



SPECIFICATION FOR APPROVAL



CUSTOMER. _____

MODEL NO. BPHE010C701-50

PART NO. LKBPHE010C701-P1-01 Rev.A

MODEL NAME. 10W 15V 700mA LED Driver

DATE. 2010/01/15

APPROVED SIGNATURES		

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Model NO.	BPHE010C701-50	Model Name	10W 15V/ 700mA LED DRIVER
Part NO.	LKBPHE010C701-P1-01	SIZE	97.5*40*30.5mm

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Approved Signatures

Approved by:	Checked by:	Reported by:
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Electrical Specification

1. Electrical Specification

1.1 Input requirements

1.1.1 Input voltage range

The power shall operate within specification from 90 to 264 Vac, it can provide automatic switching between this voltage range. The table below shows common input voltage range.

Input range	Minimum	Nominal	Maximum	Unit
	90	100/240	264	Vac

Table 1-Input Voltage Range

1.1.2 Input frequency range

The power shall operate within specification form 50 to 60Hz

1.1.3 Input current

Maximum steady state input current shall not exceed 0.25 A for any line voltage specified in 1.1.1

1.1.4 AC inrush current

Peak inrush current should not exceed 40 A, measured at 230Vac, 60Hz, 25°C, cold start. It should not interrupt line fuse or cause damage to the LED driver either at cold or warm start.

1.1.5 Input protection

The power installs a fuse with rating of 1 A/ 250 V on AC input to provide protection

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Electrical Specification

1.2 Output requirements

1.2.1 Output power

The output power is 10.5 VA. (Output voltage* output current)

Note: The output connection of this power supply that is used in LED lighting shall be defined to avoid LED damage. Please take notice of **FIG.1**.

LED connection recommendation as the following drawing:

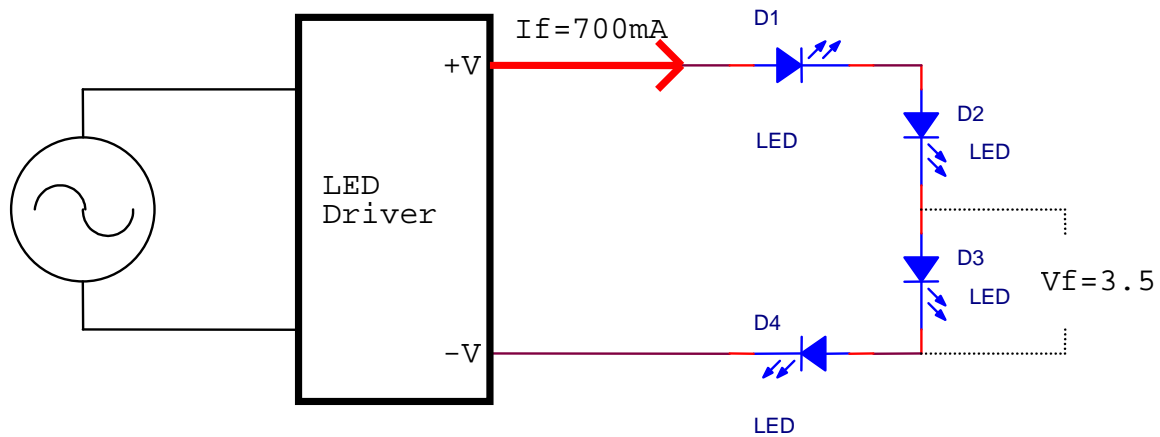


FIG. 1

Note:The power supply will keep constant current (700mA) for output. It need to be connected to 1-4 pcs 3W LED (If=700mA).

1.2.2 Output voltage and current

Under any combination of line and load variation and environmental conditions, all outputs shall remain within tolerance defined in Table 2. Output voltage(s) shall be measured at load side of output connector.

Operating Voltage Range		Constant Current Range	
Minimum Load	Full rated load	Lower Limit	Upper Limit
3V	15V	658mA	742mA

Table 2-Output Voltage and Current

1.2.3 Efficiency

Efficiency (watt out/ watt in) is a minimum of 75 % at 110Vac/60Hz, full rated load.

1.2.4 Soft-Start

Output shall reach steady state in 2 seconds

1.2.5 Turn on and delay time

Output voltage reaches steady state in 3 seconds of turn on.

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Electrical Specification

1.3 Protection functions

1.3.1 Over temperature protection

The OTP will work inside IC at 135°C and the system will re-enable at the temperature falling to 70°C

1.3.2 Short circuit protection

The power has self-limiting protection to protect against short circuit or overload conditions without damage.

