

접수번호 (Receipt No.) : 16-023931-01



전기용품안전인증서

Electrical Appliances Safety Certificate

안전인증번호 (Certificate No.) : SU10509-16003

제조사명 (Manufacturer) : SuZhou MEAN WELL Technology Co., Ltd.

대표자명 (President) : Mr. Jerry Lin

제조공장의 주소 (Factory Address) : No. 77, Jian-Min Road, Dong-Qiao, Pan-Yang Ind. Park, Huang-Dai Town, Xiang-Cheng District, Suzhou, Jiangsu 215152, P.R. China

제품명 (Product) : 직류전원장치 (AC/DC SWITCHING ADAPTOR)

기본모델명 (Basic Model) : GST220A12

정격 (Rating) : 100-240 Vac, 50/60 Hz, 4.0 A, Class I (Output: 12 Vdc, 15 A, 180 W MAX.)

파생모델명 (Series Model) : Not Applicable

적용기준 (Standard) : K 60950-1 (2011-12)

「전기용품안전 관리법 시행규칙」 제6조제2항에 따라 위의 전기용품에 대하여 안전인증서를 발급합니다.

We Issue Electrical Appliances Safety Certification as above product by Article 6 Section 2 of the Electrical Appliances Safety Control Law Enforcement Regulation.

2016 년 05 월 19 일
Year month day



한국산업기술시험원
KOREA TESTING LABORATORY



※ 이 인증서는 「전기용품안전 관리법」에 따른 전기용품 안전성 확인에 한정된 것이며, 그 밖의 다른 법률이 적용되는 제품의 경우에는 해당 법률에 따라 추가로 인증·허가 등을 받아야 합니다.

첨부 :
(Annex)

1. 안전관리부품 및 재질목록 (List of Critical Components)
2. 기본모델 · 파생모델의 내용 (Descriptions of the basic and series model)
3. 전기용품안전인증의 변경 현황 (Revisions Status)

□ 첨부 1 : 안전관리부품 및 재질목록
List of Critical Components

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|---------------------------------------|--|---|--|-------------------|
| Plastic Enclosure | Sabic Innovative Plastics | 945, 940 | V-0, 120 °C, min. 1.5 mm thick | UL |
| AC Inlet | Pronic Electronics (Shenzhen) Co., Ltd. | PST-101 | 10 A, 250 Vac | VDE |
| (Alternate) | TECX-UNIONS Technology Corporation | TU-301-A, TU-301-AP, TU-301-S, TU-301-SP | 10 A, 250 Vac | VDE |
| (Alternate) | Rong Feng Industrial Co., Ltd. | SS-7B Series, SS-120 Series | 10 A, 250 Vac | VDE |
| Fuse (FS1) | Littelfuse Inc. | 392, 369 | T 5 A, 250 V | VDE |
| (Alternate) | Ever Island Electric Co., Ltd. and Walter Electric | 2010 Serie(s) | T 5 A, 250 V | VDE |
| (Alternate) | Conquer | MST | T 5 A, 250 V | VDE |
| Y-Capacitors (C3, C4, C22) (Y1 or Y2) | Murata Mfg. Co., Ltd. | KH, KX, KY | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | TDK-EPC Corporation | CD, CS | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Walsin Technology Corp | AH, AC | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Welson Industrial Co., Ltd. | WD, KL | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| Varistor (ZNR1) (Optional) | Thinking Electronic Industrial Co., Ltd. | TVR10511-M, TVR14511-M | 320 Vac, 410 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Thinking Electronic Industrial Co., Ltd. | TVR10471-M, TVR14471-M | 300 Vac, 385 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Thinking Electronic Industrial Co., Ltd. | TVR10561-M, TVR14561-M | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|--|---|---------------------------|--|-------------------|
| (Alternate) | Joyin Co., Ltd. | JVT10S471K, JVT14S471K | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Joyin Co., Ltd. | JVT10S511K, JVT14S511K | 320 Vac, 410 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Joyin Co., Ltd. | JVT10S561K, JVT14S561K | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| X-Capacitor (C1, C2) (X1 or X2 type) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.46 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110/125 °C | ENEC |
| (Alternate) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.49 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | ISKRA, d.d. | KNB 1560 | C1=0.82 uF, C2=0.47 uF, 275 V, 110 °C or 300 V, 125 °C | VDE |
| (Alternate) | Liow Gu Electronics Industry Co. Ltd. | GS-L | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | Pilkor Electronics Ltd. | PCX2 337 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | VISHAY Capacitors Belgium NV | 339 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | Xiamen Faratronic | MKP62 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | VDE |
| (Alternate) | Hua Jung | MKP | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|---|---|---------------------------------|---|-------------------|
| (Alternate) | Carli | MPX | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | VDE |
| (Alternate) | EPCOS Electronic Components S.A. | B3292#CD series | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| Bridge Capacitor (C31) (Y1 type) | Murata Mfg. Co., Ltd. | KX | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | TDK-EPC Corporation | CD | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Walsin Technology Corp | AH | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Welson Industrial Co., Ltd. | WD | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| Photo Coupler (U3, U4, U5) (U3 optional provide) | Lite-On Technology Corporation | LTV-817, LTV-817M, LTV817 | Dti=0.4 mm Int. dcr=5.2 mm Ext. dcr=7.0 mm, thermal cycling test, 115 °C | VDE, FIMKO |
| (Alternate) | Sharp Corporation Electronic Components and Devices Division | PC123 | Dti=0.4 mm, Ext. dcr=8.0 mm, thermal cycle test, 110 °C | VDE, Semko |
| (Alternate) | COSMO Electronics Corporation | K1010 | Dti=0.7 mm, Ext. dcr=8.0 mm, thermal cycle test, 100 °C | VDE, Semko |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP785F | Di=0.6 mm, Int. dcr=5.0 mm, Ext. dcr=8 mm, thermal cycling test, 115 °C | VDE |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP785 | Di=0.6 mm, Int. dcr=5.0 mm, Ext. dcr=6.5 mm, thermal cycling test, 115 °C | VDE |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP781F | Di=0.6 mm, Int. dcr=5.0mm, Ext. dcr=8 mm, thermal cycling test, 115 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|----------------------------------|--|------------------------|--|--------------------------|
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP781 | Di=0.6 mm, Int. dcr=5.0mm, Ext. dcr=6.5 mm, thermal cycling test, 115 °C | VDE |
| Transformer (T1) | Mean Well | TF-5276A | Class B | Tested with appliance |
| (Alternate) | Yu Jing | TF-5276A | Class B | Tested with appliance |
| Thermal cut-off (TSW1) | Seki Controls Co Ltd | ST-22 | 100-130 °C | VDE |
| (Alternate) | Dongguan Kain Electronic | BW-A1D-*** | 100-130 °C | VDE |
| (Alternate) | Guangzhou Safty Electronic | BW - DCP * | 100-130 °C | VDE |
| (Alternate) | Yangzhou Baozhu | TB02 | 100-130 °C | TUV |
| Discharging IC (U2) | On- Semiconductor | NCP4810 | Maximum AC1 pin Voltage related to AC2 pin = -700 V to 700 V, Idisch_min = 0.85 mA (Applicable for use to mains supply 100-240 Vac 60-50 Hz) X-Caps.: 0.047- 2.2 µF. Resistors: 150 k-1 MΩ | NEMKO |
| PCB | Interchangeable | Interchangeable | V-1 or better, min. 105 °C | UL |
| Bleeder Resistors (R7, R8) | Interchangeable | Interchangeable | Total 150 k-440 kΩ , min. 1/4 W | Tested with appliance |

