



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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500-600 Watts SMC/SMD Series



- High Peak Load Rating
- Single Outputs from 3.3 V to 54 V
- Active PFC
- Remote On/Off
- Optional Current Share
- SEMI F47 Compliant
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 9 A at 90 VAC, 3.5 A at 230 VAC
Inrush Current	• 40 A at 230 VAC
Power Factor	• EN61000-3-2 class A EN61000-3-2 class C for load $\geq 40\%$
Earth Leakage Current	• <2.4 mA max at 264 VAC
Input Protection	• Fitted with a T10 A/250 V fuse

Output

Output Voltage	• See tables
Output Voltage Trim	• $\pm 5\%$ minimum
Initial Set Accuracy	• $\pm 1\%$
Minimum Load	• 1% load required to meet specified ripple & noise and regulation
Start Up Delay	• 1.5 s at 230 VAC, 2.5 s at 110 VAC
Start Up Rise Time	• 40 ms typical
Hold Up Time	• 18 ms min at 120 VAC
Line Regulation	• $\pm 0.5\%$, low line to high line
Load Regulation	• $\pm 1\%$, 1-100% of load, see note 4
Over/Undershoot	• 5% max
Transient Response	• 5% max deviation, 500 μ s recovery to within 1% for a 50% load change
Ripple & Noise	• See table
Overvoltage Protection	• 110-130% recycle input to reset
Overtemperature Protection	• >85 °C ambient with auto recovery (measured internally)
Overload Protection	• 110% to 135% with auto recovery
Short Circuit Protection	• Trip and restart (Hiccup mode)
Remote Sense	• Compensates for up to 0.5 V line drop (not available with current share)
Remote On/Off	• On = TTL Logic HIGH, or open circuit Off = TTL Logic LOW or short circuit
Current Share	• Optional single wire current share, will allow up to 4 units share within 10%, includes ORing diode

General

Efficiency	• 80% min at 230 VAC, 70% min for $V_o \leq 5V$
Isolation	• 3000 VAC Input to Output, 1500 VAC Input to Ground, 250 VDC Output to Ground
Switching Frequency	• 100 kHz PFC, 25 kHz PWM typical
Power Density	• 6.93 W/In ³
Signals	• Green LED for Power On, Power Good TTL HIGH within 100-500 ms and LOW ≥ 1 ms before loss of regulation
Current Monitor	• 0.5 V to 3 V output voltage denoting 0-100% output current
MTBF	• 100 kHrs min to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• 0 °C to +70 °C, derate from 100% load at +50 °C to 50% load at +70 °C
Cooling	• 30 CFM for SMD U-channel versions (SMC Versions have integral fan)
Operating Humidity	• 5-90%, non-condensing
Storage Temperature	• -20 °C to +85 °C
Operating Altitude	• 3000 m
Shock	• 15 g (non-operation), 11 ms (half sine wave), 3 times for each axis
Vibration	• 10-55 Hz (non-operation) 2 g, sweep time 3 mins, 60 mins/axis

EMC & Safety

Emissions	• FCC Part 15 & CISPR 22 Class B conducted
Harmonic Currents	• EN61000-3-2 class A EN61000-3-2 class C for load $\geq 40\%$
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2 Perf Criteria A
Surge	• EN61000-4-5, installation class 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3V Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms Perf Criteria A, B, B
Safety Approvals	• UL60950, CSA C22.2 No. 950, EN60950, CE Mark LVD, SEMI F47 Compliant (high line only) at 100% rated power output