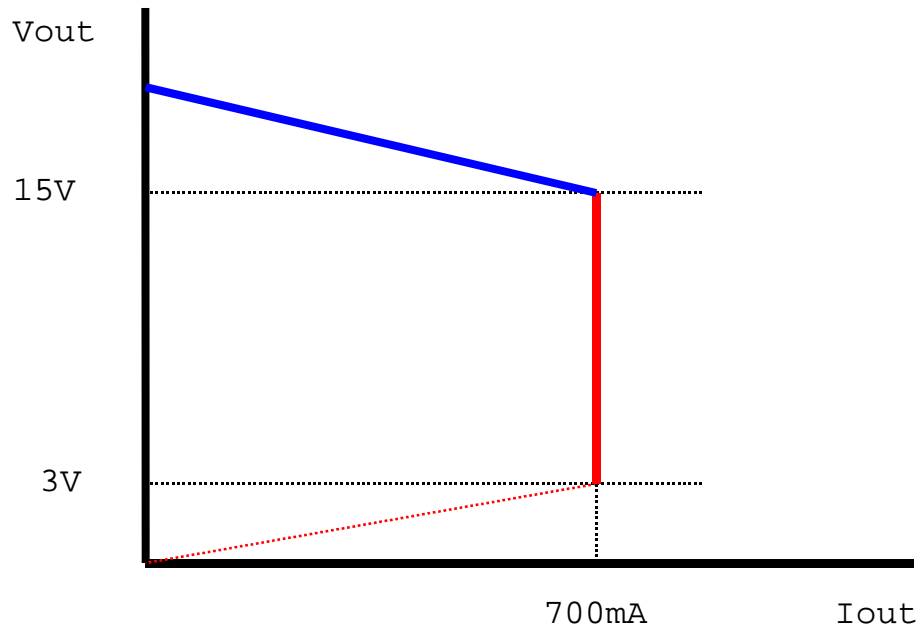


FIG. 2

Model NO.	BPHE010C701-50	Model Name	10W 15V/ 700mA LED DRIVER
Part NO.	LKBPHE010C701-P1-01	SIZE	97.5*40*30.5mm

Environmental Specification

2. Environmental Specification

2.1 Temperature

Parameter	Min.	Max.	Unit	Remark
Operating ambient temperature with coating	-20	+55	°C	
Storage ambient temperature	-40	+80	°C	



Table 5-Temperature

2.2 Humidity

Parameter	Min.	Max.	Unit	Remark
Operating ambient humidity	20	90	%	Non-Condensing
Storage ambient humidity	10	90	%	Non-Condensing

Table 6-Humidity

Note: The power complies with IP67 indoor/outdoor waterproof requirements.

2.3 Vibration

Operating: 10-250Hz, 0.25G peak to peak, 3 axes, 15 min sweep.

Storage: 10-300Hz, 3.5G peak to peak, 3 axes, 30 min sweep.

2.4 Reliability (Mean Time Between Failures, MTBF)

The power has a calculated MTBF of greater than 50,000 hours, calculated utilizing MIL-HDBK-217F with the following assumptions:

Input voltage: 115Vac / 60Hz

Output load: Rated full load

Ambient temperature: 25 °C

Warranty:

We provide two years warranty for our full range LED power supply product.

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Regulatory Compliance

3. Regulatory Compliance

3.1 EMC specification (CE)

3.1.1 Emission

3.1.1.1 CISPR 22 Class requirements, EN 55022:1998+A1: 2000+A2: 2003, Class B

The power meets the radiated and conducted emission requirements for CISPR 22 Class B (EN 55022:1998+A1: 2000+A2: 2003, Class B).

3.1.1.2 Harmonic current emission requirements, EN 61000-3-2:2000

The power consumption of EUT is less than 75W and no limits apply.