☐ 유의사항 (Attention) :

1. 안전관리부품은 전기적인 안전에 직접적인 영향을 주는 부품으로서 안전인증기관이 정기공장검사 시 확인 관리 하는 사항입니다. 따라서 상기목록에 기재된 사항을 변경하거나 또는 복수등재를 원하시는 경우는 안전인증기관에 인증변경신청을 하여야 합니다.

As the "Critical components" are parts in directly related with safety, these components shall be checked during a factory inspection by the certification body. In case of applying multiful listing or changing the items above, the certification revision shall be applied.

2. 인증변경신청 없이 임의로 변경하는 경우는, 전기용품안전관리법 제 8 조제 1 항의 규정에 의한 안전인증취소 사유가 됨을 유의하시기 바랍니다.

The Safety Certification will be cancelled under the Safety Control Law for Electrical Appliances, Paragraph 1 of Article 8 if the contents of the Certification is altered without our authorization.

☐ 첨부 2 : 기본모델 · 파생모델의 내용
General description of Certified Products

| 파생모델명 Derivative model | 기본모델과의 차이점 Differences between the basic and derivative model(s) |
|---|---|
| Not applicable | |
| 제품특기사항 및 시험조건 Remarks & Test conditions | |
| <p>1. Test Report Ref. No. : 16-023931-01 (2016.05.17)</p> <p>2. Product Description</p> <ul style="list-style-type: none"> - Measured power consumption: 196 W - Class of equipment: Class I - Protection against ingress of water: IPX0 - Mass of equipment (kg): 1.04 kg | |
| <p><input type="checkbox"/> 본 제품의 시험내용에 관하여 문의하실 사항이 있으시면 아래 연락처로 문의하시기 바랍니다. 시험담당자 : 디지털산업본부 정보조명평가센터 박일우 / 02-860-1436</p> <p><input type="checkbox"/> If you have any question on product testing, please contact the person below : Job holder : S.M.A.R.T. Industry Division, IT & Lighting Testing Center, Park Il-Woo / +82 2 860-1436</p> | |

