



*SILVERSTONE*

Gemini Series

SST-GM600-2UG / SST-GM700-2UG

SST-GM800-2UG / SST-GM900-2UG

SST-GM1000-2UG

Endless power through redundancy

2U redundant form factor with 84mm(W) x 82mm(H) x 217mm(D)

80 PLUS GOLD Certified

Active PFC (full range)

Hot swappable design

Convenient pull-out handle bars

Industry-leading reliability

Japanese electrolytic capacitors

# SPECIFICATION

## SilverStone Gemini Series

**SST-GM600-2UG/ SST-GM600-2UGU**

**SST-GM700-2UG/ SST-GM700-2UGU**

**SST-GM800-2UG/ SST-GM800-2UGU**

**SST-GM900-2UG/ SST-GM900-2UGU**

**SST-GM1000-2UG/ SST-GM1000-2UGU**

**1+1 2U Redundant Switching Power Supply**

**80 PLUS Gold**

**600W+600W**

**700W+700W**

**800W+800W**

**900W+900W**

**1000W+1000W**

## 1. AC input specifications

### 1.1 AC input voltage, frequency and current

(Rating: 100V-240 VAC, 47-63Hz, 14-7A)

The power supply must operate within all specified limits over the input voltage range in Table 1. Harmonics distortion of up to 10% THD must not cause the power supply to go out of specified limits.

Base on the minimum voltage and power transfer, the max current calculation as below:

**Max Current  $\geq$  (Watt / Efficiency) / Minimum Voltage**

Parameter	Minimum	Normal	Maximum	Max. Current
Voltage (115V)	90 VAC	100-120 VAC	132 VAC	13A
Voltage (230V)	180 VAC	200-240 VAC	264 VAC	6A
Frequency	47 Hz	50 / 60 Hz	63 Hz	N/A

**Table 1 – AC Input Voltage and Frequency**

## 1.2 AC inrush current

The power supply must meet inrush requirements of any rated AC voltage, during turn on at any phase of voltage, during a single cycle AC dropout condition, during repetitive On/Off cycling of AC, and over the specified temperature range. The peak inrush current shall be 30/60A @ 115/230 VAC (25°C) per module when cold start and less than the rating of its critical components (including input fuse, bulk rectifiers, and surge limiting device).

## 1.3 Input power factor correction (Active PFC)

The power factor at 50% load shall be  $\geq 0.9$  at 230V input voltage.

## 1.4 Input current harmonics

When the power supply is operated in 90-264Vac of Sec. 2.1, the input harmonic current drawn on the power line shall not exceed the limits set by EN61000-3-2 class "D" and GB9254-2008 standards. The power supply shall incorporate universal power input with active power factor correction.

## 1.5 Dropout

An AC line dropout is defined to be when the AC input drops to 0 VAC at any phase of the AC line for any length of time. During an AC dropout of 18mS or less the power supply must meet dynamic voltage regulation requirements up to 80% of the rated output load. An AC line dropout of one cycle or less shall not cause any tripping of control signals or protection circuits. If the AC dropout lasts longer than 18mS or the load is greater than 80%, the power supply should recover and meet all turn on requirements. The power supply must meet the AC dropout requirement over rated AC voltages, frequencies, and output loading conditions. Any dropout of the AC line shall not cause damage to the power supply. In the case of redundant AC inputs, the AC line dropout may occur on either or both AC inlet.

## 2. DC output specification

### 2.1 Output current / loading

The following table defines power and current rating. The power supply shall meet both static and dynamic voltage regulation requirements for minimum load condition.

#### SST-GM600-2UG

Output Voltage	+5V	+3.3V	+12V	-12V	+5VSB
Max. Load	25A	25A	50A	0.8A	3.5A
Min. Load	1A	1A	1A	0A	0.1A
Max. Combined	170W		600W	9.6W	17.5W
Total Output	600W				

Table 2.1.1 – Output Loads Range 1

Note 1: Maximum continuous total DC output power should not exceed 600W.

### SST-GM700-2UG

Output Voltage	+5V	+3.3V	+12V	-12V	+5VSB
Max. Load	25A	25A	58A	0.8A	3.5A
Min. Load	1A	1A	1A	0A	0.1A
Max. Combined	170W		696W	9.6W	17.5W
Total Output	700W				

**Table 2.1.2 – Output Loads Range 1**

**Note 1: Maximum continuous total DC output power should not exceed 700W.**

### SST-GM800-2UG

Output Voltage	+5V	+3.3V	+12V	-12V	+5VSB
Max. Load	25A	25A	66.5A	0.8A	3.5A
Min. Load	1A	1A	1A	0A	0.1A
Max. Combined	170W		798W	9.6W	17.5W
Total Output	800W				

**Table 2.1.3 – Output Loads Range 1**

**Note 1: Maximum continuous total DC output power should not exceed 800W.**

### SST-GM900-2UG

Output Voltage	+5V	+3.3V	+12V	-12V	+5VSB
Max. Load	25A	25A	75A	0.8A	3.5A
Min. Load	1A	1A	1A	0A	0.1A
Max. Combined	170W		900W	9.6W	17.5W
Total Output	900W				