3.1.1.3 Voltage fluctuations & flicker, EN 61000-3-3:1995+A1: 2001

The power meets EN 61000-3-3:1995+A1: 2001

3.1.2 Immunity (EN 55024: 1998+A1: 2001+A2: 2003)

3.1.2.1 Electrostatic Discharge (ESD), IEC 61000-4-2: 2001

The power shall withstand 4KV contact discharge and 8KV air discharge at any point on the power supply enclosure without functional failure

3.1.2.2 Radiated, radio-frequency, electromagnetic field, IEC 61000-4-3: 2002+A1: 2002

The power shall withstand following condition:

Frequency range: 80-1000MHz

Field strength: 3 V/m with 80% amplitude modulation of 1KHz

3.1.2.3 Electrical fast transient / burst immunity test, IEC 61000-4-4: 2004

The power shall withstand following condition:

AC power line: 1kV

DC power line: 0.5kV

Signal line: 0.5Kv

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Regulatory Compliance

3.1.2.4 Surge immunity test, IEC 61000-4-5: 2001

The power shall following condition:

1.2/50 us open circuit voltage, 8/20 us short circuit current,

AC power line: line to line 1kV

line to earth 2kV

DC power line: line to earth 0.5kV

Signal line: 1Kv

3.1.2.5 Immunity to conducted disturbances, induced by radio-frequency fields, IEC 61000-4-6: 2003+A1: 2004

The power shall withstand following condition:

Frequency range: 0.15~80MHz

Field strength: 3 V/m with 80% amplitude modulation of 1KHz

3.1.2.6 Power frequency magnetic field immunity test, IEC3100-4-8: 2001

The power shall withstand following condition:

50Hz, 1A/m

3.1.2.7 Voltage dips, short interruptions and voltage variations immunity test, IEC 61000-4-11: 2004

The power shall withstand following condition:

Voltage dips:

>95% reduction –0.5 period,

30% reduction –25 period,

Voltage interruptions:

>95% reduction –250 period

3.2 Agencies certification

Unless otherwise specified, the supply is designed to meet UL1310 and/or equivalent safety standards for use in LED lighting system. For Specific agency certifications will be applied at customer's request and cost.

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Regulatory Compliance

3.2.1 Product safety compliance (See “Appendix I;II;III;”)

Country	Certification	File NO./Report NO.
JAPAN	PSE	JET5908-61010-1004

Table 6-Safety Compliance

3.2.2 Leakage current

The power leakage current shall not exceed 0.7 mA at input voltage of 264Vac/60Hz.

3.2.3 Electric Strength

The power shall withstand following Hi-pot test without breakdown.

