thermaltake

TOUGHPOWER GF1 850W

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DATASHEET

TOUGHPOWER SERIES
POWER SUPPLY

TOUGHPOWER GF1 850W

Ultra Quiet
Hydraulic Bearing Fan

Smart Zero Fan

Low Ripple Noise

Fully Modular
Flat Cables

100% Japanese
Capacitors

80 PLUS GOLD

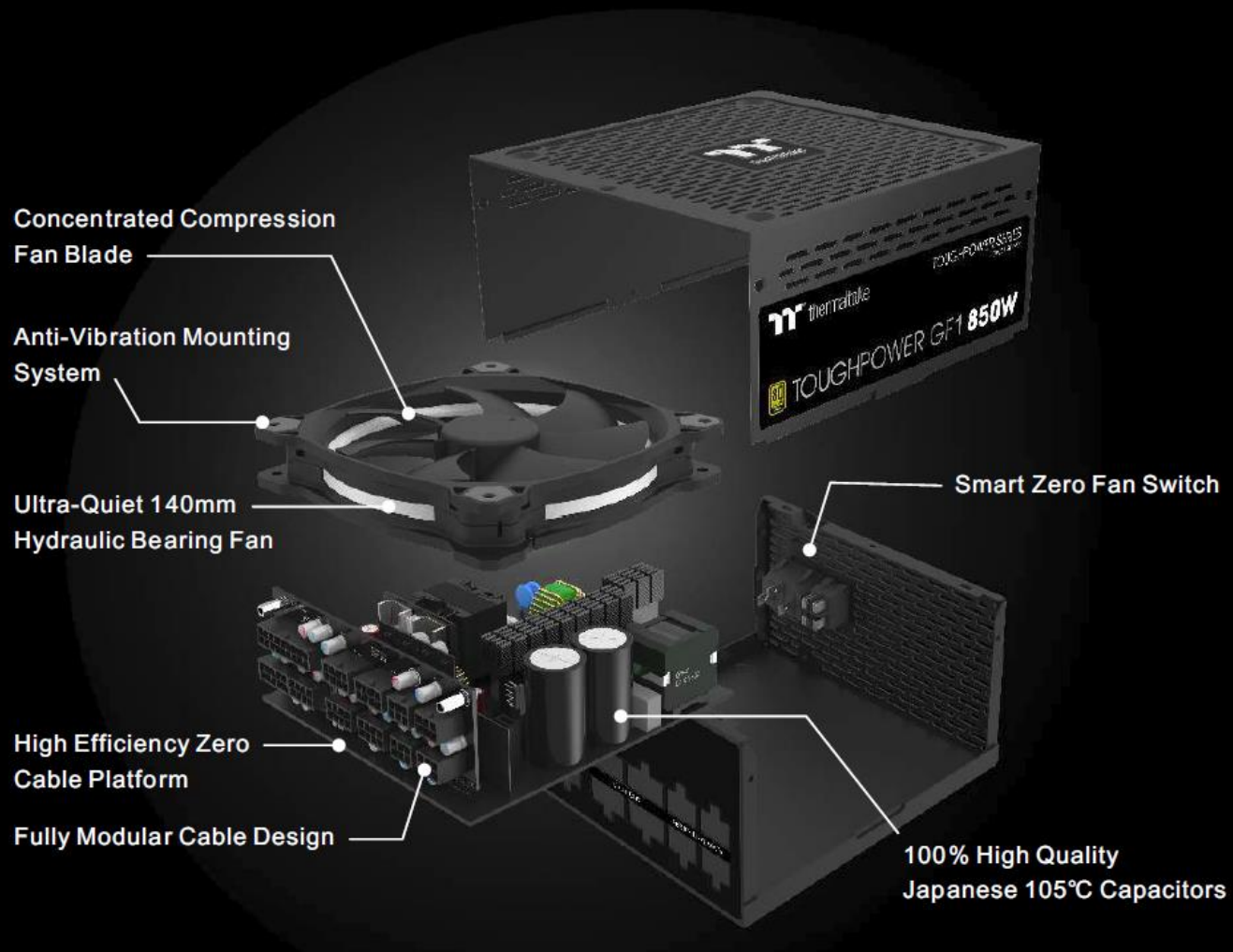
10 YEAR Warranty

Features

- 850W continuous output at 50°C/122°F operating environment.
- High efficiency Zero Cable Platform with premium build quality.
- 100% high quality Japanese 105°C/221°F capacitors.
- < 30mV low ripple noise design.
- Extremely strict voltage regulation < ±2%
- Fully modular low-profile flat black cables.
- Upgraded CPU/PCI-E main cables (16AWG wires) for high end enthusiasts' PCs
- Ultra Quiet 140mm Hydraulic Bearing Fan delivers excellent airflow.
- Smart Zero Fan: Minimizes undesired noise.
- High amperage single +12V rail design.
- Intel C6/C7 states & ErP ready
- Built-in industry grade protections: OCP, OVP, UVP, OPP, SCP, OTP
- Dimension: 150mm(W)x86mm(H)x160mm(D).
- Safety approvals: CE/cTUVus/TÜV/FCC/BSMI/EAC certifications.

