

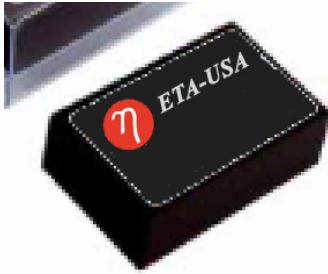


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HIGH QUALITY SWITCHING POWER SUPPLIES

DC/DC SWITCHING POWER SUPPLY
SINGLE CHANNEL OUTPUT
1.5 WATTS

OCH1.5S SERIES



General Description

Features

1. Power module for PCB mountable
2. Fully Encapsulated Plastic Case
3. Regulated Output
4. Low ripple and Noise

Options

Application

Broad needs

Input

Input Voltage Range: DC4.5~5.5V OCH1.5S5-XX
 DC10.8~13.2V OCH1.5S12-XX
 DC21.6~26.4V OCH1.5S24-XX
 DC43.2~52.8V OCH1.5S48-XX

Switching frequency: 20kHz (typ.)



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HIGH QUALITY SWITCHING POWER SUPPLIES

| Output Characteristic | Unit | Models | | | |
|----------------------------|------|--------------------|-------------|-------------|-------------|
| | | OCH1.5S5-5 | OCH1.5S5-12 | OCH1.5S5-15 | OCH1.5S5-24 |
| Output Voltage | Vdc | 5 | 12 | 15 | 24 |
| Output Current | mA | 300 | 125 | 100 | 63 |
| Ripple | mVpp | < 0.2% Vout + 10mV | | | |
| Noise(max) | mVpp | < 0.5% Vout + 30mV | | | |
| Voltage Accuracy | V | ±3% | | | |
| Regulation | | | | | |
| a. Line Regulation [max] | mV | ± 0.3% | | | |
| b. Load Regulation | mV | ± 0.5% | | | |
| c. Temperature Coefficient | /°C | ± 0.02% | | | |

| | | | | | | |
|-------------------|-----------|----------|-----------|-----------|-----------|-----------|
| Efficiency | *1 | % | 60 | 54 | 56 | 58 |
|-------------------|-----------|----------|-----------|-----------|-----------|-----------|

| Output Characteristic | Unit | Models | | | |
|----------------------------|------|--------------------|--------------|--------------|--------------|
| | | OCH1.5S12-5 | OCH1.5S12-12 | OCH1.5S12-15 | OCH1.5S12-24 |
| Output Voltage | Vdc | 5 | 12 | 15 | 24 |
| Output Current | mA | 300 | 125 | 100 | 63 |
| Ripple | mVpp | < 0.2% Vout + 10mV | | | |
| Noise(max) | mVpp | < 0.5% Vout + 30mV | | | |
| Voltage Accuracy | V | ±3% | | | |
| Regulation | | | | | |
| a. Line Regulation [max] | mV | ± 0.3% | | | |
| b. Load Regulation | mV | ± 0.5% | | | |
| c. Temperature Coefficient | /°C | ± 0.02% | | | |

| | | | | | | |
|-------------------|-----------|----------|-----------|-----------|-----------|-----------|
| Efficiency | *1 | % | 65 | 60 | 62 | 64 |
|-------------------|-----------|----------|-----------|-----------|-----------|-----------|





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HIGH QUALITY SWITCHING POWER SUPPLIES

| Output Characteristic | Unit | Models | | | |
|----------------------------|------------------|--------------------------------|--------------|--------------|--------------|
| | | OCH1.5S24-5 | OCH1.5S24-12 | OCH1.5S24-15 | OCH1.5S24-24 |
| Output Voltage | V _{dc} | 5 | 12 | 15 | 24 |
| Output Current | mA | 300 | 125 | 100 | 63 |
| Ripple | mV _{pp} | < 0.2% V _{out} + 10mV | | | |
| Noise(max) | mV _{pp} | < 0.5% V _{out} + 30mV | | | |
| Voltage Accuracy | V | ±3% | | | |
| Regulation | | | | | |
| a. Line Regulation [max] | mV | ± 0.3% | | | |
| b. Load Regulation | mV | ± 0.5% | | | |
| c. Temperature Coefficient | /°C | ± 0.02% | | | |

| | | | | | | |
|-------------------|-----------|----------|-----------|-----------|-----------|-----------|
| Efficiency | *1 | % | 57 | 55 | 55 | 58 |
|-------------------|-----------|----------|-----------|-----------|-----------|-----------|