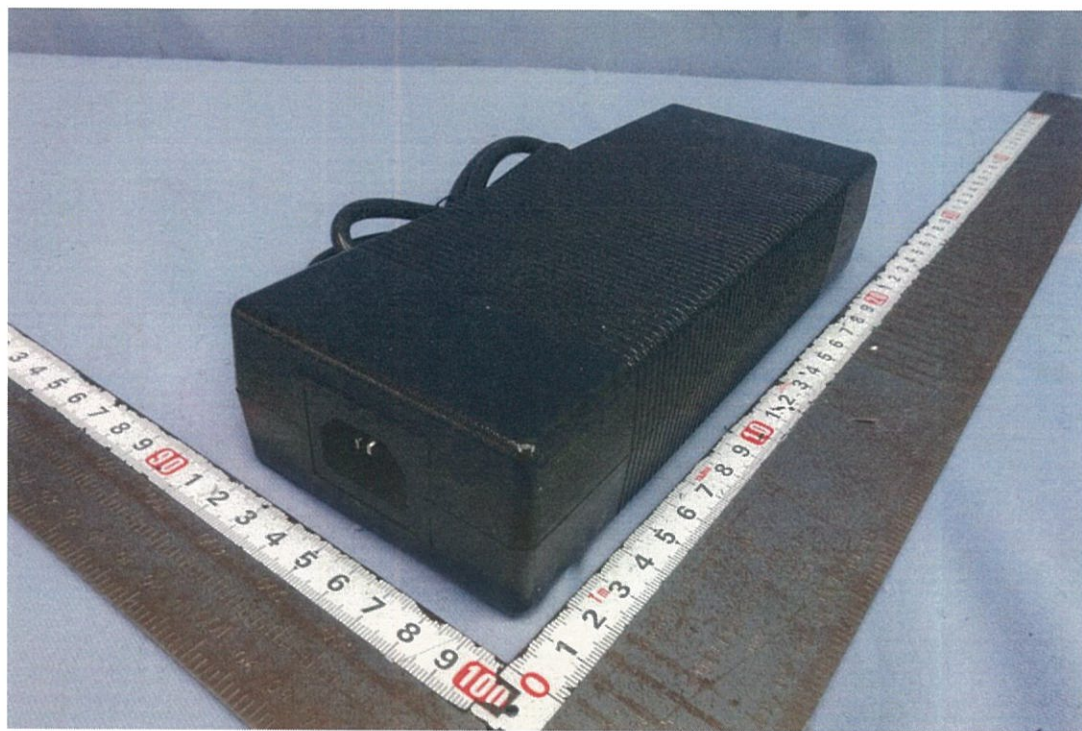
FP511-09-00

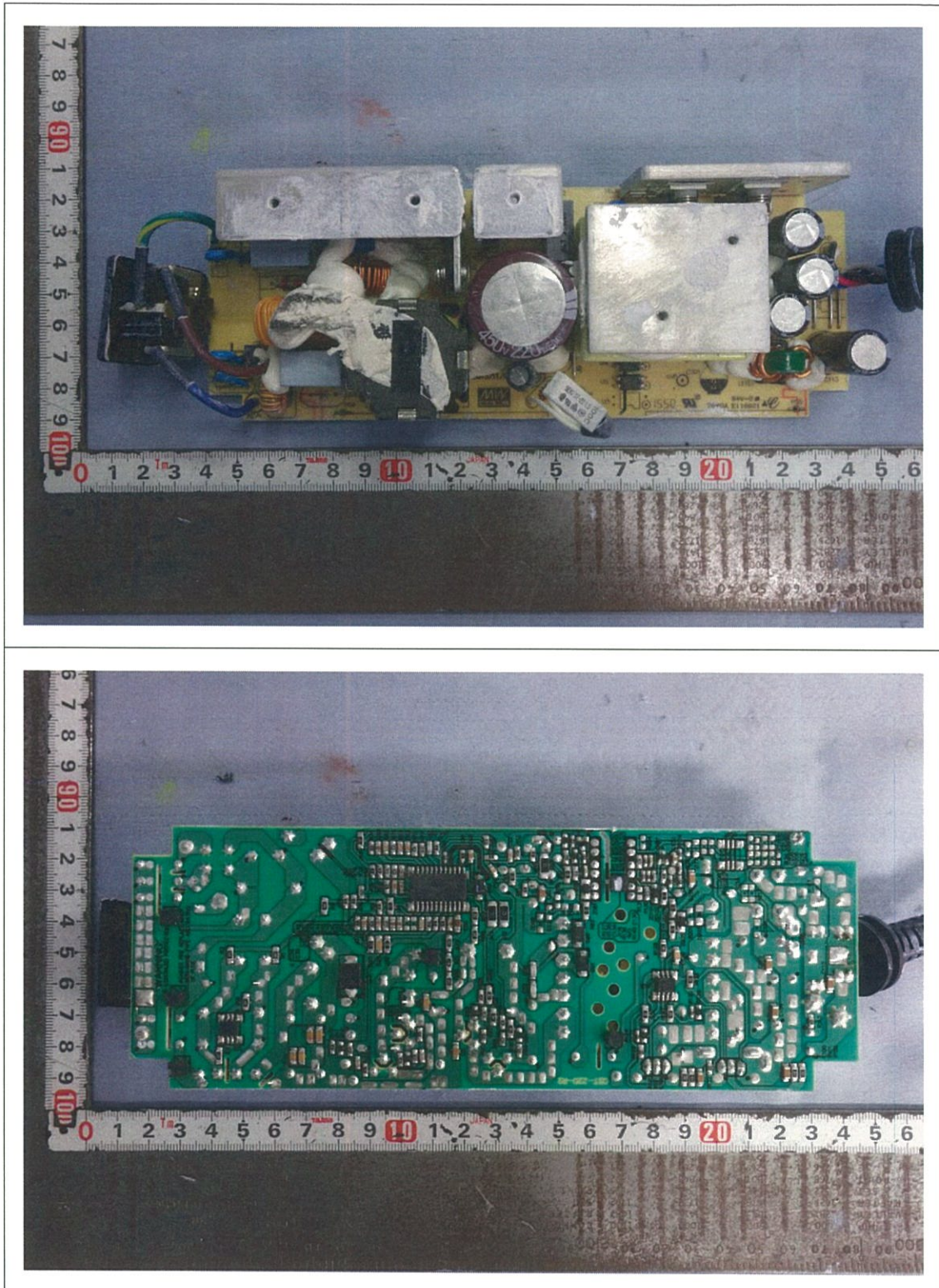
☐ 첨부 3 : 전기용품안전인증의 변경 현황
Status of Certificate Revisions