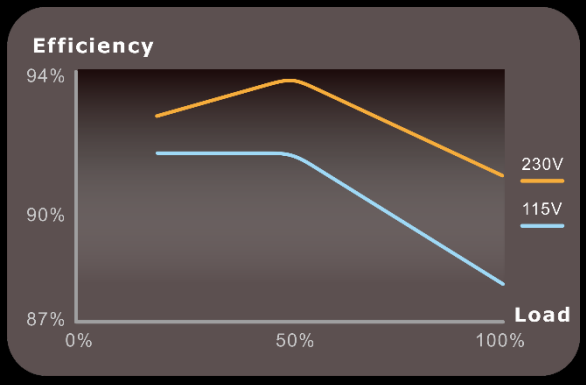
TOUGHPOWER GF1 850W

Premium Build Quality



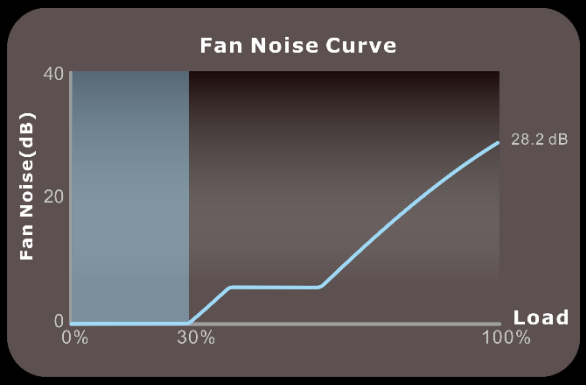
TOUGHPOWER GF1 850W

Highlight Features



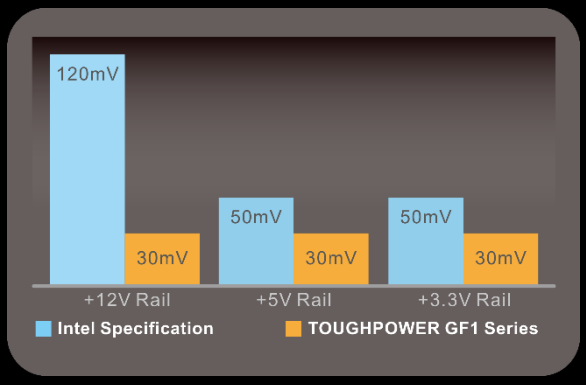
80 PLUS Gold Certified Efficiency

Delivers top end efficiency under real world load conditions.



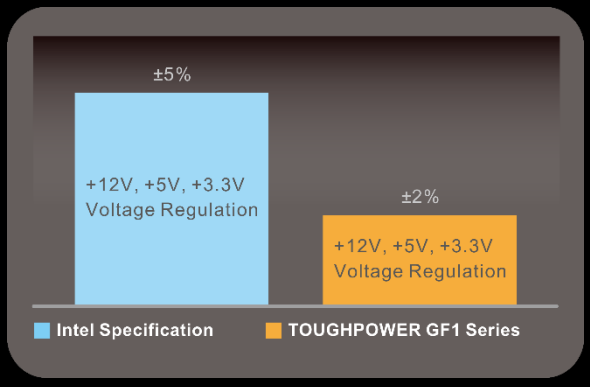
Ultra Quiet Smart Zero Fan

Minimize undesired noise.



< 30mV Low Ripple Noise Design

Top-end build quality with low ripple noise.