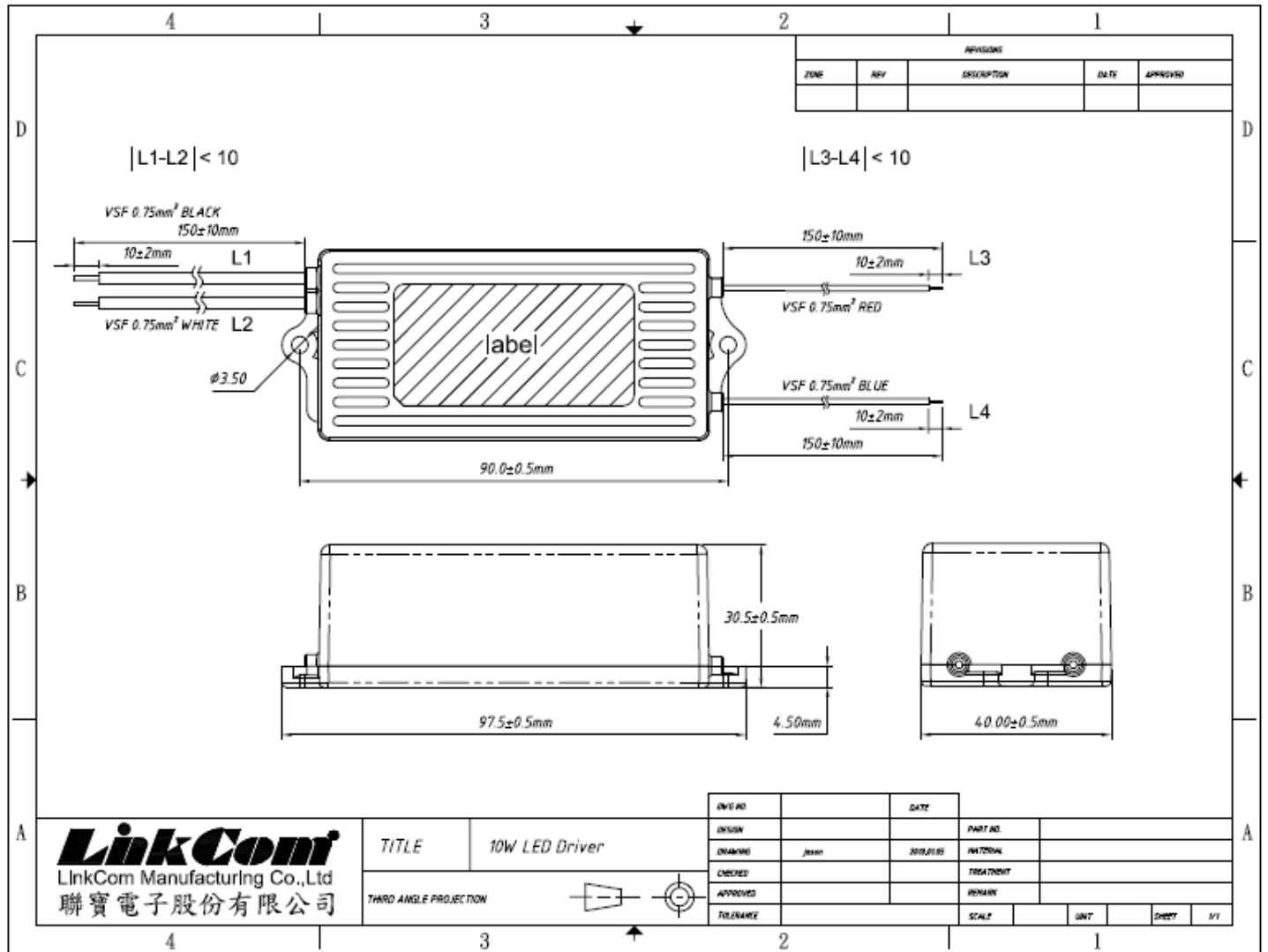
4242 Vdc input to output

4242 Vdc input to case

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4. Mechanical

4.1 Outline dimension and label drawing



No	Item	Qty	Material	Remark
1	Input line	1	VSF 0.75mm ² 150mm±10mm	Black white
2	Output line	1	VSF 0.75mm ² 150mm±10mm	Blue red
3	Label	1	Silver polyester film	
4	Case cover	1	PC+ABS<ROHS>	
5	Case bottom	1	PC+ABS<ROHS>	

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4.2 Label drawing



Model NO.	BPHE010C701-50	Model Name	10W 15V/ 700mA LED DRIVER
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4.3 Barcode sticker



BXXXXX000001

Code 1	
B	
Code 2	
X	
Code 3	Factory's management No.
1	
Code 4	The last number of year
9	
Code 5	The month (10=A,11=B,12=C)
9	
Code 6	
0	
Code 7	The week
8	
Code 8	ECN No.;0~9 Version., when the number is exceeding 10, shows A-Z (10=A,11=B···)
1	
Code 9	
0	
Code 10	
0	
Code 11	The weekly production No.; when the number is 10K, shows A000 (10001=A001,10K=A,20K=B)
0	
Code 12	
1	

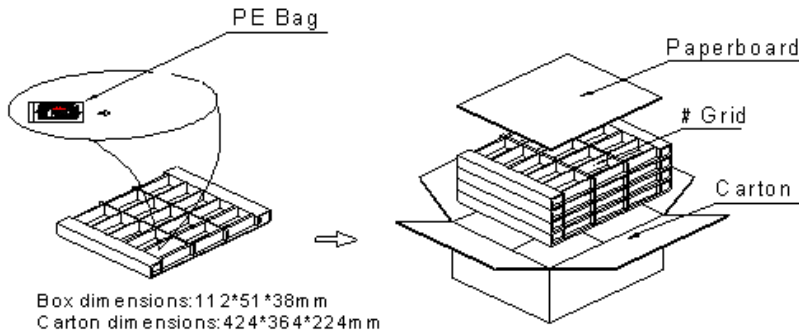
Model NO.	BPHE010C701-50	Model Name	10W 15V/ 700mA LED DRIVER
Part NO.	LKBPHE010C701-P1-01	SIZE	97.5*40*30.5mm

Packing Specification

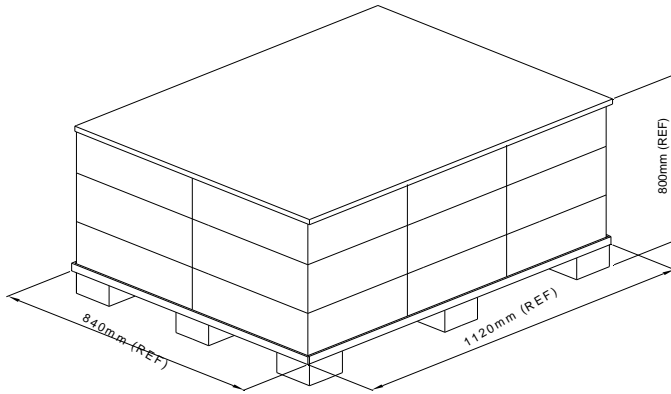
5. Packing

<1> Model Number	LKBPHE010CXXX	<2> Customer	
<3> Product Size	97.5*40*30.5mm	<4> Version	1.0
<5> Package Item :	1. Each box Qty.	1 X	(Total box in layer) 15 = 15 PCS
	2. Each layer Qty.	15 X	(Total layer in carton) 4 = 60 PCS
<6>Product weight			
unit	156.0 g	N.W.	9.36 kg
		G.W.	11.36 Kg