**Table 2.1.4 – Output Loads Range 1**

**Note 1: Maximum continuous total DC output power should not exceed 900W.**

### SST-GM1000-2UG

Output Voltage	+5V	+3.3V	+12V	-12V	+5VSB
Max. Load	25A	25A	83A	0.8A	3.5A
Min. Load	1A	1A	1A	0A	0.1A
Max. Combined	170W		996W	9.6W	17.5W
Total Output	1000W				

**Table 2.1.5 – Output Loads Range 1**

**Note 1: Maximum continuous total DC output power should not exceed 1000W.**

## 2.2 DC voltage regulation, ripple and noise

The power supply output voltages must stay within the following voltage limits when operating at steady state and dynamic loading conditions. All outputs are measured with reference to the return remote sense (Returns) signal. The +5V, +3.3V, +12V, -12V and +5VSB outputs are measure at the power supply connectors references to Returns. The +5V and +3.3V is measured at its remote sense signal (+5VS, +3.3VS) located at the signal connector.

Output Voltage	+5V	+3.3V	+12V	-12V	+5VSB
Load Reg.	±5%	±5%	±5%	±5%	±5%
Cross Reg.	±5%	±5%	±5%	±5%	±5%
Line Reg.	±1%	±1%	±1%	±1%	±1%
Ripple & Noise	50mV	50mV	120mV	120mV	50mV

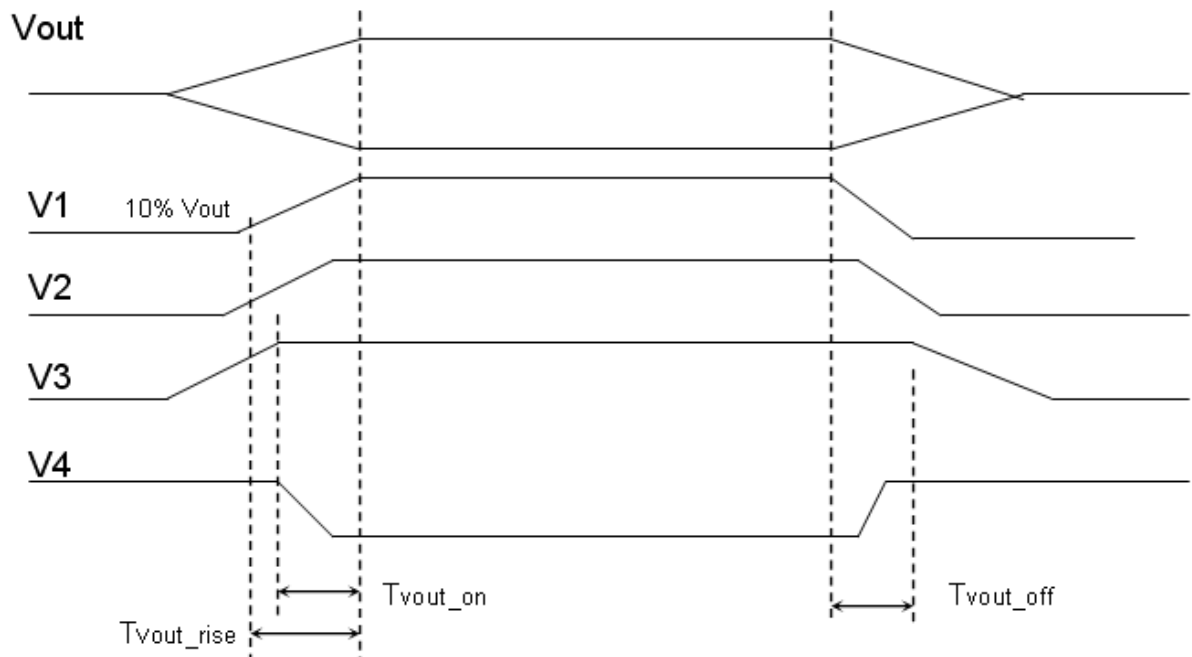
**Table 3 – Regulation, ripple and noise**

Ripple and Noise shall be measured using the following methods:

- a) Measurements made differentially to eliminate common-mode noise.
- b) Ground lead length of oscilloscope probe shall be 0.25 inch.
- c) Measurements made where the cable connectors attach to the load.
- d) Outputs bypassed at the point of measurement with a parallel combination of 10uF tantalum capacitor in parallel with 0.1uF ceramic capacitors.
- e) Oscilloscope bandwidth of 0 Hz to 20MHz.
- f) Measurements measured at locations where remote sense wires are connected.
- g) Regulation tolerance shall include temperature change, warm up drift and dynamic load.

Item	Description	MIN	MAX	Units
Tvout_rise	Output voltage rise time from each main output.(+5VSB < 70mS)	5	70	mS
Tvout_on	All main output must be within regulation of each other within this time.	N/A	50	mS
Tvout_off	All main output must leave regulation within this time	N/A	400	mS

