



# ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

DC/DC SWITCHING POWER SUPPLY  
SINGLE CHANNEL OUTPUT  
40 WATTS

## OCH40S SERIES

### General Description



### Features

1. Vout Trim and ON/OFF control function
2. Low ripple and noise
3. 2:1 input range
4. Power module for PCB mountable
5. Synchronous rectifier topologies
6. Regulated Output

### Options

- Screw Terminal (add suffix "-S")
- Remote ON/OFF (add suffix "-R")

### Application

#### Input

**Input Voltage Range:** DC9~18V OCH40S12-XX  
**DC18~36V** OCH40S24-XX  
 DC36~75V OCH40S48-XX

**Switching frequency:** 250kHz for 5V output  
 200kHz for 12V output  
 400kHz for others

**Filter:** Pi Type





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Output Characteristic	Unit	Models			
		OCH40S12-5	OCH40S12-12	OCH40S12-15	OCH40S12-24
Output Voltage	Vdc	5	12	15	24
Output Current	mA	8000	3333	2666	1666
Ripple		50mV max		±1%	
Noise(max)		100mV max		±1%	
Voltage Accuracy	V	±2%			
Trim		±10%			
Regulation					
a. Line Regulation [max]	mV	± 0.5%			
b. Load Regulation	mV	± 1%			
c. Temperature Coefficient	/°C	± 0.02%			
<b>Efficiency *1</b>	<b>%</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>

Output Characteristic	Unit	Models			
		OCH40S24-5	OCH40S24-12	OCH40S24-15	OCH40S24-24
Output Voltage	Vdc	5	12	15	24
Output Current	mA	8000	3333	2666	1666
Ripple		50mV max		±1%	
Noise(max)		100mV max		±1%	
Voltage Accuracy	V	±2%			
Trim		±10%			
Regulation					
a. Line Regulation [max]		± 0.5%			
b. Load Regulation		± 1%			
c. Temperature Coefficient	/°C	± 0.02%			
<b>Efficiency *1</b>	<b>%</b>	<b>87</b>	<b>86</b>	<b>86</b>	<b>86</b>

Conditions:

\*1 Rated input and Rated output

\*2 at Output current quick change 25% to 75%

\*3 At 100% load (convection cooling)





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Output Characteristic	Unit	Models						
		OCH40S 48-1.8	OCH40S 48-2.5	OCH40S 48-3.3	OCH40S 48-5	OCH40S 48-12	OCH40S 48-15	OCH40S 48-24
Output Voltage	Vdc	1.8	2.5	3.3	5	12	15	24
Output Current	mA	8000	3333	2666	1666	8000	3333	2666
Ripple		50mV max				±1%		
Noise(max)		100mV max				±1%		
Voltage Accuracy	V	±2%						
Trim		±10%						
<b>Regulation</b>								
a. Line Regulation [max]		± 0.5%						
b. Load Regulation		± 1%						
c. Temperature Coefficient	/°C	± 0.02%						

<b>Efficiency</b>	<b>*1</b>	<b>%</b>	<b>76</b>	<b>82</b>	<b>84</b>	<b>88</b>	<b>87</b>	<b>87</b>	<b>87</b>
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Environmental Specification	
Operating Temperature*3	-25 to +70 °C (with derating)
Storage Temperature	-55 to +105 °C
Storage Humidity	95% RH [non-condensing] max
Isolation Resistance	Input-Output 100MΩ
Isolation Voltage	1600 VDC Input-Output
Isolation Capacitance	1000pF
Cooling	Convection
MTBF	>550,000 hours at 25°C
Function/Protection	
Short circuit Protection	Hiccup mode, auto-recovery
Over Voltage Protection	Zener Diode Clamp
Over Power Protection	Works at over 120% and auto-recovery
Mechanical	
Dimension [mm]	50.8W × 50.8L × 11.4H ±0.5
Weight [g] (typical)	70

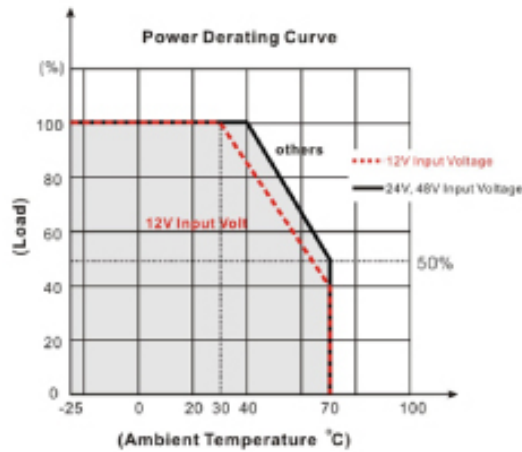




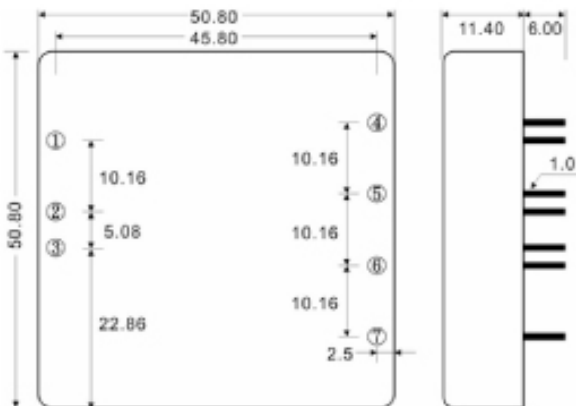
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## HIGH QUALITY SWITCHING POWER SUPPLIES