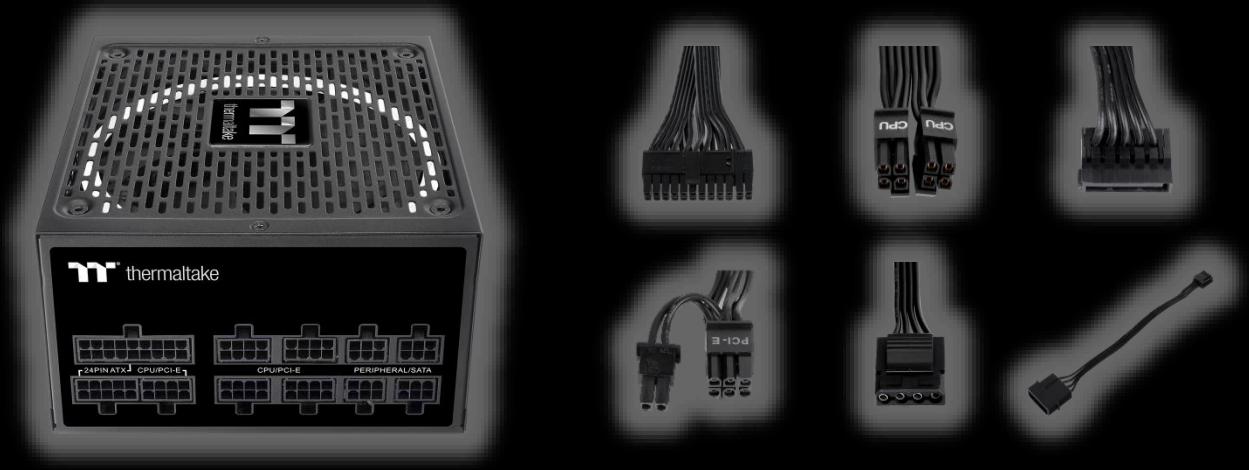


Extremely Strict Voltage Regulation < ±2%

Provides steady clean power through exceptional voltage stability.

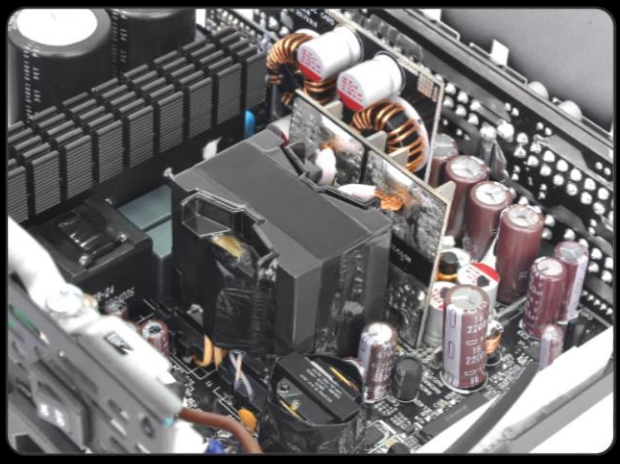
TOUGHPOWER SERIES
POWER SUPPLY
TOUGHPOWER GF1 850W

Highlight Features



Fully Modular Low-Profile Flat Black Cables
Makes cable management easier, reduces clutter and increases airflow inside the chassis.

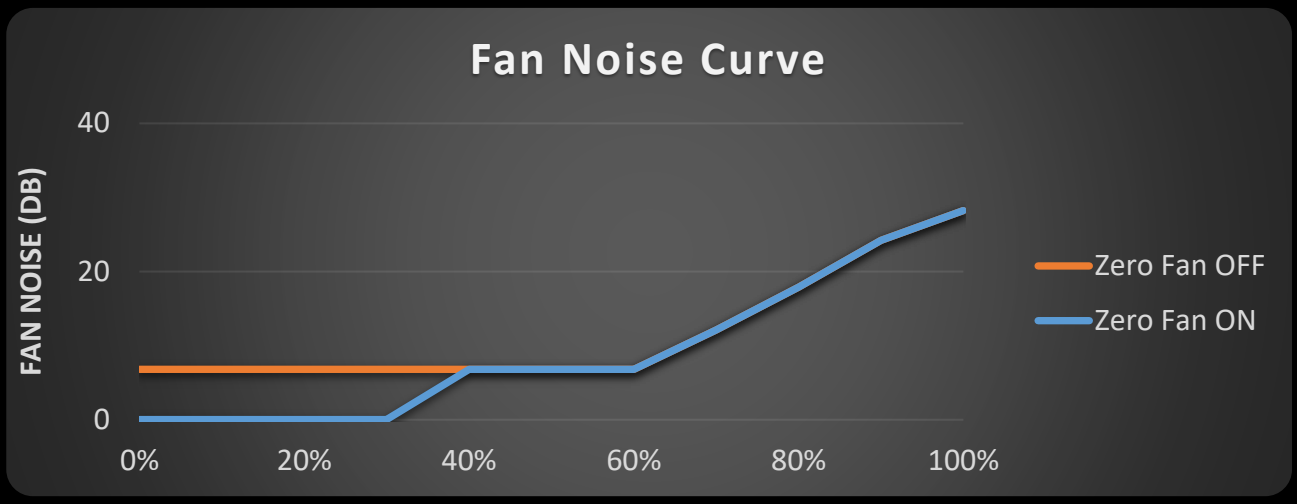
100% High Quality Japanese 105˚C/221˚F Capacitors.
Improves the durability and offers the highest stability and reliability.



