

SMD & Thru-hole Mounting

SMM40 Series

Single Outputs

(Synchronous Miniature Module)

- Surface Mount & Thru-Hole Types
- Pick & Place Packaging
- Wide Input Range 2:1
- High Efficiency to 89% @ 5V
- Remote On/Off
- Remote Sense
- External Trim
- Under-Voltage Lockout
- 40C To 105C Operation
- Overvoltage & Short Circuit Protection
- 1500Vdc Isolation

Synchronous Rectification
Open Frame Construction.

The SMM40 series of DC-DC converters have been designed as a surface-mount & thru-hole solution for a wide range of applications where low voltage, high efficiency and ease of assembly are needed. The SMM40 series packs up to 40 watts of power in 1.00" x 2.0" x .450" open frame construction and operating temperatures of -40c to + 105C. All models are designed to meet UL1950, CSA 950 and EN 60950.

Model Selection Guide

Input Voltage Nom.	Input Voltage Range	Line Regulation FL	Load Regulation NL	Output Voltage	Output Current(FL)	Po (W)	Output OVP	Typical Efficiency	Model Number Note (**)
12Vdc	9-18Vdc	0.962	10 mA	1.50	6	9	3.6	78%	SMM40-12S1V5(**)
12Vdc	9-18Vdc	1.160	10 mA	1.80	6	11	3.6	79%	SMM40-12S1V8(**)
12Vdc	9-18Vdc	1.524	10 mA	2.50	6	15	3.6	82%	SMM40-12S2V5(**)
12Vdc	9-18Vdc	1.961	10 mA	3.30	6	20	3.9	85%	SLVMM-12S3V3
12Vdc	9-18Vdc	2.841	10 mA	5.00	6	30	6.8	88%	SMM40-12S05(**)
12Vdc	9-18Vdc	2.841	10 mA	6.00	5	30	6.8	88%	SMM40-12S05(**)
24Vdc	18-36Vdc	0.641	10 mA	1.50	8	12	3.6	78%	SMM40-24S1V5(**)
24Vdc	18-36Vdc	0.738	10 mA	1.80	8	14	3.6	79%	SMM40-24S1V8(**)
24Vdc	18-36Vdc	1.016	10 mA	2.50	8	20	3.6	82%	SMM40-24S2V5(**)
24Vdc	18-36Vdc	1.275	10 mA	3.30	8	26	3.9	85%	SMM40-24S3V3(**)
24Vdc	18-36Vdc	1.894	10 mA	5.00	8	40	6.8	88%	SMM40-24S05(**)
24Vdc	18-36Vdc	1.873	10 mA	6.00	6.6	40	6.8	89%	SMM40-24S06(**)
48Vdc	36-75Vdc	0.316	10 mA	1.50	8	12	3.6	79%	SMM40-48S1V5(**)
48Vdc	36-75Vdc	0.365	10 mA	1.80	8	14	3.6	80%	SMM40-48S1V8(**)
48Vdc	36-75Vdc	0.502	10 mA	2.50	8	20	3.6	83%	SMM40-48S2V5(**)
48Vdc	36-75Vdc	0.630	10 mA	3.30	8	26	3.9	86%	SMM40-48S3V3(**)
48Vdc	36-75Vdc	0.936	10 mA	5.00	8	40	6.8	89%	SMM40-48S05(**)
48Vdc	36-75Vdc	0.926	10 mA	6.00	6.6	40	6.8	90%	SMM40-48S06(**)

Note (**): Insert suffix; **SM** for Surface-mount type or **TH** for Thru-hole.

Modifications and Customs available

International Coil, Inc. 15 Jonathan Drive, Unit 1, Brockton, MA 02301, www.acutepower.com

Specifications All specifications Are typical @ nominal input, Full Load & 25C unless otherwise stated

Input

Input Voltage Range	.....	2:1
Note (3)	.....	9-18Vdc (12V Models)
	.....	18-36Vdc (24V Models)
	.....	36-75Vdc (48V Models)
Input filter	.....	Pi Type
Under Voltage Lockout	.....	8.5V (12V Models)
	.....	16.5V (24V Models)
	.....	32V (48V Models)
Remote :ON	.....	+5V or open, Ref. (-)Vin
:OFF	.....	+0.7V, Ref (-)Vin
Conducted Noise	.....	EN55022, level A (Note 5)

Output

Output Power	.....	40 W Continuous(Max)
Output Voltage/current	.....	See Model Table
Output Setting Accuracy		
Singles	.....	+/- 1% typ., +/- 1.5%max.
Load Regulation		
Singles(FL.-NL.)	.....	+/- 0.5% Note (4)
Line Regulation	.....	+/- 0.2%
Total Error Band		
Singles	.....	+/- 3%, Line/Load&Temp.
Ripple & Noise(20Mhz BW)	.....	50mV
Transient Response (FL-1/2L)	.....	2 % Deviation, 200uS
Temperature Coefficient	.....	+/- .01%/c
Short circuit Protection	.....	Indefinite, Modulated, AutomaticRecovery

General

Efficiency	.....	See Model Table
Isolation Voltage	.....	1500Vdc (1Min)
Isolation Resistance	.....	100M
Switching Frequency	.....	350Khz
MTBF	.....	1.0M hrs.MIL-HDBK-217F Ground Benign @ 25C

Enviromental

Operating Temperature Range	.....	- 40C to +105C (See Derating Curve)
	.....	-40C To +50C@ FL
Storage Temperature Range	.....	-55C To +125C
Humidity	.....	5% To 95%RH, Non-condensing
Cooling	.....	Natural Convection

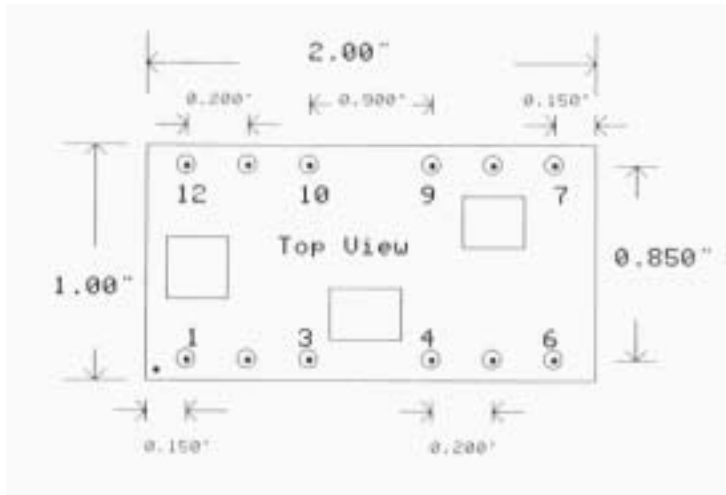
Mechanical

Size	.....	1.00" X 2.00" X 0.450"
Weight	.....	16.0 G
Mounting	.....	SMD & Through Hole Types
Case/Material	.....	Open-Frame, 94V-0 FR-4 P.C.B.

Notes:

- 1) Output Power is up to 20W, see Io rating On "Model selection Guide".
- 2) Model numbers are for SMD type pin configuration, replace suffix (SM) with (TH) for through-hole type
- 3) Typical start-up for 12Vin models is 9V. Maximum startup is 9.5V.
- 4) Operation is allowed to No-Load, however operation below 10% load may cause ripple & noise to exceed spec.

Mechanical Specifications



Pin Connections	
Pin No.	Function
1	-Vin
2	-Vin
3	N/C
4	N/C
5	-sense
6	-Vo
7	+Vo
8	+sense
9	Trim
10	ON/OFF
11	-Vin
12	+Vin