Models and Ratings

SMC/SMD Series **XP**

Output Power	Output Voltage ⁽³⁾	Output Current		Ripple & Noise ⁽²⁾	Model Number
	Preset	Maximum	Peak ⁽¹⁾		
264 W	3.3 V	80.00 A	120.00 A	75 mV	SMC500PS03-C ⁽⁶⁾
400 W	5.0 V	80.00 A	120.00 A	75 mV	SMC500PS05-C ⁽⁶⁾
500 W	12.0 V	41.67 A	75.00 A	120 mV	SMC500PS12-C
	15.0 V	31.00 A	56.00 A	150 mV	SMC500PS15-C ⁽⁶⁾
	18.0 V	27.78 A	50.00 A	180 mV	SMC500PS18-C ⁽⁶⁾
	24.0 V	20.83 A	37.50 A	240 mV	SMC500PS24-C
	27.0 V	18.50 A	33.33 A	270 mV	SMC500PS27-C ⁽⁶⁾
	36.0 V	13.89 A	25.00 A	360 mV	SMC500PS36-C ⁽⁶⁾
	48.0 V	10.42 A	18.75 A	480 mV	SMC500PS48-C
	54.0 V	9.25 A	16.67 A	540 mV	SMC500PS54-C ⁽⁶⁾
297 W	3.3 V	90.00 A	135.00 A	100 mV	SMC600PS03-C ⁽⁶⁾
450 W	5.0 V	90.00 A	135.00 A	100 mV	SMC600PS05-C ⁽⁶⁾
600 W	12.0 V	50.00 A	75.00 A	120 mV	SMC600PS12-C
	15.0 V	40.00 A	56.00 A	150 mV	SMC600PS15-C ⁽⁶⁾
	18.0 V	33.00 A	50.00 A	180 mV	SMC600PS18-C ⁽⁶⁾
	24.0 V	25.00 A	37.50 A	240 mV	SMC600PS24-C
	27.0 V	22.22 A	33.33 A	270 mV	SMC600PS27-C ⁽⁶⁾
	36.0 V	16.67 A	25.00 A	360 mV	SMC600PS36-C ⁽⁶⁾
	48.0 V	12.50 A	18.75 A	480 mV	SMC600PS48-C
	54.0 V	11.10 A	16.67 A	540 mV	SMC600PS54-C ⁽⁶⁾

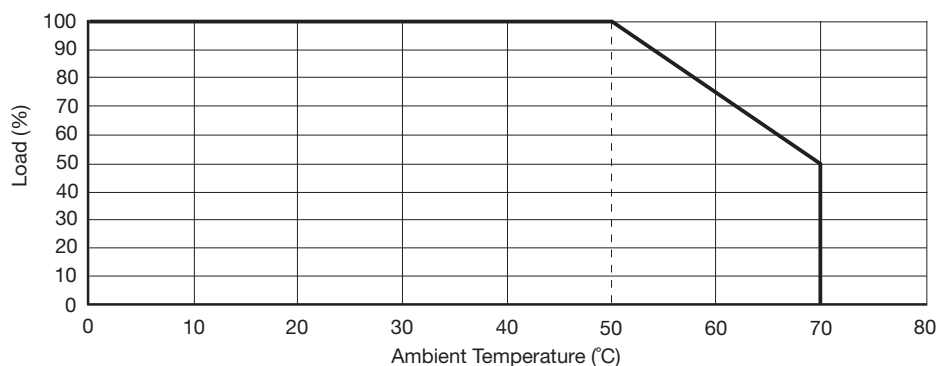
Notes

1. This peak can be taken for 500 μ s only, average power should not exceed the maximum power.
2. Ripple & Noise is measured using 0.1 μ F ceramic and 22 μ F electrolytic capacitor, 20 MHz bandwidth.
3. Alternative output voltages available, consult sales.
4. Load regulation increases to 2% for 0-100% load change.
5. For output currents >50 A, please utilise remote sense to meet regulation ratings.
6. Available for OEM quantities, contact Sales.

Options

- For U-channel version replace 'SMC' in the part number with 'SMD' and remove '-C' e.g. SMD600PS12 (See Derating Curve Note 1.)
- Constant current limit (95-100%) add suffix '-B' (not available on 3.3 V or 5.0 V models), OEM quantities contact Sales.
- Current share and internal ORing diode add suffix '-I' to model number, remote sense not available on '-I' models, OEM quantities contact Sales.
- Optional IEC320 inlet replace suffix '-C' with '-D'. Not available for SMD models.