**Table 4 – Output Voltage Timing**



**Figure 1 – Voltage Output Timing**

Tsb_on-delay	Delay from AC being applied to +5VSB is being within regulation.	N/A	1500	mS
Tsb_on-delay	Delay from AC being applied to all output voltages being Within regulation.	N/A	2500	mS
Tvout_holdup	Main output voltage stay within regulation after loss of AC tested at 80% of maximum load.	18	N/A	mS
Tpwok_holdup	Delay from loss of AC deassertion of PWOK.	17	N/A	mS
Tpson_on_delay	Delay from PSON# active to output voltage within regulation limits.	5	400	mS
Tpson_pwok	Delay from PSON# deactive to PWOK being deasserted.	N/A	50	mS
Tpwok_on	Delay from output voltage within regulation limits to PWOK asserted at turn on.	100	500	mS
Tpwok_off	Delay from PWOK deasserted to output voltages (+5V, +3.3V, +12V) dropping out of regulation limits.	1	N/A	mS
Tpwok_low	Duration of PWOK being in the deasserted state during an off/on cycle using AC or the PSON# signal.	100	N/A	mS
Tsb_vout	Delay from output voltage within regulation limits to PWOK asserted at turn on.	50	1000	mS

**Table 5 – Turn On/Off Timing**

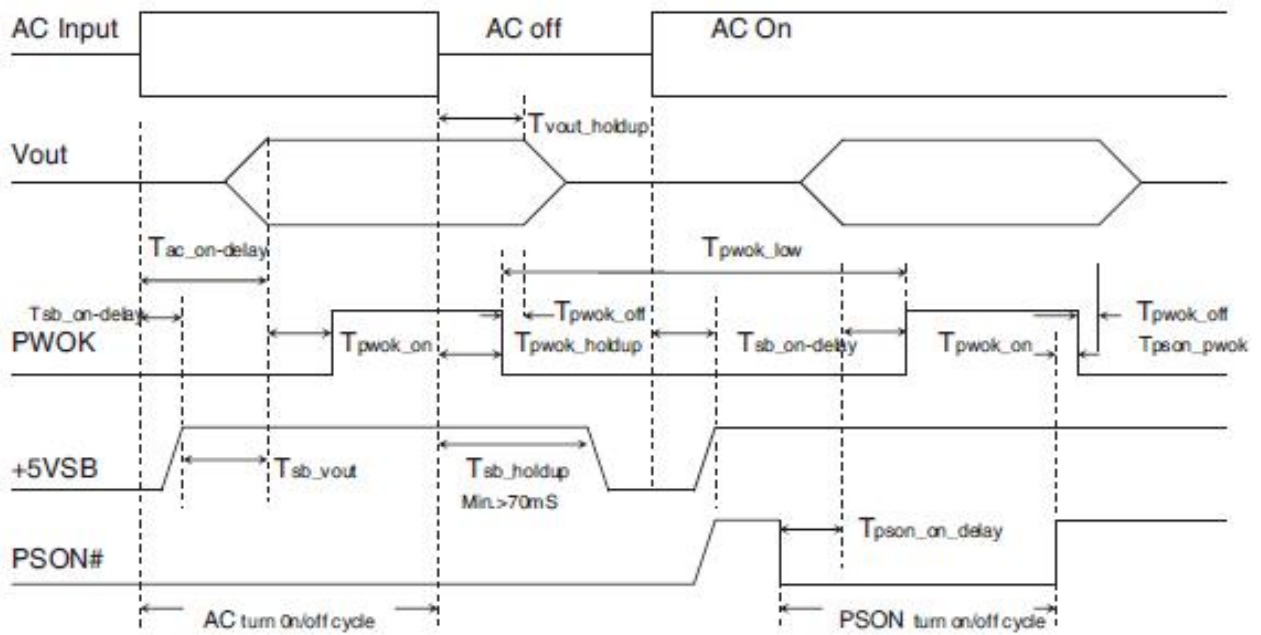


Figure 2 – Turn On/Off Timing

## 2.4 Remote On/Off Control: PSON#

The PS\_ON signal is required to remotely turn on/off the main output of the power supply.

PS\_ON is an active low signal that turns on the main output power rail. When this signal is not pulled low by the system or left open, the outputs (except the +5VSB) turn off. PS\_ON is pulled to a standby voltage by a pull-up resistor internal to the power supply.

Signal Type	Accepts an open collector/drain input from the system. Pull-up to VSB located in power supply.
PSON# = Low	Power ON
PSON# = High	Power OFF

Table 6 – PWOK Signal Characteristic

## 2.5 Efficiency (80+ Gold)

## 2.6 +5VSB (Standby power)

The +5VSB output always provides output when AC power is applied and the power switch is turned on. +5VSB line can provide up to 3.5A of current for PC board circuit operation.

## 3. Protection

Protection circuits inside the power supply shall cause only the power supply's main outputs to shutdown. If the power supply latches off due to a protection circuit tripping, either an AC cycle OFF for 15 sec or PSON #cycle HIGH for 1 sec must be able to restart the power supply.

### 3.1 Over power protection

The OPP function shall work at 110%~150% of rating of output power, then all outputs shut down in a latch off mode. The latch shall be cleared by toggling the PSON# signal or by cycling the AC power. The power supply shall not be damaged from repeated power cycling in this condition. If only one module works inside the power supply, the OPP is at 110%~160% of rating of power supply.

### 3.2 Over voltage protection

Each hot swap module has respective OVP circuit. Once any power supply module shut down in a latch off mode while the output voltage exceeds the over voltage limit shown in Table 7, the other modules should deliver the sufficient power to the device continually.