<7> Packing Illustration :

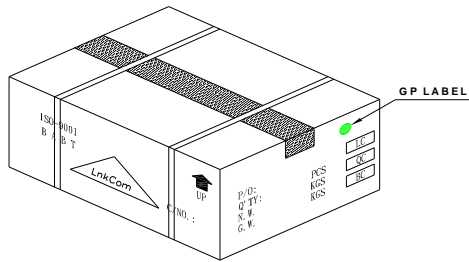


<8> Pallet packing Illustration :



Total carton in pallet: 6*3 = 18
Total weight: 18*11.36 = 204.5 kg

<9> Carton outside :



<10> Remark :

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Component Agency Certificate

Appendix I

平成21年 2月12日

February 12, 2009

LINKCOM MANUFACTURING CO., LTD.
PRESIDENT JULIE TAN

東京都渋谷区代々木5-14-12
財団法人 電気安全環境研究所
製品認証部

5-14-12, Yoyogi, Shibuya-Ku, Tokyo
Japan Electrical Safety & Environment Technology Laboratories(JET)
Product Certification Division

平成20年10月31日 付けでお申込みいただきました下記の特定電気用品につきましては、同封の適合性同等検査合格書のとおり平成21年 2月12日付にて発行され、平成26年 2月11日まで有効であることをお知らせします。

I hereby inform you that with respect to the application of Oct 31, 2008, for conformity assessment for the specified product hereunder, the certificate, as enclosed herewith, was issued on Feb 12, 2009 and the term of validity of this certificate is from the date of its issue to Feb 11, 2014.

記

1. 受付番号 : A08Y0800
Project No.
2. 特定電気用品名 : 直流電源装置
Name of Product DC power supply units
3. 製品の型 : BPHE010C701-50
Model
4. 合格書番号 : JET5908-61010-1004
Statement Number
5. 製造工場名 (Manufacturer)
住 所 : TECHNOLOGY INDUSTRIAL PARK, CHI-SI TOWN, DONG GUANG CITY
Address GUANGDONG CHINA
氏名又は名称 : LINKCOM MANUFACTURING CO., LTD.
Name
6. 型 式 : (Type)
100~240V, 25~38VA, 50~60Hz, 交流用端子なし, 直流15V, 変圧器E種絶縁, 直流電圧調整装置なし, 回路保護あり, 器体スイッチなし, 合成樹脂外郭, 一般機器用, 電源電線直付け, 二重絶縁なし

Model NO.	BPHE010C701-50	Model Name	10W 15V/ 700mA LED DRIVER
Part NO.	LKBPHE010C701-P1-01	SIZE	97.5*40*30.5mm

Appendix II

適合性同等検査合格書

Statement of Conformity Assessment

電気用品安全法第8条第1項に規定する技術基準及び同法第9条第2項の経済産業省令で定める基準（法第9条第1項第2号に係る検査に係るものに限る）に適合していることを証明します

I hereby certify that the product mentioned below complies with the technical requirements stipulated in Paragraph 1 of Article 8 of Electrical Appliance and Material Safety Law (hereunder referred to as the Law) and the requirements defined by the ordinance of the Ministry of Economy, Trade and Industry based on Paragraph 2 of Article 9 of the Law (limited to item 2 of Paragraph 1 of Article 9 for Inspection of the Law).