| Output Characteristic | Unit | Models | | | |
|----------------------------|------------------|--------------------------------|--------------|--------------|--------------|
| | | OCH1.5S48-5 | OCH1.5S48-12 | OCH1.5S48-15 | OCH1.5S48-24 |
| Output Voltage | V _{dc} | 5 | 12 | 15 | 24 |
| Output Current | mA | 300 | 125 | 100 | 63 |
| Ripple | mV _{pp} | < 0.2% V _{out} + 10mV | | | |
| Noise(max) | mV _{pp} | < 0.5% V _{out} + 30mV | | | |
| Voltage Accuracy | V | ±3% | | | |
| Regulation | | | | | |
| a. Line Regulation [max] | | ± 0.3% | | | |
| b. Load Regulation | | ± 0.5% | | | |
| c. Temperature Coefficient | /°C | ± 0.02% | | | |

| | | | | | | |
|-------------------|-----------|----------|-----------|-----------|-----------|-----------|
| Efficiency | *1 | % | 53 | 52 | 51 | 54 |
|-------------------|-----------|----------|-----------|-----------|-----------|-----------|

Conditions:

*1 Rated input and Rated output

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

*3 At 100% load (convection cooling)



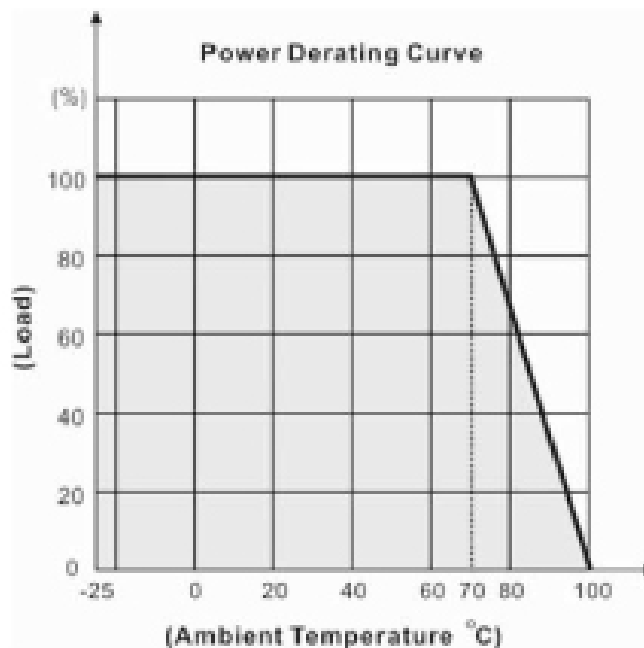


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HIGH QUALITY SWITCHING POWER SUPPLIES

| Environmental Specification | |
|-----------------------------|---|
| Operating Temperature*3 | -25 to +70 °C (at full load) |
| Storage Temperature | -55 to +105 °C |
| Storage Humidity | 95% RH [non-condensing] max |
| Isolation Resistance | Primary-Secondary-Frame Ground 100MΩ(minimum) by DC500V insulation tester |
| Cooling | Convection |
| MTBF | >1,000,000 hours at 25°C |
| Function/Protection | |
| Short circuit Protection | Current limit, auto-recovery |
| Over Power Protection | Works at over 120% and auto-recovery |
| Mechanical | |
| Dimension [mm] | 31.8W × 20.3L × 10.2H ±0.5 |
| Weight [g] (typical) | 13 |

Derating Curves

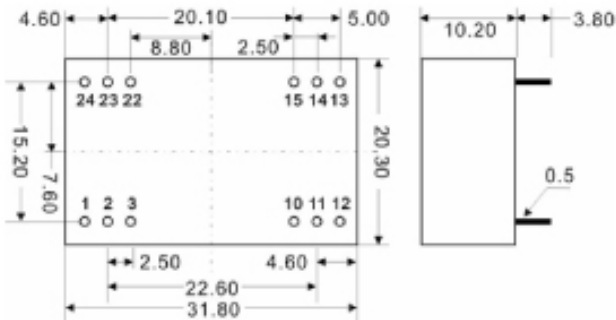




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HIGH QUALITY SWITCHING POWER SUPPLIES

Mechanical drawings



| PIN# | Single | Dual |
|------|--------|--------|
| 1 | +VIN | +VIN |
| 2 | NC | -VOUT |
| 3 | NO PIN | COMMON |
| 10 | -VOUT | COMMON |
| 11 | +VOUT | +VOUT |
| 12 | -VIN | -VIN |
| 13 | -VIN | -VIN |
| 14 | +VOUT | +VOUT |
| 15 | -VOUT | COMMON |
| 22 | NO PIN | COMMON |
| 23 | NC | -VOUT |
| 24 | +VIN | +VIN |

Block Diagram