Voltage	Minimum	Maximum	Shutdown Mode
+5V	+5.7V	+6.5V	Latch Off
+3.3V	+3.9V	+4.5V	Latch Off
+12V	+13.3V	+14.5V	Latch Off
+5VSB	+5.7V	+6.5V	Auto recovery

Table 7 –Over Voltage protection

### 3.3 Over current protection

The power supply should contain the OCP function on each hot swap module. The power supply should be shut down in a latch off mode while the respective output current exceeds the limit as shown in Table 8. When the latch has been cleared by toggling the PSON# single or cycling the AC input power. The power supply module should not be damaged in this condition.

Voltage	Minimum	Maximum	Shutdown Mode
+5V	110%	150%	Latch Off
+3.3V	110%	150%	Latch Off
+12V	110%	150%	Latch Off
+5VSB	110%	150%	Auto recovery

Table 8 –Over Current protection

### 3.4 Short circuit protection

The power supply shall shut down in a latch off mode when the output voltage is short circuit.

## 4. Environmental requirements

### 4.1 Temperature

Operating Temperature Range:	0°C ~ 45°C (32°F~ 113°F)
Non-Operating Temperature Range:	-20°C ~ 70°C (-4°F~ 158°F)

### 4.2 Humidity

Operating Humidity Range:	20% ~ 90%RH non-condensing
Non-Operating Humidity Range:	5% ~ 95%RH non-condensing



## 5. Agency requirements

### 5.1 Safety

Safety Approvals	UL/cUL, TUV, CB, CE, CCC, FCC, KCC
Emissions	EN55032, class A Conducted EN55032, class A Radiated
Harmonic Currents	EN61000-3-2
Voltage Flicker	EN61000-3-3
ESD	EN61000-4-2
RS	EN61000-4-3
Surge	EN61000-4-4
EFT	EN61000-4-5
Conducted Immunity	EN61000-4-6
PFMF	EN61000-4-8
Voltage Dips	EN61000-4-11

### 5.2 AC Input leakage current

Input leakage current from line to ground will be less than 3.5mA rms.  
Measurement will be made at 240 VAC and 60Hz.

## 6. Redundant power supply function

### 6.1 Redundancy

The redundant power supply is  $N+1=N$   
(600W+600W=600W)/  
(700W+700W=700W)/  
(800W+800W=800W)/  
(900W+900W=900W)/  
(1000W+1000W=1000W) function power supply, each one module is redundancy when any one module was failed. To be redundant each item must be in the hot swap power supply module.

### 6.2 Hot swap requirements

Hot Swapping a power supply is the process of inserting and extracting a power supply from an operating power system. During this process the output voltage shall remain within the limits specified in Table 7. The hot swap test must be conducted when the system is operating under static, dynamic and zero loading conditions. The power supply can be hot swapped by the following method:

#### Extraction

The power supply may be removed from the system while operating with PSON asserted, while in standby mode with PSON de-asserted or with no AC applied. No connector damage should occur during un-mating of the power supply.

Insertion:

The power supply may be inserted into the system with PSON asserted, with PSON de-asserted or with no AC power present for that supply. No connector damage should occur due to the mating of the output and input connector.

In general, a failed (of by internal latch or external control) supply may be removed, then replaced with a good power supply, however, hot swap needs to work with operational as well as failed power supplies. The newly inserted power supply will get turned on into standby or Power On mode once inserted.

## 6.3 Current Sharing

As this power supply has redundant function, the output current sharing should within  $\pm 5\%$  when half and full load. The supplies must be able to load share in parallel and operate in a hot-swap/redundant configuration.

## 6.4 LED Indicators

Status	LED Colors
Power OK, all the power outputs are available.	Green
Power Fail, protection or FAN failed.	Red
Standby mode, only +5VSB output.	Orange (Green + Red)

## 7. Reliability

### 7.1 Mean time between failures (MTBF)

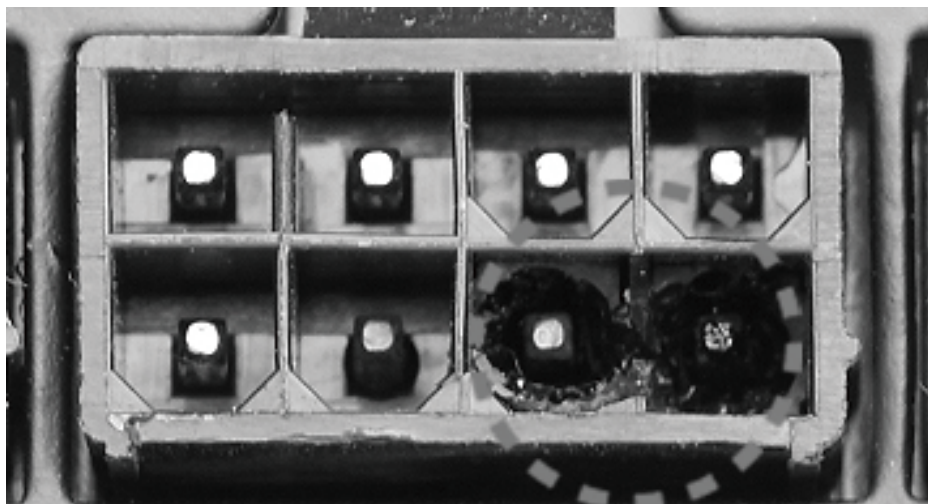
The MTBF of the power supply shall be calculated utilizing the Part-Stress Analysis method of MIL-217F or Bell core RPP. The calculated MTBF of the power supply shall be greater than 200,000 hours under the following conditions:

- Full rated load
- 90V AC input
- Ground Benign
- 25°C

## 8. Dimension:

82mm(W) x 84mm(H) x 217mm(D)

## 9. Power supply connector overuse definition



**EN****Power supply connector overuse definition**

A single PCIe 8pin cable and connector's maximum current rating is 12.5A, which is 150W (+12V x 12.5A). So SilverStone's warranty will not cover damages or malfunction resulting from the use of a graphics card or expansion card with a single PCIe 8pin connector that exceeds standard 225W total power draw (150W from PCIe 8pin connector + 75W from PCIe motherboard slot). Similarly, a graphics card or expansion card with dual PCIe 8pin connectors that exceed 375W total power draw (300W from two PCIe 8pin connectors + 75W from PCIe motherboard slot) will also not be covered under warranty.

Peripheral (molex) or SATA connector's maximum current rating is 5A, which is 60W (+12V x 5A) or 25W (+5V x 5A). Please ensure connected devices are operating under these limits. SilverStone's warranty will not cover damages or malfunction resulting from usages exceeding these connectors and their associated cables.

24pin motherboard connector's maximum current rating for its dual +12V metal pins are 5A each, which totals 120W (+12V x 5A x 2). Please ensure +12V drawing devices connected to the motherboard are operating under these limits. SilverStone's warranty will not cover damages or malfunction resulting from usages exceeding these connectors and their associated cables.

**DE****Definition einer Überlastung des Netzanschlusses**

Die maximale Stromstärke eines einzelnen 8-poligen PCIe-Kabels und Anschlusses beträgt 12,5 A, was 150 W (+12 V x 12,5 A) entspricht. Daher deckt die SilverStone-Garantie keine Schäden oder Fehlfunktionen durch den Einsatz einer Grafikkarte oder Erweiterungskarte mit einem einzigen 8-poligen PCIe-Anschluss ab, die die Standardleistungsaufnahme von insgesamt 225 W übersteigt (150 W vom 8-poligen PCIe-Anschluss + 75 W vom PCIe-Motherboard-Steckplatz). Ebenso wird die Verwendung einer Grafikkarte oder Erweiterungskarte mit zwei 8-poligen PCIe-Anschlüssen, die eine Leistungsaufnahme von insgesamt 375 W übersteigen (300 W von den beiden 8-poligen PCIe-Anschlüssen + 75 W vom PCIe-Motherboard-Steckplatz) nicht durch die Garantie abgedeckt.

Der maximale Nennstrom von Peripherie- (Molex) oder SATA-Anschluss beträgt 5 A, was 60 W (+12 V x 5 A) oder 25 W (+5 V x 5 A) entspricht. Bitte achten Sie darauf, dass verbundene Geräte unter diesen Grenzwerten arbeiten. Die Garantie von SilverStone deckt keine Schäden oder Fehlfunktionen aufgrund einer Nutzung ab, die diese Anschlüsse und ihre zugehörigen Kabel übersteigt.

Der maximale Nennstrom des 24-poligen Motherboard-Anschlusses für seine dualen +12-V-Metallkontakte beträgt jeweils 5 A, was insgesamt 120 W (+12 V x 5 A x 2) ergibt. Bitte stellen Sie sicher, dass mit dem Motherboard verbundene +12-V-Geräte unter diesen Grenzwerten arbeiten. SilverStones Garantie deckt keine Schäden oder Fehlfunktionen aufgrund einer Nutzung jenseits der Angaben dieser Anschlüsse und ihrer zugehörigen Kabel ab.

**FR****Définition de l'utilisation excessive du connecteur d'alimentation électrique**

Le courant nominal maximum d'un câble et d'un connecteur PCIe 8 broches unique est de 12,5 A, ce qui correspond à 150 W (+12 V x 12,5 A). La garantie de SilverStone ne couvre donc pas les dommages ou les dysfonctionnements résultant de l'utilisation d'une carte graphique ou d'une carte d'extension avec un connecteur PCIe 8 broches unique qui dépasse une consommation énergétique totale de 225 W standard (150 W provenant du connecteur PCIe 8 broches + 75 W provenant de l'emplacement de la carte mère PCIe). De même, une carte graphique ou une carte d'extension avec deux connecteurs PCIe 8 broches qui dépasse une consommation énergétique totale de 375 W (300 W provenant des deux connecteurs PCIe 8 broches + 75 W provenant de l'emplacement de la carte mère PCIe) ne sera également pas couverte dans le cadre de la garantie.

Le courant nominal maximum d'un périphérique (Molex) ou d'un connecteur SATA est de 5 A, ce qui correspond à 60 W (+12 V x 5 A) ou 25 W (+5 V x 5 A). Veuillez vous assurer que les appareils connectés fonctionnent dans ces limites. La garantie de SilverStone ne couvre pas les dommages ou les dysfonctionnements résultant d'utilisations dépassant ces connecteurs et leurs câbles associés.

Le courant nominal maximal des connecteurs 24 broches de la carte mère pour ses doubles broches métalliques +12 V est de 5 A chacun, ce qui représente au total 120 W (+12 V x 5 A x 2). Veuillez vous assurer que les dispositifs de tension +12 V connectés à la carte mère fonctionnent dans ces limites. La garantie de SilverStone ne couvre pas les dommages ou les dysfonctionnements résultant d'utilisations dépassant la capacité de ces connecteurs et de leurs câbles associés.

