

## UL TEST REPORT AND PROCEDURE

<b>Standard:</b>	UL 62368-1, 2nd Ed, 2014-12-01 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1-14, 2nd Ed (Audio/video, information and communication technology equipment Part 1: Safety requirements)
<b>Certification Type:</b>	Component Recognition
<b>CCN:</b>	QQJQ2, QQJQ8 (Power Supplies for Use in Audio/Video, Information and Communication Technology Equipment)
<b>Product:</b>	Open type Switching Mode Power supply
<b>Model:</b>	GB30SXXXXX, GB40SXXXXX. See model differences for model nomenclature.
<b>Rating:</b>	Input: 100-240 Vac, 50-60 Hz, 1.2 A ~ 0.5 A (All outputs) / 100-240 Vac, 400 Hz, 1.2 A ~ 0.5 A (5Vdc output only) Output: See model differences
<b>Applicant Name and Address:</b>	BRIDGEPOWER CORP (GOSA EK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI KOREA, REPUBLIC OF KOREA, REPUBLIC O

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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Prepared By: HyeongKyun Park / Project  
Handler

Reviewed By: DongSeok Lee / Reviewer

**Supporting Documentation**

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

- i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
- ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
- iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

**Product Description**

Open Type Switching Mode Power Supply. Numerous components mounted on PWB

**Model Differences**

Model nomenclature

GB30SXXXXX,

GB30 (1) S (2) XX (3) X (4) XX (5)

(1). Family Related Designs

(2) Model Configuration: A to Z (Standard)

(3) Output Voltage: 05, 07, 09, 12, 15, 18, 24, 48

(4) Standard Input Connector Options: Can be K or C or P or V for input type.

Photographs for each plug-type configuration

K (Class I = Connector type)

C (Class II= Connector type)

P : (Class I = Pin type)

V: (Class II = Pin type)

(5) Model Configuration: Number : 00 thru 99

GB40SXXXXX

GB40 (1) S (2) XX (3) X (4) XX (5)

(1) Family Related Designs

(2) Model Configuration: A to Z (Standard)

(3) Output Voltage: 05, 09, 12, 15, 18, 24, 48

(4) Standard Input Connector Options: Can be K or C or P or V for input type.

Photographs for each plug-type configuration

K: (Class I = Connector type)

C (Class II= Connector type)

P : (Class I = Pin type)

V: (Class II = Pin type)

(5) Model Configuration: Number : 00 thru 99

**Test Item Particulars**

Classification of use by:	Ordinary Person
Supply Connection:	AC Mains
Supply % Tolerance:	+10%/-10%
Supply Connection – Type:	pluggable equipment type A - mating connector
Considered current rating of protective device as part of building or equipment installation:	20 A; Installation location: building
Equipment mobility:	for building-in
Over voltage category (OVC):	OVC II

Class of equipment:	Class II with functional earthing
Access Location:	N/A
Pollution degree (PD):	PD 2
Manufacturer's specified maximum operating ambient:	55 °C
IP protection class:	IPX0
Power Systems:	TN
Altitude during operation (m):	2000 m or less
Altitude of test laboratory (m):	2000 m or less
Mass of equipment (kg):	Max. 107.5 g

#### Technical Considerations

- The product is intended for use on the following power systems : TN
- Considered current rating of protective device as part of the building installation (A) : 20
- Mains supply tolerance (%) or absolute mains supply values : +10%/-10%
- The equipment disconnect device is considered to be:  
: N/A
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS):  
: Output connectors
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 55°C

#### Engineer Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- The maximum investigated branch circuit rating is:  
: 20 A
- The end-product Electric Strength Test is to be based upon a maximum working voltage of : Primary-Secondary: 276 Vrms/ 590 Vpk
- The following output circuits are at ES1 energy levels : Output Connectors
- The following output circuits are at PS2 energy levels : Output connectors
- The investigated Pollution Degree is:  
: 2
- Proper bonding to the end-product main protective earthing termination is:  
: Required for equipment with earthing conductor.
- The following end-product enclosures are required:  
: Mechanical  
Electrical  
Fire
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJ2 insulation system with the indicated rating greater than Class A (105°C):  
: T1 (Class B)
- The equipment is suitable for direct connection to:  
: AC mains supply
- The power supply was evaluated to be used at altitudes up to:  
: "2,000 m"
- The following product-line tests are conducted for this product : Electric Strength

<b>Additional Information</b> Basic (4788468723) - Max. Normal Load : Continuous operation with rated output	
<b>Additional Standards</b> The product fulfills the requirements of: N/A	
<b>Markings and Instructions</b>	
Clause Title	Marking or Instruction Details
F.3.2.1 Equipment identification marking – Manufacturer identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
F.3.2.2 Equipment identification marking – model identification	Model Number
F.3.3 Equipment rating marking – ratings	"Input Ratings (voltage, frequency/dc, current/power)", "Output Ratings (voltage, frequency/dc, current/power)"
F.3.3.9 DV.1 Equipment with output terminals other than mains supply	rated voltage, rated frequency/dc, rated maximum current/power, equipment to be connected, Class 1 wiring adjacent to terminals, Class 2 wiring adjacent to terminals, Class 3 wiring adjacent to terminals
F.3.5.3 Fuses – replaceable by skilled person	(component ID:____), Ratings (____A), "Ratings (____A, ____V)", and (symbol of required characteristics) located on or adjacent to fuse or fuseholder or in service manual.
F.3.6.2.2 Functional Earth Terminal marking	Functional Earth Terminal marking IEC 60417-5020
DVK, F.3.5.3 Warning to service personnel	"CAUTION: Double pole, neutral fusing. Disconnect mains before servicing. "/"ATTENTION. Double pôle/fusible sur le neutre. Débrancher l'alimentation avant l'entretien."
<b>Special Instructions to UL Representative</b> ---	

<b>BD1.0</b>	<b>TABLE: Product-Line Testing Requirements</b>						—
<b>BD1.1</b>	<b>Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.</b>						
Model	Component	Removable parts	Test probe location	Test V rms	Test V dc	Test Time, s	
All models	Transformer (T1)	N/A	Input and Output	2830 Vrms	4000 Vdc	1 sec to 4 sec	
<b>BD1.2</b>	<b>Earthing Continuity Test Exemptions – This test is not required for the following models:</b>						
<b>BD1.3</b>	<b>Electric Strength Test Exemptions – This test is not required for the following models:</b>						
<b>BD1.4</b>	<b>Electric Strength Test Component Exemptions – The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test.</b>						
<b>Sample and Test Specifics for Follow-Up Tests at UL</b>							
Model	Component	Material	Test	Sample (s)	Test Specifics		