| 변경발급 내용 Contents of Certificate Revisions |
|--|
| Not applicable |

FP511-11-00

☐ 첨부 : 제품사진
Photographs





접수번호 : 16-028875-01
(Receipt No.)



전기용품안전인증서

Electrical Appliances Safety Certificate

안전인증번호 : SU10509-16007
(Certificate No.)

제조사명 : SuZhou MEAN WELL Technology Co., Ltd.
(Manufacturer)

대표자명 : Mr. Jerry Lin
(President)

제조공장의 주소 : No. 77, Jian-Min Road, Dong-Qiao, Pan-Yang Ind. Park,
(Factory Address) Huang-Dai Town, Xiang-Cheng District, Suzhou, Jiangsu 215152,
P.R. China

제품명 : 직류전원장치 (AC/DC Switching Adaptor)
(Product)

기본모델명 : GST220A20
(Basic Model)

정격 : 100-240 Vac, 50/60 Hz, 4.0 A, Class I
(Rating) (Output: 20 Vdc, 11 A, 220 W MAX.)

파생모델명 : GST220A15
(Series Model)

적용기준 : K 60950-1 (2011-12)
(Standard)

「전기용품안전 관리법 시행규칙」 제6조제2항에 따라 위의 전기용품에 대하여 안전인증서를 발급합니다.

We Issue Electrical Appliances Safety Certification as above product by Article 6 Section 2 of the Electrical Appliances Safety Control Law Enforcement Regulation.

2016 년 06 월 14 일
Year month day



한국산업기술시험원
KOREA TESTING LABORATORY



※ 이 인증서는 「전기용품안전 관리법」에 따른 전기용품 안전성 확인에 한정된 것이며, 그 밖의 다른 법률이 적용되는 제품의 경우에는 해당 법률에 따라 추가로 인증·허가 등을 받아야 합니다.

첨부 :
(Annex)

1. 안전관리부품 및 재질목록 (List of Critical Components)
2. 기본모델 · 파생모델의 내용 (Descriptions of the basic and series model)
3. 전기용품안전인증의 변경 현황 (Revisions Status)