**IT****Definizione di uso eccessivo del connettore di alimentazione**

La corrente massima di un singolo cavo PCIe a 8 pin e del connettore è 12,5 A, corrispondente a 150 W (+12 V x 12,5 A). Pertanto, la garanzia di SilverStone non copre danni o malfunzionamenti derivanti dall'utilizzo di una scheda grafica o una scheda di espansione con un singolo connettore PCIe a 8 pin che supera l'assorbimento totale di 225 W (150 W da connettore PCIe a 8 pin + 75 W da slot PCIe). Analogamente, la garanzia non copre anche una scheda grafica o una scheda di espansione con doppi connettori PCIe a 8 pin che superano l'assorbimento totale di 375 W (300 W da doppi connettori PCIe a 8 pin + 75 W dalla scheda madre PCIe).

La corrente massima del connettore periferico (molex) o SATA è 5 A, corrispondente a 60 W (+12 V x 5 A) o 25 W (+5 V x 5 A). Assicurarsi che i dispositivi collegati funzionino entro questi limiti. La garanzia di SilverStone non copre danni o malfunzionamenti derivanti da uso eccessivo di questi connettori e dei relativi cavi.

La corrente massima del connettore a 24 pin per scheda madre per i suoi due pin di metallo a +12 V è di 5 A ciascuno, per un totale di 120 W (+12 V x 5 A x 2). Assicurarsi che i dispositivi a +12 V collegati alla scheda madre funzionino con questi limiti. La garanzia di SilverStone non copre danni o malfunzionamenti derivanti da uso eccessivo di questi connettori e dei relativi cavi.

**ES****Definición de uso excesivo del conector de la Fuente de alimentación**

La corriente máxima de un solo cable PCIe de 8 pines es 12,5A, lo que son 150W (+12V x 12,5A). Por tanto, la garantía de SilverStone no cubrirá daños o fallos provocados por el uso de una tarjeta gráfica o de expansión con un único conector PCIe de 8 pines que exceda el total estándar de 225W (150W del conector PCIe de 8 pines + 75W del zócalo PCIe de la placa base). De igual modo, una tarjeta gráfica o de expansión con conectores duales PCIe de 8 pines que superen 375W de potencia (300W de los dos conectores PCIe de 8 pines + 75W del zócalo de la placa base) tampoco será cubierta por la garantía.

La corriente máxima del conector de periféricos (molex) o SATA es 5A, que son 60W (+12V x 5A) o 25W (+5V x 5A). Por favor, asegúrese de que los dispositivos conectados funcionen dentro de estos límites. La garantía de SilverStone no cubrirá daños o fallos a resultas de un uso excesivo de estos conectores y sus cables asociados.

La corriente máxima del conector de 24 pines de la placa base para sus pines de metal duales de +12V es de 5A cada uno, para un total de 120W (+12V x 5A x 2). Por favor, asegúrese de que los dispositivos de +12V conectados a la placa base funcionan dentro de estos límites. La garantía de SilverStone no cubrirá daños o averías a resultas de un uso excesivo para estos conectores y sus cables asociados.

## RU

### Определение чрезмерной нагрузки на коннектор блока питания

Один кабель и коннектор PCIe 8pin поддерживает ток 12.5А, что равно 150Вт (+12В x 12.5А). Таким образом, гарантийные обязательства SilverStone не будут действовать если вы используете видеокарту или другую карту расширения с одним коннектором PCIe 8pin, которые превышают стандартную общую потребляемую мощность 225Вт (150Вт через коннектор PCIe 8pin + 75Вт через слот PCIe материнской платы). Аналогично, видеокарта или другая карта расширения с двумя коннекторами PCIe 8pin, которые превышают общую потребляемую мощность 375Вт (300Вт через коннектор PCIe 8pin + 75Вт через слот PCIe материнской платы), также не будут покрываться гарантией.

Максимальный номинальный ток периферийного (molex) или SATA разъема составляет 5А, что равно 60Вт (+12В x 5А) или 25Вт (+5В x 5А). Пожалуйста, убедитесь, что подключаемые устройства работают в этих пределах. Гарантия SilverStone не будет распространяться на неисправности, возникающие в результате использования этих коннекторов или подключаемых к ним кабелей.

Максимальный номинальный ток 24pin коннектора материнской платы для его двойных металлических контактов +12В составляет 5А на каждый, что равно 120Вт (+12В x 5А x 2). Пожалуйста, убедитесь, что устройства, подключаемые к линии +12В, работают в этих пределах. Гарантия SilverStone не будет распространяться на неисправности, возникающие в результате использования этих коннекторов или подключаемых к ним кабелей.

## KR

### 전원 공급 커넥터 과용 정의

단일한 PCIe 8핀 케이블 및 커넥터의 최대 전류 정격은 12.5A로서 전력으로 환산하면 150W(+12V x 12.5A)입니다. SilverStone의 보증에서는 표준 225W의 총 소비 전력 (PCIe 8핀 커넥터의 150W와 PCIe 메인보드 슬롯의 75W의 합)을 초과하는 단일 PCIe 8핀 커넥터 탑재 그래픽 카드나 확장 카드를 사용하여 발생하는 손상 또는 오작동을 보상하지 않습니다. 이와 마찬가지로 375W의 총 소비 전력 (PCIe 8핀 커넥터 2개의 300W와 PCIe 메인보드 슬롯의 75W의 합)을 초과하는 듀얼 PCIe 8핀 커넥터 탑재 그래픽 카드나 확장 카드를 사용해도 보증에서 보상해 주지 않습니다.

