



**SMART SERIES
POWER SUPPLY**



SMART BX1 650W

DATASHEET



❖ Features

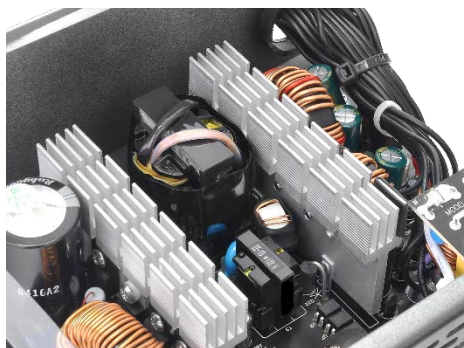
- ATX 12V V2.3 enables most reliable and robust power delivery.
- Guaranteed to deliver 650W continuous output @ 40°C operating environment.
- High-Quality components and single +12V rails design enable non-stop usage with stable and reliable performance.
- 80 PLUS® Bronze certified up to 88% efficiency.
- High quality Japanese main capacitor.
- <80mV @ +12V, <40mV @ +3.3V & +5V low ripple noise design.
- Ultra-quiet 120mm cooling fan delivers excellent airflow at an exceptionally low noise level.
- SMART BX1 series is prepared for the new Intel processors KabyLake to achieve maximum energy savings.
- Heavy-duty protection circuitry of Over Voltage, Over Power and Short-Circuit protections.
- Dimension: 150mm(W)x86mm(H)x140mm(D).
- High reliability: MTBF>100,000 hours.
- Safety / EMI Approvals: CE/CB/TUV/ UL/ FCC/ BSMI.

❖ Highlight Features



High Quality Japanese Main Capacitor

Improves the durability and offers the highest stability and reliability.



High Amperage Single +12V Rail

Powerful single +12V rail for the best compatibility.

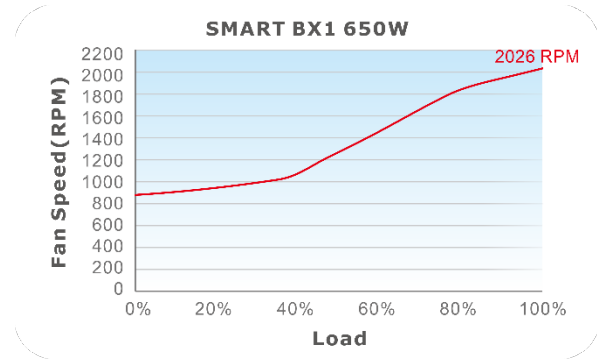
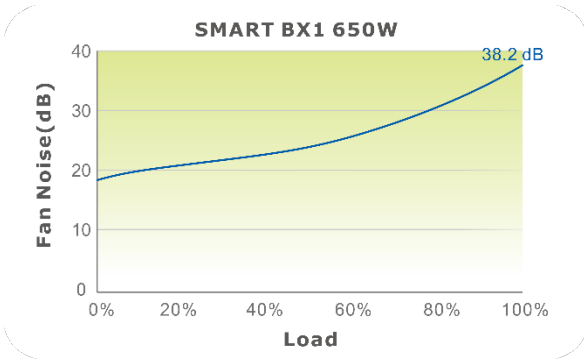
❖ Packing





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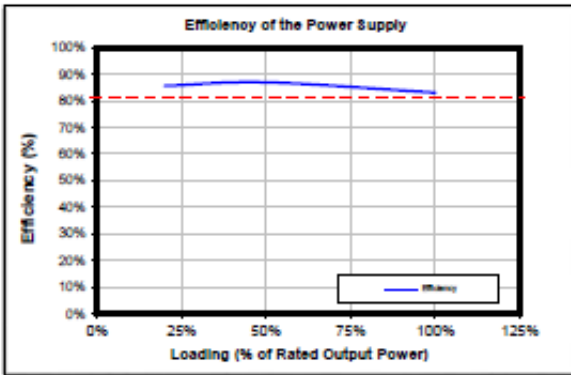
❖ Fan Curve



Ultra Quiet Hydraulic Bearing Fan

Ultra quiet 120mm cooling fan delivers excellent airflow.

❖ ECO Design



80 PLUS® Bronze Certified Efficiency

Deliver top end efficiency under real world load conditions.

Supports Energy Star 5.0* energy standard

SMART BX1 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 SMART BX1 series meets WEEE & RoHS requirements.



❖ Output Specification

AC Input	Input Voltage: 100V - 240Vac Input Current: 12A max. Frequency: 50Hz - 60Hz				
DC Output	+3.3V	+5V	+12V	-12V	+5VSB
Max Output Current	23A	17A	48A	0.5A	2.5A
Max Output Power	110W		576W	6.0W	12.5W
Total Power	650W				

❖ Total Output Connector

Connector						
Wattage	Main Power Connector (20+4Pin)	ATX 12V (4+4Pin)	SATA (4Pin)	PCI-E (6+2Pin)	Peripheral (4Pin)	FDD Adapter
650W	1	1	6	2	4	1

Wattage	Connector Type	Connector Quantity & Cable Length
650W	Main Power (24pin)	1 x 24pin Main connector (600mm)
	ATX 12V (4+4pin)	1 x ATX 12V 4+4pin connector (650mm)
	PCI-E (6+2pin)	2 x PCI-E 6+2pin connectors (500mm + 150mm)
	SATA	3 x SATA connectors (500mm + 150mm + 150mm) 3 x SATA connectors (500mm + 150mm + 150mm)
	Peripheral & FDD	4 x Peripheral connectors + 1 x FDD connector (500mm + 150mm + 150mm + 150mm + 150mm)



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GENERAL INFO	
P/N	PS-SPD-0650NNFABx-1
Model	SPD-650AH2NKB
Type	ATX 12V v2.3 and EPS v2.92
Max. Output Capacity	650W
Peak Output Capacity	780W
Color	Black
Dimension (W/H/D)	150mm(W) x 86mm(H) x 140mm(D)
PFC	Active PFC
Power Good Signal	100-500 msec
Hold-Up Time	> 16msec at 70% of full load
AC INPUT	
Input Current	12A max.
Input Frequency Range	50Hz - 60Hz
Input Voltage	100V – 240V~
ENVIRONMENTAL	
Operating Temperature	5°C to + 40°C
Operating Humidity	20% to 85%, non-condensing
Storage Temperature	-40°C to + 55°C
Storage Humidity	10% to 95%, non-condensing
Cooling System	12cm Hydraulic bearing fan
MISCELLANEOUS	
Efficiency	Meet 80 PLUS® Bronze at 115Vac input.
MTBF	100,000 hrs minimum
Safety Approval	CE/CB/TUV/ UL/ FCC/ BSMI
PCI-E CONNECTOR	
PCI-E 6+2pin	2



❖ Total Protection

Voltage Source	Over Voltage Protection
	Protection Point
+3.3V	3.76V~4.3V
+5V	5.74V~7.0V
+12V	13.4V~15.6V
Over Power Protection	Protection at 110%~170% over peak load.
Short Circuit Protection	Activated when any DC rails short circuited.