1. 合格書番号: JET5908-61010-1004
Statement Number
2. 発行年月日: 平成21年2月12日
Date of Issue February 12, 2009
3. 有効年月日: 平成26年2月11日
Date of Validity February 11, 2014
4. 申込者名: (Applicant)
住所: TECHNOLOGY INDUSTRIAL PARK, CHI-SI TOWN, DONG GUANG CITY GUANGDONG CHINA
Address

氏名又は名称: LINKCOM MANUFACTURING CO., LTD.
Name

5. 特定電気用品名: 直流電源装置
Name of Product DC power supply units
6. 型式の区分: 別紙のとおり
Type Classification See attached "Type Classification"
7. 製造工場名: (Manufacturer)
住所: TECHNOLOGY INDUSTRIAL PARK, CHI-SI TOWN, DONG GUANG CITY GUANGDONG CHINA
Address

氏名又は名称: LINKCOM MANUFACTURING CO., LTD.
Name

8. 適用試験規格: 電気用品の技術上の基準を定める省令第1項
Applied Standard for Testing Article 1 of The Technical Requirements of the METI Ordinance
別表第八1及び2 (102)

Appendix 8 Section 1 and Section 2 Chapter 102

9. 適合性検査の方法: (Testing Method for Conformity Assessment)
 - 1) 試験用の特定電気用品については、電気用品の技術上の基準を定める省令に定める方法
With respect to testing for Category A products, the testing method is based on the technical requirements of the Electrical Appliance and Material stipulated in the METI Ordinance.
 - 2) 当該特定電気用品に係る届出事業者又は事業場における検査設備については、電気用品安全法施行規則別表第四の検査設備の欄に掲げる検査設備ごとにそれぞれ同表の技術上の基準の欄に掲げる方法
With respect to inspection facilities required for Category A products at the factory, Testing Method described in the column of the technical requirements for each inspection facilities in the column of inspection facilities is shown in the Appendix 4 of Enforcement Regulations of the Law.

財団法人 電気安全環境研究所
Japan Electrical Safety & Environment technology Laboratories (JET)

理事長 吉澤 均
President Hitoshi Yoshizawa

東京都渋谷区代々木5-14-12 (5-14-12, Yoyogi, Shibuya-ku, Tokyo)

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Appendix III

適合性同等検査合格書別紙

Statement of Conformity Assessment

型式の区分

Type Classification

要素 Factor	区分 Classification
定格入力電圧 Rated input voltage	(1) 125V以下のもの 125V or less (2) 125Vを超えるもの Exceeding 125V
入力側の定格容量 Rated capacity on input side	(3) 20VAを超え30VA以下のもの Exceeding 20VA, and less than or equal to 30VA (4) 30VAを超え40VA以下のもの Exceeding 30VA, and less than or equal to 40VA
定格周波数 (変圧器を有するものの場合に限る。) Rated frequency (limited to those with transformers)	(1) 50Hzのもの 50Hz (2) 60Hzのもの 60Hz
交流用端子 Alternating current terminal	(2) ないもの Without A.C. terminal
直流定格電圧 Rated direct current voltage	(1) 15V以下のもの 15V or less
変圧器 Transformer	(1) あるもの With transformer
変圧器の巻線の絶縁の種類 Transformer winding insulation class	(2) E種のもの Class E
直流電圧の調整装置 D.C. voltage adjusting mechanism	(2) ないもの Without adjusting mechanism
回路の保護機構 Circuit protection device	(1) あるもの With circuit protection device
器体スイッチ (主回路を開閉するものの場合に限り、自動スイッチ及び自動温度調節器を除く。) Body switch (limited to those used for turning the main circuit on and off, and excluding temperature limiters and thermostats.)	(2) ないもの Without body switch
外郭の材料 Outer case materials	(2) 合成樹脂のもの Plastic
用途 Application	(4) その他のもの Others
電源電線と器体との接続の方式 Power supply connections	(1) 直付けのもの No coupling device
二重絶縁 Double insulation	(2) 施していないもの Without double insulation

合格書番号 : J E T 5 9 0 8 - 6 1 0 1 0 - 1 0 0 4

— 2 3 —

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Appendix VI

適合性同等検査合格書別紙

Statement of Conformity Assessment

型式の区分

Type Classification

要素 Factor	区分 Classification
これ以下、組み合わせ The combinations of the above classifications are as follows.	
定格入力電圧 Rated input voltage	(1) 125V以下のもの 125V or less
入力側の定格容量 Rated capacity on input side	(3) 20VAを超え30VA以下のもの Exceeding 20VA, and less than or equal to 30VA
組み合わせ The combinations	
定格入力電圧 Rated input voltage	(2) 125Vを超えるもの Exceeding 125V
入力側の定格容量 Rated capacity on input side	(4) 30VAを超え40VA以下のもの Exceeding 30VA, and less than or equal to 40VA

合格書番号 : J E T 5 9 0 8 - 6 1 0 1 0 - 1 0 0 4

— 3 3 —