주변장치(molex) 또는 SATA 커넥터의 최대 전류 정격은 5A로서 전력으로 환산하면 60W(+12V x 5A) 또는 25W(+5V x 5A)입니다. 연결된 장치들은 이러한 제한 하에서만 작동되어야 합니다. SilverStone의 보증에서는 이러한 커넥터 및 이와 연결되는 케이블의 정격을 초과하여 사용함으로써 발생하는 손상이나 오작동을 보상하지 않습니다.

듀얼 +12V 금속 핀에 사용되는 24핀 메인보드 커넥터의 정격 전류는 5A이며, 각각 합계가 120W(+12V x 5A x 2)입니다. 메인보드에 연결된 +12V 정격이 해당 한계 미만으로 작동되도록 하십시오. SilverStone은 이 커넥터나 관련 케이블의 한계를 초회해서 사용함으로써 발생하는 손상이나 고장에 대해서 보장하지 않습니다.

## JP

### 電力供給コネクタの使用限度超過に関する説明

単一のPCIe 8ピンケーブルおよびコネクタの最大定格電流は12.5Aで150W(+12V x 12.5A)となります。それで定格225W合計電力消費(PCIe 8ピンコネクタからの150W + PCIeマザーボードスロットからの75W)を超える、単一PCIe 8ピンコネクタ装備のグラフィックスカードまたは拡張カード使用によって生じた損傷や故障の場合、SilverStoneの製品保証は適用外となります。同様に、375W合計電力消費(2基のPCIe 8ピンコネクタからの300W + PCIeマザーボードスロットからの75W)を超える、デュアルPCIe 8ピンコネクタ装備のグラフィックスカードまたは拡張カード使用によって生じた損傷や故障の場合も、製品保証適用外となります。

周辺用 (molex) または SATA コネクタの最大定格電流は5Aで、60W (+12V x 5A) または 25W (+5V x 5A) となります。接続された装置がこれら限度以内で動作することを確認してください。これらコネクタおよび関連ケーブルの定格を超える使用法で生じた損傷や故障については、SilverStone製品保証対象外となりますのでご注意ください。

24Pin マザーボードコネクタのデュアル+12V 金属ピンに対する最大定格電流はそれぞれ5Aなので合計は120W(+12V x 5A x 2)となります。接続される+12V入力のデバイスが、これら上限以内で動作することをご確認ください。これらコネクタおよび関連ケーブルでの限界を超えた使用で生じた損傷または故障は、SilverStoneによる製品保証対象外となります。

## CN

### 电源供应器接头过度使用定义

单条PCIe 8pin电源线与接头的最大额定电流为12.5A, 瓦特数150W (+12V x 12.5A)。因此, 银欣的电源保固不包括用于单条PCIe 8pin接头之显卡/扩充卡, 在超过标准225W总功耗范围所造成的损坏或故障(150W的PCIe 8pin接头+75W的主板PCIe插槽)。以此类推, 若具备双PCIe 8pin接头的显卡/扩充卡, 负载一但超过375W总功耗, 视同不属保固范围内(300W来自两个PCIe 8pin接头+75W的主板PCIe插槽)。

大4pin (molex) 或SATA接头的最大额定电流为5A, 即60W (+12V x 5A) 或25W (+5V x 5A)。请确保连接的设备皆低于此限制下运行。

银欣不保固超出电源供应器接头及其相关线材之使用负载上限所造成的损坏或故障。

24pin主板接头的双+12V金属引脚最大额定电流为5A, 即120W (+12V x 5A x 2)。请确保连接的+12V设备皆低于此限制下运行。银欣不保固超出电源供应器接头及其相关线材之使用负载上限所造成的损坏或故障。

## TW

### 电源供应器接头过度使用定义

單條PCIe 8pin電源線與接頭的最大額定電流為12.5A, 瓦特數150W (+12V x 12.5A)。因此, 銀欣的電源保固不包括用於單條PCIe 8pin接頭之顯卡/擴充卡, 在超過標準225W總功耗範圍所造成的損壞或故障(150W的PCIe 8pin接頭+75W的主機板PCIe插槽)。以此類推, 若具備雙PCIe 8pin接頭的顯卡/擴充卡, 負載一但超過375W總功耗, 視同不屬保固範圍內(300W來自兩個PCIe 8pin接頭+75W的主機板PCIe插槽)。

大4pin (molex) 或SATA接頭的最大額定電流為5A, 即60W (+12V x 5A) 或25W (+5V x 5A)。請確保連接的設備皆低於此限制下運行。

銀欣不保固超出電源供應器接頭及其相關線材之使用負載上限所造成的損壞或故障。

24pin主機板接頭的雙+12V金屬針腳最大額定電流為5A, 即120W (+12V x 5A x 2)。請確保連接的+12V設備皆低於此限制下運行。銀欣不保固超出電源供應器接頭及其相關線材之使用負載上限所造成的損壞或故障。

