

SMAC10 Series



10Watts Single outputs & Dual output AC-DC Power Module

Features

- Switching power module for PCB mounting
- Fully encapsulated plastic case
- Universal input range 85~264VAC, 47~440Hz
- Protections: Short circuit/ Overload/ Over voltage
- No load power consumption<0.5W
- 100% full load burn in test
- Isolation class II
- IEC60601-1/EN60601-1 medical safety approved
- CE,UL approval
- 3 years product warranty
- Ultra-miniature size, light weight
- High reliability

ALL SPECIFICATIONS ARE ON 25°C, NOMINAL INPUT AND MAXIMUM OUTPUT CURRENT UNLESS OTHERWISE NOTED.
The power supply shall be installed and operated according the following specification.

OUTPUT SPECIFICATIONS	
Output Voltage	3.3, 5, 12, 15, 24, ± 5 , ± 12 , ± 15
Rated Current	See Table
Current Range	See Table
Voltage Tolerance	$\pm 2\%$
Ripple & Noise (max.) (20 MHz bandwidth)	See Table
Line Regulation	See Table
Load Regulation (0% to 100%)	See Table
Cross Regulation (Dual Output) (1)	$\pm 5\%$ max
Hold up Time(Typ.)	24ms/115Vac min at full load
Setup Time	<1000ms/230Vac at full load
Rise Time	<20ms/230Vac at full load
Maximum Capacitive Load	1000~28000uF depending on model

INPUT SPECIFICATIONS	
Input Voltage Range	100-240Vac (85-264Vac, 120-370Vdc)
Input Frequency	47-440Hz
Input Current (Full Load)	0.25A max(100V)/0.15A max(240V)
Inrush Current (Tye.)	25A max(115V)/45A max(230V)
Efficiency(Typ.)	See Table
Leakage Current	0.1mA max
Input Dissipation (No Load)	<0.5W(Nom)

PROTECTION	
Over Power Protection	Hiccup technique,auto-recovery
Over Voltage Protection	Zener diode clamp
Short Circuit Protection	Auto- recovery

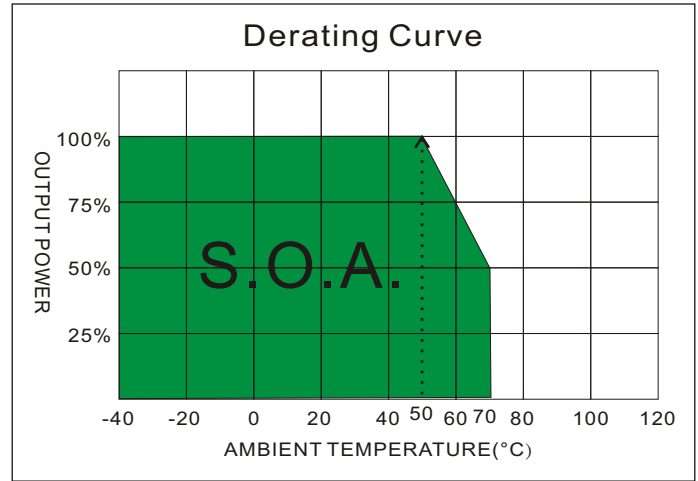
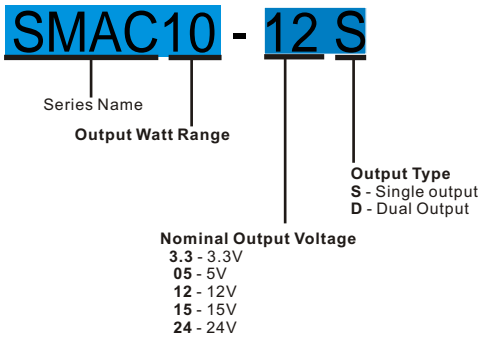
PHYSICAL SPECIFICATIONS	
Case Material	Non-conductive Black Plastic(UL94V-0 rated)
Pin Material	$\Phi 1.0$ mm Brass Solder-coated
Potting Material	Silicon(UL94V-0 rated)
Weight	130.50g
Dimensions	70(L)"x50(W)"x22.7(H)"mm