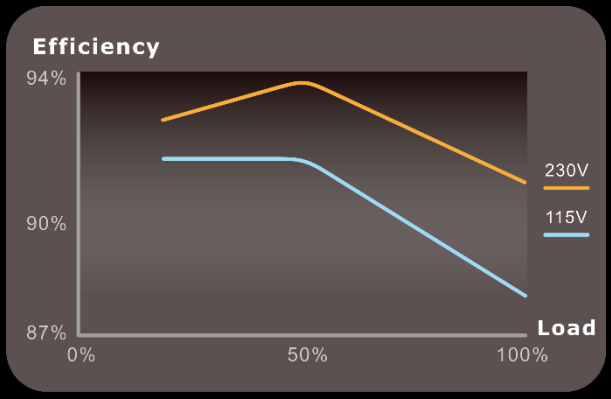
High Amperage Single +12V Rail & DC to DC Design
Powerful single +12V rail and DC to DC design for the best compatibility.

TOUGHPOWER GF1 850W

Fan Curve



Eco Design



80 PLUS®Gold Certified Efficiency
Delivers top end efficiency under real world load conditions.

Supports Energy Star 5.0* energy standard
Toughpower GF1 series is suitable for use in Energy Star-compatible computers.

Supports Intel Deep Power Down C6 Status
Helps your PC system operate more power efficiently.

Corresponds to the EU directives on WEEE and RoHS
Thermaltake considers its full impact on the environment during manufacturing and maintains green facilities to ensure Toughpower GF1 series meets WEEE & RoHS requirements.

TOUGHPOWER SERIES
POWER SUPPLY

thermaltake

TOUGHPOWER GF1 850W

Output Specification

AC Input	Input Voltage: 100V - 240V~ Input Current: 12A Frequency: 50Hz - 60Hz				
DC Output	+3.3V	+5V	+12V	-12V	+5VSB
Max Output Current	22A	22A	70.9A	0.3A	3A
Max Output Power	120W		850.8W	3.6W	15W
Total Power	850W				

Connect Specification

Connector / Wattage	Main Power Connector (24Pin)	ATX 12V (4+4Pin)	SATA (5Pin)	PCI-E (6+2Pin)	Peripheral (4Pin)	FDD Adapter
850W	1	2	12	6	4	1

Wattage	Connector Type	Connector Quantity & Cable Length
850W	Main Power (24pin)	1 x 24pin Main connector (600mm)
	ATX 12V (8pin/4+4pin)	1 x ATX 12V 8pin connector (650mm) 1 x ATX 12V 4+4pin connector (650mm)
	PCI-E (6+2pin)	2 x PCI-E 6+2pin connectors (500mm + 150mm) 2 x PCI-E 6+2pin connectors (500mm + 150mm) 2 x PCI-E 6+2pin connectors (500mm + 150mm)
	SATA	4 x SATA connectors (500mm + 150mm + 150mm + 150mm) 4 x SATA connectors (500mm + 150mm + 150mm + 150mm) 4 x SATA connectors (500mm + 150mm + 150mm + 150mm)
	Peripheral	4 x Peripheral connectors (500mm + 150mm + 150mm + 150mm)
	Floppy Adapter	1 x Peripheral to Floppy adapter cable (150mm)

TOUGHPOWER GF1 850W

GENERAL INFO	
P/N	PS-TPD-0850FNFAGU-1
Max. Output Capacity	850W
Peak Output Capacity	1020W
Color	Black
Dimension (W/H/D)	150mm(W) x 86mm(H) x 160mm(D)
PFC	Active PFC
Power Good Signal	100-500 msec
Hold-Up Time	> 16msec at 100% of full load
AC INPUT	
Input Current	12A
Input Frequency Range	50Hz - 60Hz
Input Voltage	100V – 240V~
ENVIRONMENTAL	
Operating Temperature	0°C to + 50°C
Operating Humidity	20% to 90%,non-condensing
Storage Temperature	-20°C to + 70°C
Storage Humidity	5% to 95%, non-condensing
Cooling System	14cm hydraulic bearing fan
MISCELLANEOUS	
Efficiency	Meet 80 PLUS®Gold at 115Vac input.
MTBF	120,000 hrs minimum
Safety Approval	CE/cTUVus/TÜV/FCC/BSMI/EAC
PCI-E CONNECTOR	
PCI-E 6+2pin	6

Total Protection

Voltage Source	Over Voltage Protection	Under Voltage Protection	Over Current Protection
	Protection Point		
+3.3V	4.5Vmax	Not lower than 2.2~2.4V	180% max.
+5V	7Vmax	Not lower than 3.3~3.7V	180% max.
+12V	14.5Vmax	Not lower than 8.5~9.5V	150% max.
Over Power Protection	Protection at 120%~150% over peak load.		
Over Temperature Protection	Protection temperature is 70℃ at 115V and full load.		
Short Circuit Protection	Activated when any DC rails short circuited.		