Derating Curve



Notes

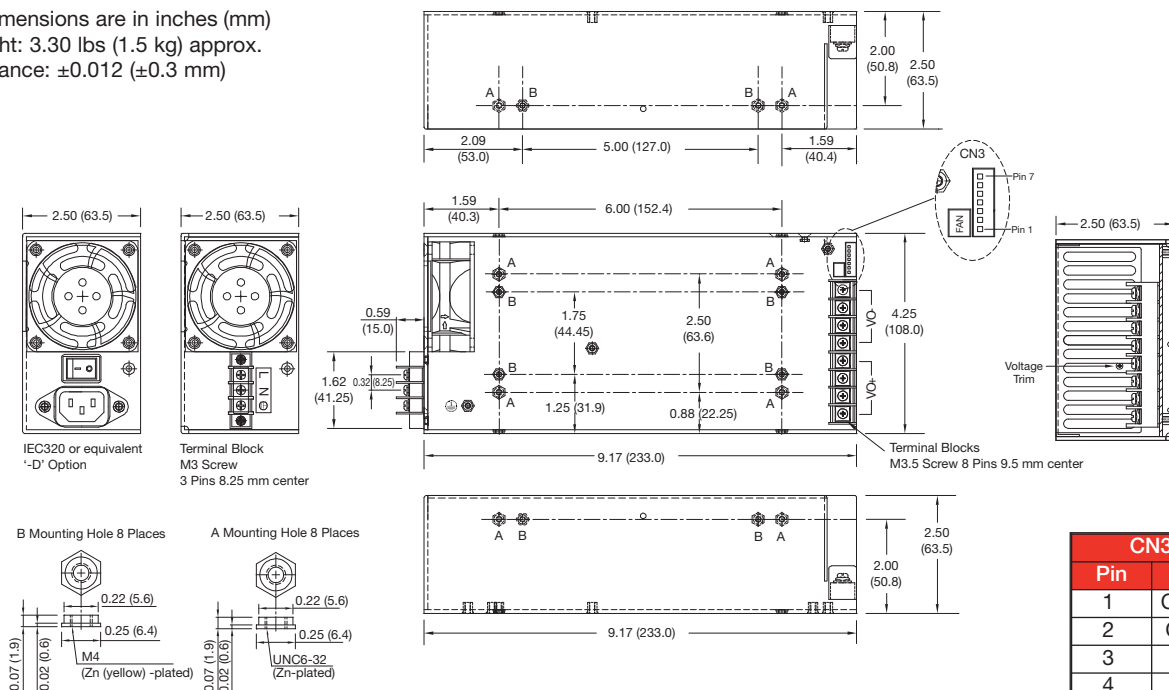
1. SMD units require 30 CFM forced air cooling.

Mechanical Details

SMC with integral fan

All dimensions are in inches (mm)

Weight: 3.30 lbs (1.5 kg) approx.

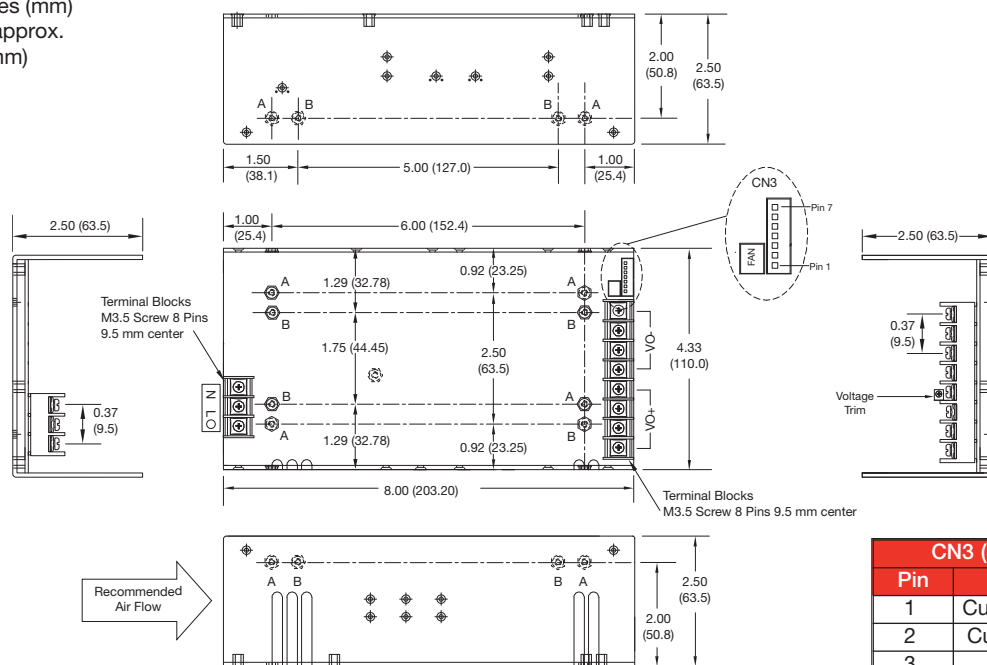
Tolerance: ± 0.012 (± 0.3 mm)

