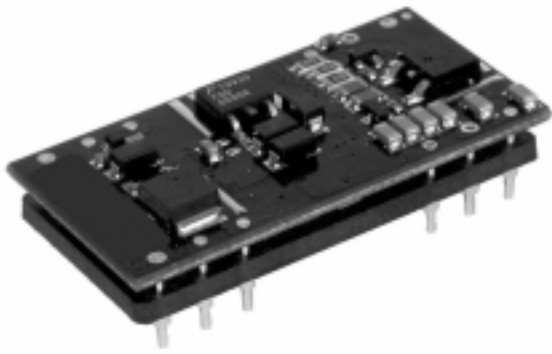


# 40 Watts DC-DC

## SEM-40 Series DC-DC Converter

### Features

- High Efficiency
- Advanced SMT Design
- 12, 24 & 48 VDC Input
- Compact 1" x 2" x .450" Size
- -40 To 105C Operation
- Surface Mount & Thru-Hole Types
- Overvoltage & Short Circuit Protection
- Pick & Place Packaging
- Wide Input Range 2:1
- Remote On/Off
- Remote Sense
- External Trim
- Under-voltage Lockout
- 1500 VDC Isolation



### Model Listing

MODEL	VDC In	OUTPUT 1	Po (W)
SEM-40-1201	9-18	1.50V/6A	9
SEM-40-1202	9-18	1.80V/6A	11
SEM-40-1203	9-18	2.50V/6A	15
SEM-40-1204	9-18	3.30V/6A	20
SEM-40-1205	9-18	5.00V/6A	30
SEM-40-1206	9-18	6.00V/5A	30
SEM-40-2401	18-36	1.50V/8A	12
SEM-40-2402	18-36	1.80V/8A	14
SEM-40-2403	18-36	2.50V/8A	20
SEM-40-2404	18-36	3.30V/8A	26
SEM-40-2405	18-36	5.00V/8A	40
SEM-40-2406	18-36	6.00V/6.6A	40
SEM-40-4801	36-75	1.50V/8A	12
SEM-40-4802	36-75	1.80V/8A	14
SEM-40-4803	36-75	2.50V/8A	20
SEM-40-4804	36-75	3.30V/8A	26
SEM-40-4805	36-75	5.00V/8A	40
SEM-40-4806	36-75	6.00V/6.6A	40

Consult factory for alternate output configurations.  
Refer to Applications Information for complete output power ratings.

All specifications are maximum at 25°C unless otherwise stated and are subject to change without notice.

### Output Specifications

Total Output Power at 45°C	40W Continuous (Max)	
Output Voltage Centering	Output 1:	± 1.0% Typ., ± 1.5% Max.
Load Regulation (0-100% load change)	Output 1:	±0.5% Note (4)
Line Regulation	Output 1:	±0.2%
Total Error Band	± 3, Line/ Load & Temp	
Output Noise		
Total (20MHz)	Output 1:	50mV
Transient Response	Output 1	
Voltage Deviation	2.0%	
Recovery Time	200µS	
Load Change	25% step change	
Short Circuit Protection	Indefinite, Modulated, Automatic Recovery	

### Input Specifications

Input Voltage Range	2:1
Note (3)	9-18 VDC (12V models) 18-36 VDC (24V models) 36-75 VDC (48V models)
Switching Frequency	350kHz
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
	*Remote pin can be used for soft start

### Environmental Specifications

Ambient Operating	-40° C to + 105° C
Temperature Range	Derating: See Power Rating Chart
Ambient Storage Temp. Range	- 55° C to + 125° C
Humidity	5% To 95% RH, Non-condensing
Cooling	Natural Convection
Temperature Coefficient	Output 1: ±0.01%/°C

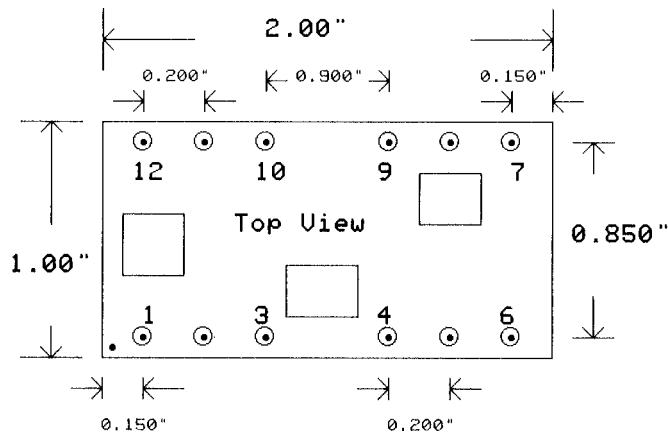
### General Specifications

Isolation Voltage	1500 VDC
Isolation Resistance	100M
Mean-Time Between Failures	1.0M Hours min., MIL-HDBK-217F, 25° C, GB
Mounting	SMD & Through Hole types
Case/ Material	Open-Frame, 94V-0 FR-4 P.C.B.
Weight	0.564 oz. (16.0g)

### Application Notes

- 1.) Output power is up to 40W, see Po rating in model listing
- 2.) When ordering add (-SM) to the part number for the surface mount version and add (-TH) for the through hole version.
- 3.) Typical start-up for 12 Vin models is 9V. Maximum start-up is 9.5V
- 4.) Operation is allowed at 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