□ 첨부 1 : 안전관리부품 및 재질목록
List of Critical Components

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|---------------------------------------|--|---|---|-------------------|
| Plastic Enclosure | Sabic Innovative Plastics | 945, 940 | V-0, 120 °C, min. 1.5 mm thick | UL |
| AC Inlet | Pronic Electronics (Shenzhen) Co., Ltd. | PST-101 | 10 A, 250 Vac | VDE |
| (Alternate) | TECX-UNIONS Technology Corporation | TU-301-A, TU-301-AP, TU-301-S, TU-301-SP | 10 A, 250 Vac | VDE |
| (Alternate) | Rong Feng Industrial Co., Ltd. | SS-7B Series, SS-120 Series | 10 A, 250 Vac | VDE |
| Fuse (FS1) | Littelfuse Inc. | 392, 369 | T 5 A, 250 V | VDE |
| (Alternate) | Ever Island Electric Co., Ltd. and Walter Electric | 2010 Serie(s) | T 5 A, 250 V | VDE |
| (Alternate) | Conquer | MST | T 5 A, 250 V | VDE |
| Y-Capacitors (C3, C4, C22) (Y1 or Y2) | Murata Mfg. Co., Ltd. | KH, KX, KY | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | TDK-EPC Corporation | CD, CS | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Walsin Technology Corp | AH, AC | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Welson Industrial Co., Ltd. | WD, KL | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| Varistor (ZNR1) (Optional) | Thinking Electronic Industrial Co., Ltd. | TVR10511-M, TVR14511-M | 320 Vac, 410 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Thinking Electronic Industrial Co., Ltd. | TVR10471-M, TVR14471-M | 300 Vac, 385 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Thinking Electronic Industrial Co., Ltd. | TVR10561-M, TVR14561-M | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|--|--|---------------------------|--|-------------------|
| (Alternate) | Joyin Co., Ltd. | JVT10S471K, JVT14S471K | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Joyin Co., Ltd. | JVT10S511K, JVT14S511K | 320 Vac, 410 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Joyin Co., Ltd. | JVT10S561K, JVT14S561K | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| X-Capacitor (C1, C2) (X1 or X2 type) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.46 | C1=0.82 μ F, C2=0.47 μ F, Min. 250 Vac, 110/125 °C | ENEC |
| (Alternate) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.49 | C1=0.82 μ F, C2=0.47 μ F, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | ISKRA, d.d. | KNB 1560 | C1=0.82 μ F, C2=0.47 μ F, 275 V, 110 °C or 300 V, 125 °C | VDE |
| (Alternate) | Liow Gu Electronics Industry Co. Ltd. | GS-L | C1=0.82 μ F, C2=0.47 μ F, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | Pilkor Electronics Ltd. | PCX2 337 | C1=0.82 μ F, C2=0.47 μ F, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | VISHAY Capacitors Belgium NV | 339 | C1=0.82 μ F, C2=0.47 μ F, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | Xiamen Faratronic | MKP62 | C1=0.82 μ F, C2=0.47 μ F, Min. 250 Vac, 110 °C | VDE |
| (Alternate) | Hua Jung | MKP | C1=0.82 μ F, C2=0.47 μ F, Min. 250 Vac, 110 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|---|--|---------------------------------|---|-------------------|
| (Alternate) | Carli | MPX | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | VDE |
| (Alternate) | EPCOS Electronic Components S.A. | B3292#CD series | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| Bridge Capacitor (C31) (Y1 type) | Murata Mfg. Co., Ltd. | KX | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | TDK-EPC Corporation | CD | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Walsin Technology Corp | AH | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Welson Industrial Co., Ltd. | WD | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| Photo Coupler (U3, U4, U5) (U3 optional provide) | Lite-On Technology Corporation | LTV-817, LTV-817M, LTV817 | Dti=0.4 mm, Int. dcr=5.2 mm, Ext. dcr=7.0mm, thermal cycling test, 115 °C | VDE, FIMKO |
| (Alternate) | Sharp Corporation Electronic Components and Devices Division | PC123 | Dti=0.4 mm, Ext. dcr=8.0 mm, thermal cycle test, 110 °C | VDE, Semko |
| (Alternate) | COSMO Electronics Corporation | K1010 | Dti=0.7 mm, Ext. dcr=8.0 mm, thermal cycle test, 100 °C | VDE, Semko |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP785F | Di=0.6 mm, Int. dcr=5.0 mm, Ext. dcr=8 mm, thermal cycling test, 115 °C | VDE |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP785 | Di=0.6 mm, Int. dcr=5.0 mm, Ext. dcr=6.5 mm, thermal cycling test, 115 °C | VDE |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP781F | Di=0.6 mm, Int. dcr=5.0 mm, Ext. dcr=8 mm, thermal cycling test, 115 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|---|---|------------------------|---|--------------------------|
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP781 | Di=0.6 mm, Int. dcr=5.0 mm, Ext. dcr=6.5 mm, thermal cycling test, 115 °C | VDE |
| Transformer (T1) (for model GST220A20) | Mean Well | TF-5278A | Class B | Tested with appliance |
| (Alternate) | Yu Jing | TF-5278A | Class B | Tested with appliance |
| Transformer (T1) (for model GST220A15) | Mean Well | TF-5277A | Class B | Tested with appliance |
| (Alternate) | Yu Jing | TF-5277A | Class B | Tested with appliance |
| Thermal cut-off (TSW1) | Seki Controls Co Ltd | ST-22 | 100-130 °C | VDE |
| (Alternate) | Dongguan Kain Electronic | BW-A1D-*** | 100-130 °C | VDE |
| (Alternate) | Guangzhou Safty Electronic | BW - DCP * | 100-130 °C | VDE |
| (Alternate) | Yangzhou Baozhu | TB02 | 100-130 °C | TUV |
| Discharging IC (U2) | On- Semiconductor | NCP4810 | Maximum AC1 pin Voltage related to AC2 pin = - 700 V to 700 V, Idisch_min = 0.85 mA (Applicable for use to mains supply 100-240 Vac 60-50 Hz) X-Caps.: 0.047- 2.2 μF. Resistors: 150 k-1 MΩ | NEMKO |
| PCB | Interchangeable | Interchangeable | V-1 or better, min. 105 °C | UL |
| Bleeder Resistors (R7, R8) | Interchangeable | Interchangeable | Total 150 k-440 kΩ , min. 1/4 W | Tested with appliance |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|--|---------------------------------|------------------------|---------------------------------------|-------------------|
| <input type="checkbox"/> 유의사항 (Attention) : | | | | |
| <p>1. 안전관리부품은 전기적인 안전에 직접적인 영향을 주는 부품으로서 안전인증기관이 정기공장검사 시 확인 관리 하는 사항입니다. 따라서 상기목록에 기재된 사항을 변경하거나 또는 복수등재를 원하시는 경우는 안전인증기관에 인증변경신청을 하여야 합니다.</p> <p><i>As the "Critical components" are parts in directly related with safety, these components shall be checked during a factory inspection by the certification body. In case of applying multiful listing or changing the items above, the certification revision shall be applied.</i></p> <p>2. 인증변경신청 없이 임의로 변경하는 경우는, 전기용품안전관리법 제 8 조제 1 항의 규정에 의한 안전인증취소 사유가 됨을 유의하시기 바랍니다.</p> <p><i>The Safety Certification will be cancelled under the Safety Control Law for Electrical Appliances, Paragraph 1 of Article 8 if the contents of the Certification is altered without our authorization.</i></p> | | | | |