SAFETY & EMC	
EMI Conduction & Radiation	
EN55011(CISPR11)	Class B
EN55022 (CISPR22)	Class B
Harmonic Current	
EN61000-3-2,-3	
EMS Immunity	medical level, criteria A
EN61000-4-2,3,4,5,6,8,11	
ENV50204	
EN55024	
EN60601-1-2	
EN61204-3	4000Vac
Withstand Voltage (Input to Output)	100M Ohm/500Vdc
Isolation Resistance	UL60950-1, TUV EN60601-1, IEC60601-1
Safety Standards	

ENVIRONMENT	
Operating Temperature	+50°C(Operating Starts -40°C)
Storage/Conveyance Temperature	-40°C ~ +85°C
Operating/Conveyance Humidity	10 ~ 95% RH
Cooling	Free air convection
Temp Coefficient	0.03%/°C
Reliability Calculated MTBF(MIL-HDBK-217 F)	>780,000 h @ 25°C

OTHERS	
Topology	Fixed frequency flyback circuit

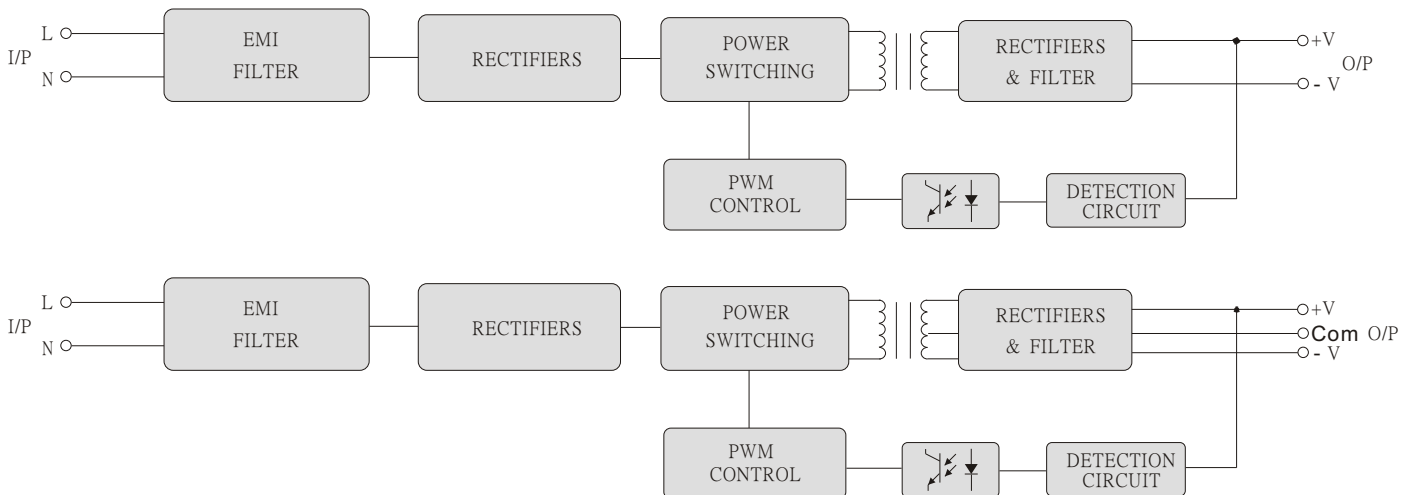
PART NUMBER STRUCTURE



Input Rating and load on output shall not exceed the label rating.