### Derating Curves



### Mechanical drawings



PIN#	Single	Dual	Triple
1	ON / OFF	ON / OFF	ON / OFF
2	-VIN	-VIN	-VIN
3	+VIN	+VIN	+VIN
4	TRIM	TRIM	-VOUT
5	-VOUT	-VOUT	COMMON
6	+VOUT	COMMON	+5V OUT
7	NC	+VOUT	+VOUT



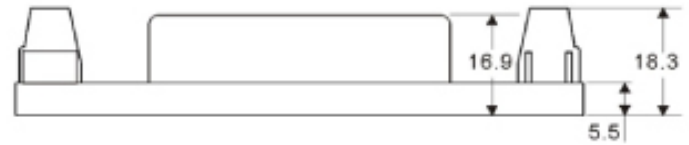
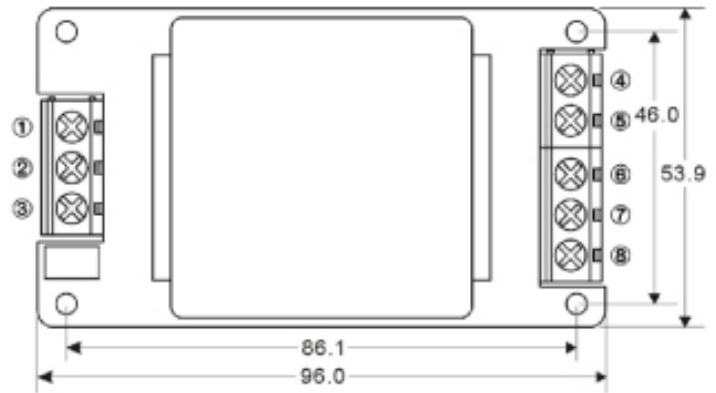


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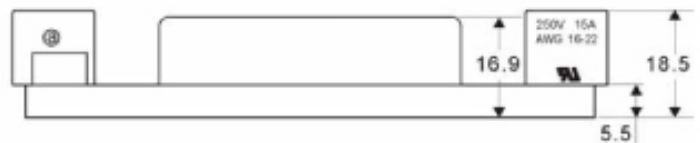
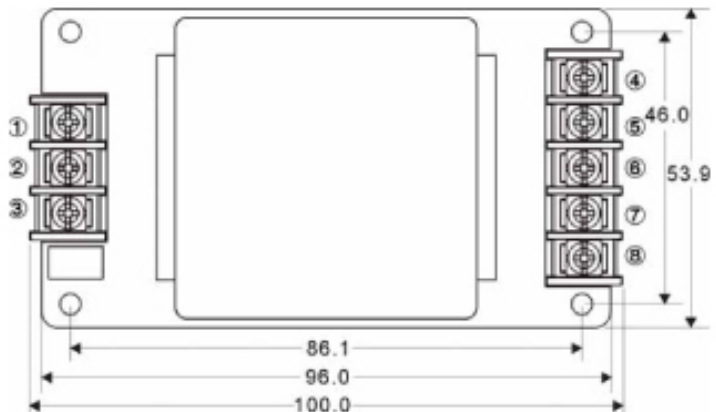
## HIGH QUALITY SWITCHING POWER SUPPLIES

### Mechanical drawing with screw terminal

PIN#	Single	Dual	Triple
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4.	TRIM	TRIM	-DC OUT
5	-DC OUT	-DC OUT	COMMON
6	NO CONNECT	NO CONNECT	NO CONNECT
7	+DC OUT	COMMON	+5V OUT
8	NO CONNECT	+DC OUT	+DC OUT



PIN#	Single	Dual	Triple
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4.	TRIM	TRIM	-DC OUT
5	-DC OUT	-DC OUT	COMMON
6	NO CONNECT	NO CONNECT	NO CONNECT
7	+DC OUT	COMMON	+5V OUT
8	NO CONNECT	+DC OUT	+DC OUT

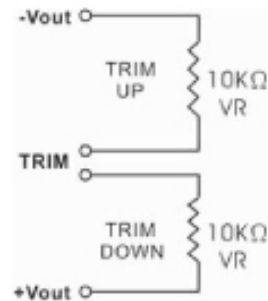




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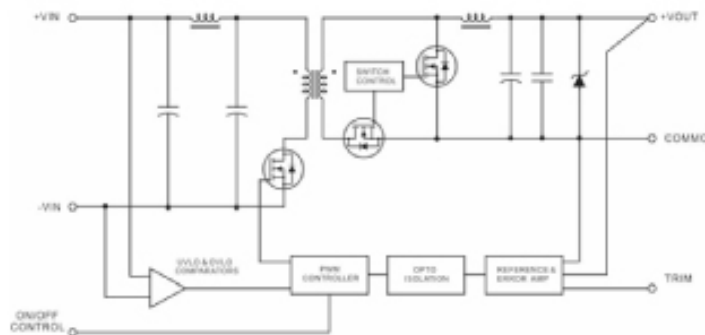
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## Remote ON/OFF



## Block Diagram

Output Voltage (V.DC) : 1.8, 2.5V, 3.3V, 5V



Output Voltage (V.DC) : 12V, 15V, 24V