สำหรับตัวเชื่อมต่อและสายไฟเสียง PCIe 8 พินสามารถรองรับกระแสได้สูงสุด 12.5 แอมป์หรือมากกว่า 150 วัตต์

(+12V x 12.5A) ดังนั้นการรับรบกวนจากทาง SilverStone

จึงไม่ครอบคลุมถึงความสามารถหรือความพึงประสงค์ซึ่งเกิดขึ้นกับการพักการต่อวงจรการขยายความยาวที่ใช้ตัวเชื่อมต่อ PCIe 8 พิน

ซึ่งนี้มีการใช้พลังงานรวมกันสี่ชิ้นกับมาตรฐานที่กำหนดคือ 225 วัตต์ (150 วัตต์ จาก PCIe 8 พิน + 75 วัตต์ จากลวด PCIe แบบมาตรฐาน)

ตัวรับรบกวนการพักการขยายความยาวที่ใช้ตัวเชื่อมต่อ PCIe 8 พินจำนวน 2 ชุดซึ่งมีการใช้พลังงานสี่ชิ้น 375 วัตต์ (300 วัตต์ จาก PCIe 8 พิน 2 ชุด + 75 วัตต์ จากลวด PCIe แบบมาตรฐาน) จึงไม่ครอบคลุมเช่นกัน

ภายใต้การรับประกัน ตัวเชื่อมต่อ Peripheral หรือ Molex 4 พินหรือ SATA

นั้นสามารถรองรับกระแสได้สูงสุด 5 แอมป์หรือมากกว่า 60 วัตต์ (+12V x 5A) หรือ (+5V + 5A)

กรุณาใช้หน่วยวัดการประกันที่ใช้งานที่มีการใช้พลังงานไม่เกินกว่าที่ตัวต่อหรือวงจร

ดังนั้นการรับรบกวนจากทาง SilverStone

จึงไม่ครอบคลุมถึงความสามารถหรือความพึงประสงค์จากประกันที่ใช้ตัวเชื่อมต่อจากตัวขยายตัวต่อซึ่งมีการใช้พลังงานเกินกว่าที่ตัวต่อ

กระแสไฟฟ้าสูงสุดของตัวต่อแบบมาตรฐาน 24 พิน สำหรับพินส์ +12V คู่ต่อจะมีค่า 5A ซึ่งรวมกันเป็น 120W

(+12V x 5A x 2) ไม่ครอบคลุมถึงหน่วยวัดการประกันต่อตัวต่อพลังงาน +12V

ที่เชื่อมต่อกับแบบมาตรฐานสามารถทำงานภายใต้ขีดจำกัดค่านี้ได้ การรับประกันของ SilverStone ไม่ครอบคลุมความเสียหาย

หรือว่าการเสียหายที่เนื่องจากการใช้เกินขีดจำกัดของตัวต่อและสายเคเบิลที่ใช้ตัวต่อเหล่านี้

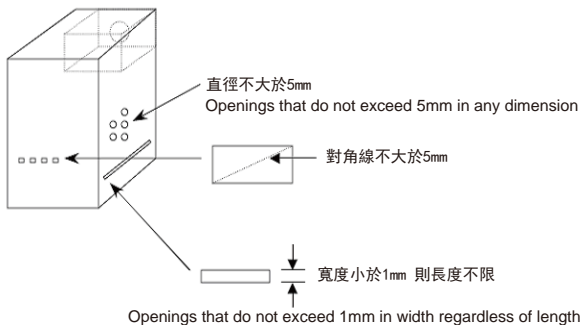
1. 為了保護使用者及防火的目的，安裝此交換式電源供應器時，必須安裝於符合下列各項要求的外殼中，並且安裝妥當後，才可接上電源。

1-1. 外殼材質須為防火外殼。外壳材质须为防火外壳。

1-2. 外殼的上方及側邊之圓形開孔，最大內徑不可大於5mm。

1-3. 外殼的上方及側邊之長條型開孔，對角線距離不可大於5mm；若寬度小於1mm，則長度不受限制。

1-4. 外殼底部不可有開孔。外壳底部不可有开孔。



2. 本產品輸出含有危險能量，為避免操作時發生危險，須於裝入系統機殼並將所有設備安裝妥當後才可開啟電源。

3. 本產品之電源輸出非屬電力限制型電源，請連接使用具防火外殼之周邊，以避免火災危險發生。

BSMI ROHS 資訊

<http://www.silverstonetek.com/downloads/PSU/RSD.pdf>

## 开关电源供应器 有毒有害物质/元素及其化学含量表

部件名称	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
外壳	○	○	○	○	○	○
接头	○	○	○	○	○	○
风扇	○	○	○	○	○	○
电子卡	○	○	○	○	○	○
线材	○	○	○	○	○	○
螺丝	○	○	○	○	○	○
包材	○	○	○	○	○	○

本表格依据SJ/T 11364的规定编制

- ：表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。  
 ×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。



**产品合格证**

检验员：检01  
 生产日期：见产品条码

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

※付属の電源コードは当該製品専用です。他の機器に使用しないでください。

Please refer to SilverStone website for latest specifications updates.

*SilverStone Technology Co., Ltd.*

---

**[www.silverstonetek.com](http://www.silverstonetek.com)**

---

[support@silverstonetek.com](mailto:support@silverstonetek.com)