature range -40~+80°C, 1.5KVDC I/P-O/P isolation voltage, Compliance to BS EN/EN55032 radiated Class A without additional components, continuous-mode short circuit protection, etc. The additional components, models account for different input voltage 9~18V, 18~36V and 36~75V 2:1 wide input range, and various output voltage, 5V/12V/15V for single output, which are suitable for all kinds of systems, Such as industrial control, telecommunication field, distributed power architecture, and so on.

■ Model Encoding

SCW20 **A** - **12**



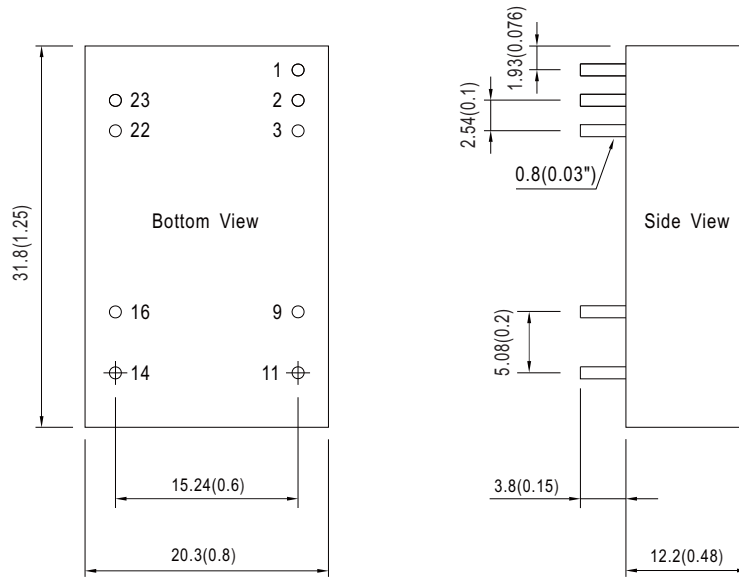
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| MODEL SELECTION TABLE | | | | | | | |
|-----------------------|--------------------------|---------------|-----------|----------------|----------------|-------------------|-----------------------|
| ORDER NO. | INPUT | | | OUTPUT | | EFFICIENCY (TYP.) | CAPACITOR LOAD (MAX.) |
| | INPUT VOLTAGE (RANGE) | INPUT CURRENT | | OUTPUT VOLTAGE | OUTPUT CURRENT | | |
| | | NO LOAD | FULL LOAD | | | | |
| 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 (18 ~ 36V) | 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 (36 ~ 75V) | 45mA | 484mA | 5V | 4000mA | 86% | 1000µF |
| SCW20C-12 | | 15mA | 479mA | 12V | 1666mA | 87% | 220µF |
| SCW20C-15 | | 15mA | 479mA | 15V | 1333mA | 89% | 220µF |

| SPECIFICATION | | | | |
|---------------------------|--|---|------------------------|---------------------------------|
| INPUT | VOLTAGE RANGE | 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 | | |
| OUTPUT | VOLTAGE ACCURACY | ±2% | | |
| | RATED POWER | 20W | | |
| | RIPPLE & NOISE <small>Note.2</small> | 80mVp-p | | |
| | LINE REGULATION <small>Note.3</small> | ±0.5% | | |
| | LOAD REGULATION <small>Note.4</small> | ±0.5% | | |
| | SWITCHING FREQUENCY (Min.) | 400KHz | | |
| PROTECTION | SHORT CIRCUIT | Protection type : Continuous, automatic recovery | | |
| | OVERLOAD | 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 | | |
| ENVIRONMENT | COOLING | Free-air convection | | |
| | WORKING TEMP. | -40 ~ +80°C (Refer to "Derating Curve") | | |
| | CASE TEMPERATURE | +110°C max. | | |
| | WORKING HUMIDITY | 20% ~ 90% 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 of 1 ~ 3sec./260°C max. | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes | | |
| SAFETY & EMC (Note.5) | 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 (Typ.) | 1200pF | | |
| | EMC EMISSION | Parameter | Standard | Test Level / Note |
| | | Conducted | BS EN/EN55032(CISPR32) | N/A |
| | | Radiated | BS EN/EN55032(CISPR32) | Class A |
| | EMC IMMUNITY | Parameter | Standard | Test Level / Note |
| | | ESD | BS EN/EN61000-4-2 | Level 2, ±8KV air, ±4KV contact |
| | | Radiated Susceptibility | BS EN/EN61000-4-3 | Level 2, 3V/m |
| | | EFT/Burest | BS EN/EN61000-4-4 | Level 1, 0.5KV |
| | | Surge | BS EN/EN61000-4-5 | Level 1, 0.5KV Line-Line |
| | | Conducted | BS EN/EN61000-4-6 | Level 2, 3V(e.m.f.) |
| Magnetic Field | | BS EN/EN61000-4-8 | Level 2, 3A/m | |
| OTHERS | MTBF | 224Khrs MIL-HDBK-217F(25°C) | | |
| | DIMENSION (L*W*H) | 31.8*20.3*12.2mm (1.25*0.8*0.48 inch) | | |
| | CASE MATERIAL | Five-sided shield metal case | | |
| | PACKING | 18.5g | | |
| NOTE | 1.All parameters are specified at normal input(A:12Vdc, B:24Vdc, C:48Vdc), rated load, 25°C 70% RH ambient. 2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf & 47µf capacitor. 3.Line regulation is measured from low line to high line at rated load. 4.Load regulation is measured from 20% to 100% rated load. 5.The final equipment must be re-confirm that it still meet EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."(as available on http://www.meanwell.com) ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx | | | |

Mechanical Specification

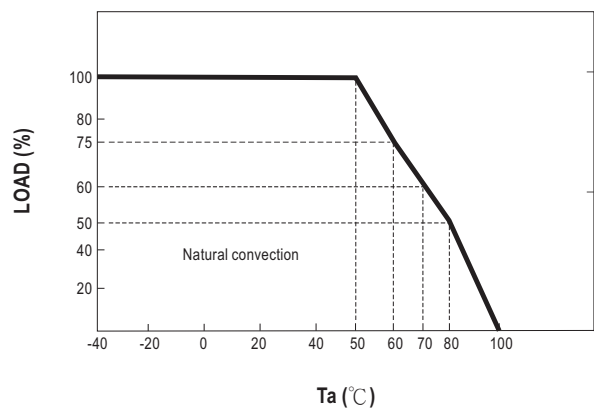
- All dimensions in mm (inch)
- Tolerance: $x.x \pm 0.5\text{mm}$ ($x.xx \pm 0.02"$)
 $x.xx \pm 0.25\text{mm}$ ($x.xxx \pm 0.010"$)
- Pin size is: $0.8 \pm 0.05\text{mm}$ ($0.03" \pm 0.002"$)



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



■ Recommended Filter for BS EN/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 |