CN3 (Signals)	
Pin	Function
1	Current monitor
2	Current share ⁽³⁾
3	Return
4	Power good
5	Remote On/Off
6	-Remote sense
7	+Remote sense

SMD U-Channel

All dimensions are in inches (mm)

Weight: 3.09 lbs (1.4 kg) approx.

Tolerance: ± 0.012 (± 0.3 mm)

CN3 (Signals)	
Pin	Function
1	Current monitor
2	Current share ⁽³⁾
3	Return
4	Power good
5	Remote On/Off
6	-Remote sense
7	+Remote sense

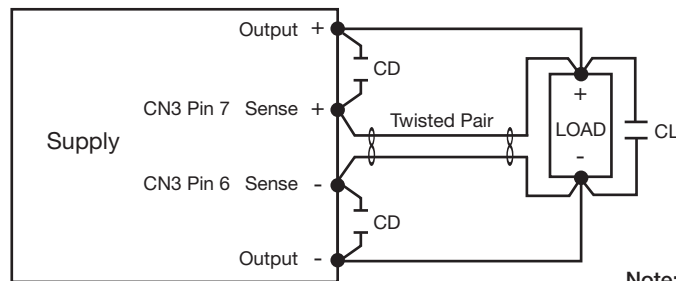
Notes

1. Logic connector CN3 mates with JST XHP-7 or equivalent and JST SXH-002T-P0.6 crimp terminals.
2. Fan connector mates with JST XHP-2 or equivalent and JST SXH-002T-P0.6 crimp terminals. Output is 12 VDC/160 mA
3. Current share not available with constant current models.
4. Maximum mounting screw penetration: 0.2 (5.00) on bottom side and 0.25 (6.30) on both sides.
5. Maximum screw terminal torque: Input: 7 lbin (0.8 Nm), Output: 15.7 lbin (1.8 Nm)

Application Notes

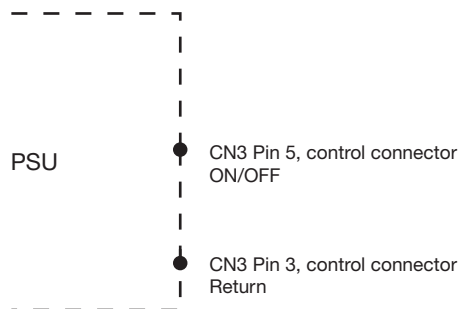
SMC/SMD Series **XP**

Remote Sense

**Note:**

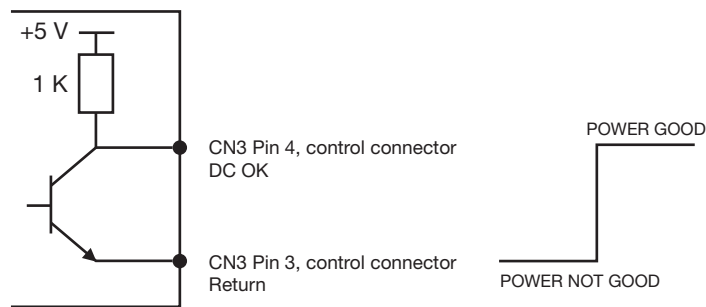
1. CL is 47 μ F electrolytic capacitor.
2. CD is 0.1 μ F ceramic capacitor.

Remote On/Off

**Note:**

1. Applying <0.3 V or short between pins 5 and 3 turns the output OFF.
2. Applying >4.5 V or open circuit between pins 5 and 3 turns output ON.

Power Good



Parallel Connection with Current Share Option