OUTPUT SPECIFICATION RATING CHART

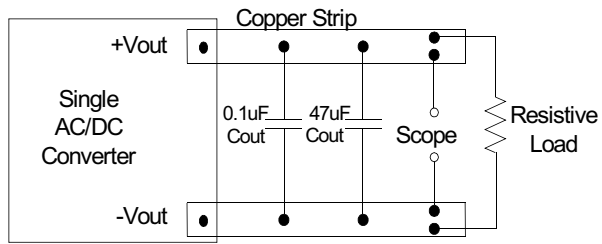
MODEL NUMBER	OUTPUT Voltage (Vdc)	Rated power (W)	OUTPUT Current		Ripple & Noise (max.) (mVp-p)	Line Regulation (%)	Load Regulation (%)	EFFICIENCY @FL(%)	Capacitor Load(uF)
			Min. load (A)	Full load (A)					
SMAC10-3.3S	3.3	8.25	0	2.5	80	±1	±1	69	23000
SMAC10-05S	5	10	0	2	80	±1	±1	75	14000
SMAC10-12S	12	10.2	0	0.85	120	±0.5	±1	79	12000
SMAC10-15S	15	10.05	0	0.67	150	±0.5	±1	80	10000
SMAC10-24S	24	10.08	0	0.42	240	±0.5	±0.5	80	4000
SMAC10-05D	±5	10	0	±1	±80	±1	±1	75	±15000
SMAC10-12D	±12	10.2	0	±0.425	±150	±1	±1	79	±6800
SMAC10-15D	±15	10.05	0	±0.335	±150	±1	±1	80	±6000



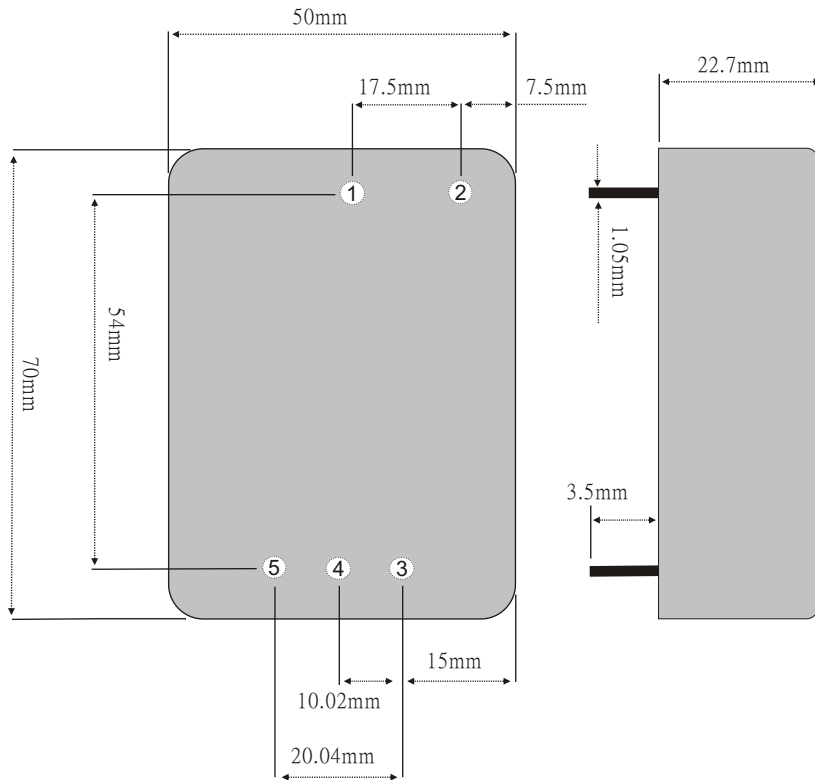
- Note: 1. One load is 25% to 100% load, the other load is 100% load, the output voltage variable rate is within ±5%.
 2. **WARNING: No modification of this equipment is allowed**
 3. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
 4. The power supply in end product have to considered to a component of compliance to IEC60601/EN60601.
 5. Do not dispose in the household waste and follow the disposal regulations.

OUTPUT RIPPLE & NOISE

Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.



MECHANICAL SPECIFICATION



PIN	SINGLE	Dual
1	AC IN (N)	AC IN (N)
2	AC IN (L)	AC IN (L)
3	+DC OUT	+DC OUT
4	N.P.	COM
5	-DC OUT	-DC OUT

All dimensions are typical in millimeters (inches).
 1. Pin diameter: 1.0 ± 0.05 (0.04 ± 0.002)
 2. Pin pitch tolerance: ± 0.35 (± 0.014)
 3. Case Tolerance: ± 0.5 (± 0.02)