FP511-10-00

□ 첨부 2 : 기본모델 · 파생모델의 내용
General description of Certified Products

| 파생모델명 Derivative model | 기본모델과의 차이점 Differences between the basic and derivative model(s) |
|---|--|
| GST220A15 | Same as basic model except for transformer type, output rating and model designation. Output rating: 15 Vdc, 13.4 A, 201 W MAX. |
| 제품특기사항 및 시험조건 Remarks & Test conditions | |
| <p>1. Test Report Ref. No. : 16-028875-01 (2016.06.13)</p> <p>2. Product Description</p> <ul style="list-style-type: none"> - Measured power consumption: 237 W - Class of equipment: Class I - Protection against ingress of water: IPX0 - Mass of equipment (kg): 1.04 kg | |
| <p>□ 본 제품의 시험내용에 관하여 문의하실 사항이 있으시면 아래 연락처로 문의하시기 바랍니다. 시험담당자 : 디지털산업본부 정보조명평가센터 박일우 / 02-860-1436</p> <p>□ If you have any question on product testing, please contact the person below : Job holder : S.M.A.R.T. Industry Division, IT & Lighting Testing Center, Park Il-Woo / +82 2 860-1436</p> | |

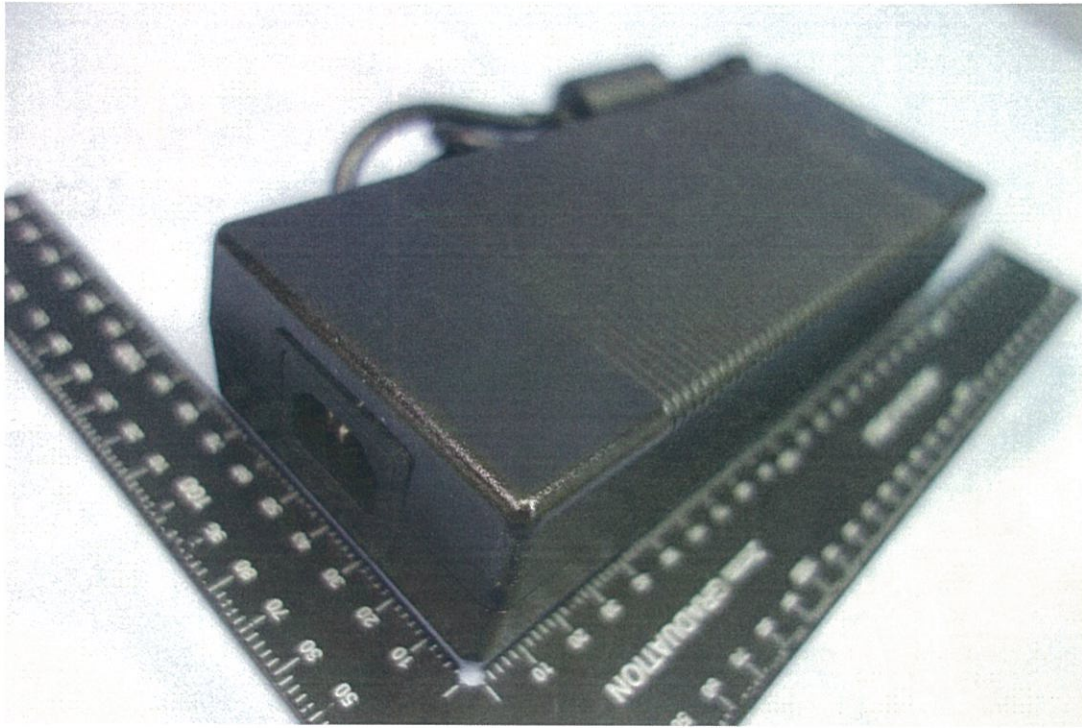
FP511-09-00

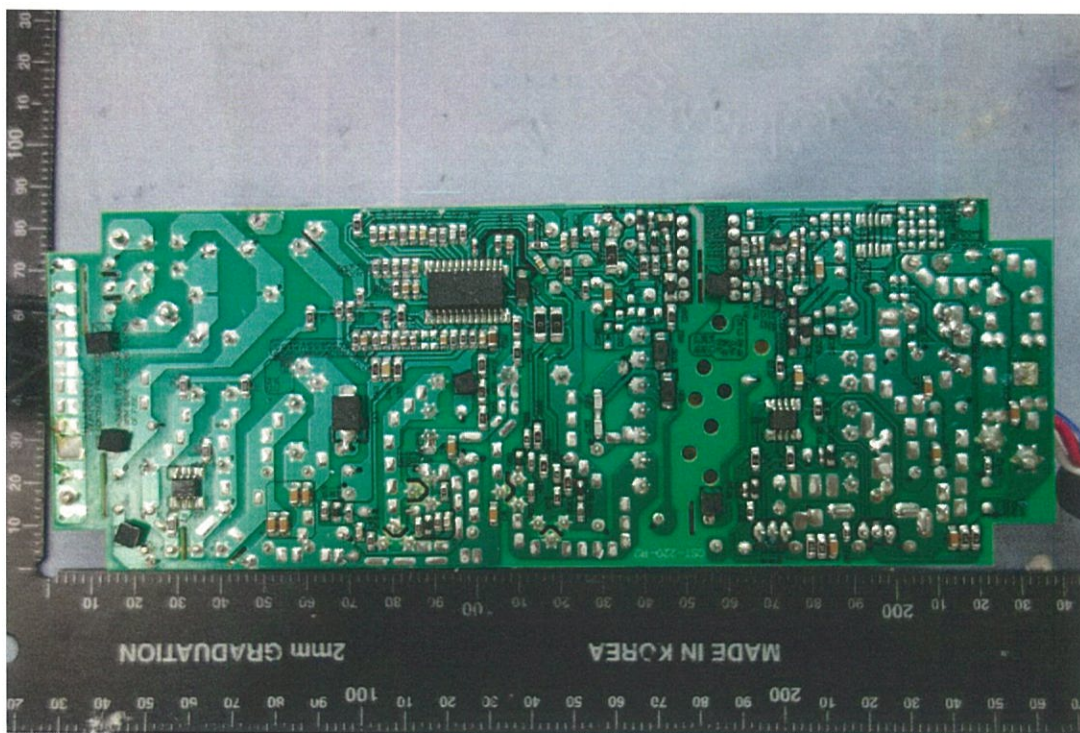
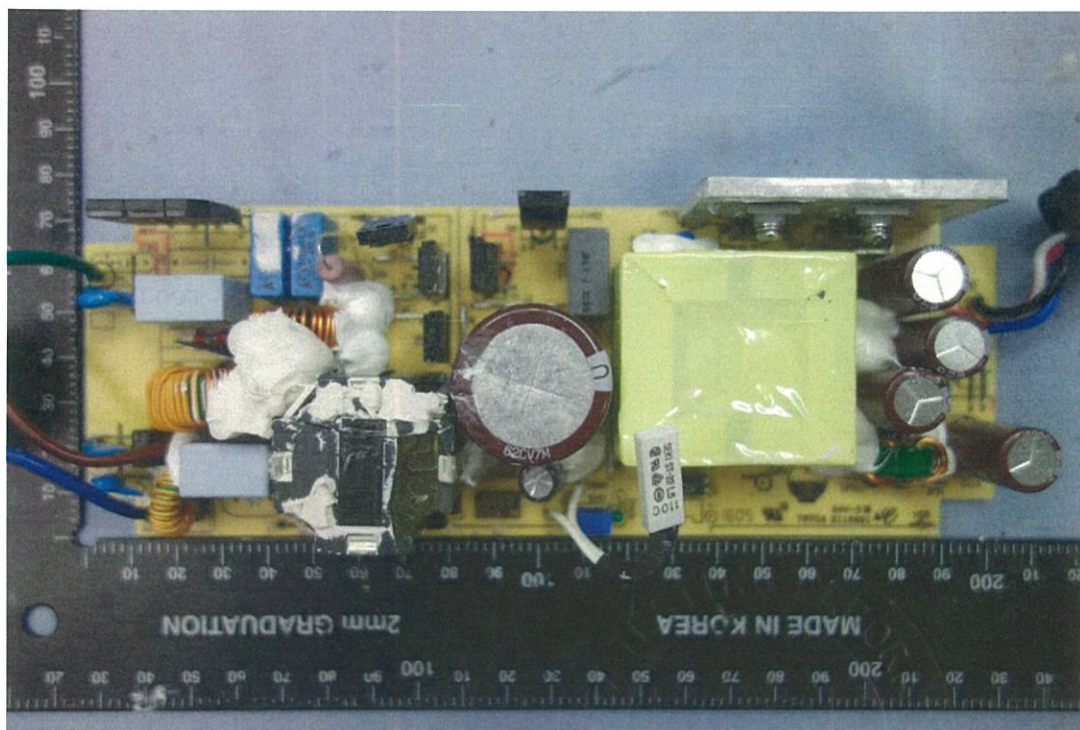
□ 첨부 3 : 전기용품안전인증의 변경 현황
Status of Certificate Revisions

