



# TRH70A SERIES

## 70W SWITCHING ADAPTER



### Features

- \* Universal Input Range 90~264VAC
- \* Meets EN55022 Class B and CISPR/FCC Class B
- \* Continuous Short Circuit Protection
- \* Over Voltage Protection
- \* Meet CoC Tier 2 & DoE Level VI  
(Output Cable Length  $\leq$  1800mm)  
(TRH70A120: Output Cable Length  $\leq$  720mm)  
(TRH70A150: Output Cable Length  $\leq$  1220mm)  
(TRH70A180, TRH70A190: Output Cable Length  $\leq$  1800mm 16AWG)
- \* No load Power Consumption < 150mW



### Ordering information

|           |              |     |                                      |
|-----------|--------------|-----|--------------------------------------|
| TRH70XXX  | - .XX        | E   | XX                                   |
| Model No. | DC Plug Type | OVP | DC Cable Length and Type             |
|           |              |     | 01: 720mm                            |
|           |              |     | 02: 1220mm                           |
|           |              |     | 03: 1800mm                           |
|           |              |     | 11: 720mm with Ferrite Core          |
|           |              |     | 12: 1220mm with Ferrite Core         |
|           |              |     | 13: 1800mm with Ferrite Core         |
|           |              |     | * 16AWG / UL1185 FOR 12V,15V,18V,19V |
|           |              |     | * 18AWG / UL1185 FOR 24V,28V,36V,48V |

| MODEL     | OUTPUT VOLTAGE | OUTPUT CURRENT | RIPPLE & NOISE<br>NOTE 1 | VOLTAGE ACCURACY<br>NOTE 2 | LINE REGULATION<br>NOTE 3 | LOAD REGULATION<br>NOTE 4 | AVERAGE EFFICIENCY min.<br>NOTE 5 |
|-----------|----------------|----------------|--------------------------|----------------------------|---------------------------|---------------------------|-----------------------------------|
| TRH70A120 | 12V            | 5.80A          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 4\%$                 | 89%                               |
| TRH70A150 | 15V            | 4.65A          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 3\%$                 | 89%                               |
| TRH70A180 | 18V            | 3.90A          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 89%                               |
| TRH70A190 | 19V            | 3.70A          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 89%                               |
| TRH70A240 | 24V            | 3.00A          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 89%                               |
| TRH70A280 | 28V            | 2.50A          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 89%                               |
| TRH70A360 | 36V            | 2.00A          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 89%                               |
| TRH70A480 | 48V            | 1.50A          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 89%                               |

## Specifications

### INPUT SPECIFICATIONS:

Voltage ..... 90~264Vac  
 Frequency ..... 47 to 63Hz  
 Input Current ..... 1.5A max.  
 Inrush Current ..... Cold Start @25°C 100A max. @ 240Vac  
 Leakage Current ..... 3.5mA max.

### OUTPUT SPECIFICATIONS:

Hold-up Time ..... 8ms typ. @115Vac  
 Short Circuit Protection ..... Continuous(Auto Recovery)  
 Over Voltage Protection ..... TVS Component to Clamp  
 Temperature Coefficient ..... ±0.05%/°C

### GENERAL SPECIFICATIONS:

Isolation ..... Input to output = 4,242VDC  
 Operating Temperature ..... -20 ~ 70°C (see derating curve)  
 Storage Temperature ..... -20 ~ 85°C  
 Humidity ..... 93% RH max. Non condensing  
 Cooling ..... Natural Convection  
 Switching Frequency ..... 65KHz Typical  
 MTBF ..... MIL-HDBK-217F, GB, at 25°C/115VAC ..... 200Khrs min.  
 Altitude ..... 5000m  
 Dimensions ..... 4.724x2.047x1.220 inches (120.00x52.00x31.00mm)  
 Weight ..... 300g  
 AC Inlet ..... IEC320/C14

### SAFETY AND EMC:

Emission and Immunity ..... EN55022 Class B, FCC Part 15 Class B  
 EN61000-6-3, EN61000-3-2, EN61000-3-3  
 EN55024, EN61204-3, EN61000-6-1  
 Safety ..... Class I, IEC60950-1, EN60950-1, UL60950-1

### Mechanical Specification

All Dimensions are in inches(mm)  
 Tolerance:Inches:X.XXX±0.02  
 Millimeters:X.XX±0.5

## TRH70A Series Derating Curve



### NOTE:

1. Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for Ripple & Noise measuring @20MHz BW.
2. Voltage setpoint at 60% full load.
3. Line regulation measured from 100Vac to 240Vac full load.
4. Load regulation measured from 60% to full load and from 60% to 20% load (60% +/- 40% load).
5. Average Efficiency measured at 25%,50%,75%,100% load and input voltage is 115Vac / 230Vac



Typical at 25°C, nominal line and 75% load, unless otherwise Specified