| 변경발급 내용 Contents of Certificate Revisions |
|--|
| Not applicable |

FP511-11-00

☐ 첨부 : 제품사진
Photographs





접수번호 (Receipt No.) : 16-027189-01



전기용품안전인증서

Electrical Appliances Safety Certificate

| | |
|-------------------------------|--|
| 안전인증번호 (Certificate No.) | : SU10509-16004 |
| 제조사명 (Manufacturer) | : SuZhou MEAN WELL Technology Co., Ltd. |
| 대표자명 (President) | : Mr. Jerry Lin |
| 제조공장의 주소 (Factory Address) | : No. 77, Jian-Min Road, Dong-Qiao, Pan-Yang Ind. Park, Huang-Dai Town, Xiang-Cheng District, Suzhou, Jiangsu 215152, P.R. China |
| 제품명 (Product) | : 직류전원장치 (AC/DC Switching Adaptor) |
| 기본모델명 (Basic Model) | : GST220A48 |
| 정격 (Rating) | : 100-240 Vac, 50/60 Hz, 4.0 A, Class I (Output: 48 Vdc, 4.6 A, 221 W MAX.) |
| 파생모델명 (Series Model) | : GST220A24 |
| 적용기준 (Standard) | : K 60950-1 (2011-12) |

「전기용품안전 관리법 시행규칙」 제6조제2항에 따라 위의 전기용품에 대하여 안전인증서를 발급합니다.

We Issue Electrical Appliances Safety Certification as above product by Article 6 Section 2 of the Electrical Appliances Safety Control Law Enforcement Regulation.

2016 년 06 월 03 일
Year month day



한국산업기술시험원
KOREA TESTING LABORATORY



※ 이 인증서는 「전기용품안전 관리법」에 따른 전기용품 안전성 확인에 한정된 것이며, 그 밖의 다른 법률이 적용되는 제품의 경우에는 해당 법률에 따라 추가로 인증·허가 등을 받아야 합니다.

첨부 :
(Annex)

1. 안전관리부품 및 재질목록 (List of Critical Components)
2. 기본모델 · 파생모델의 내용 (Descriptions of the basic and series model)
3. 전기용품안전인증의 변경 현황 (Revisions Status)

□ 첨부 1 : 안전관리부품 및 재질목록
List of Critical Components

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|---------------------------------------|--|---|--|-------------------|
| Plastic Enclosure | Sabic Innovative Plastics | 945, 940 | V-0, 120 °C, min. 1.5 mm thick | UL |
| AC Inlet | Pronic Electronics (Shenzhen) Co., Ltd. | PST-101 | 10 A, 250 Vac | VDE |
| (Alternate) | TECX-UNIONS Technology Corporation | TU-301-A, TU-301-AP, TU-301-S, TU-301-SP | 10 A, 250 Vac | VDE |
| (Alternate) | Rong Feng Industrial Co., Ltd. | SS-7B Series, SS-120 Series | 10 A, 250 Vac | VDE |
| Fuse (FS1) | Littelfuse Inc. | 392, 369 | T 5 A, 250 V | VDE |
| (Alternate) | Ever Island Electric Co., Ltd. and Walter Electric | 2010 Serie(s) | T 5 A, 250 V | VDE |
| (Alternate) | Conquer | MST | T 5 A, 250 V | VDE |
| Y-Capacitors (C3, C4, C22) (Y1 or Y2) | Murata Mfg. Co., Ltd. | KH, KX, KY | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | TDK-EPC Corporation | CD, CS | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Walsin Technology Corp | AH, AC | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Welson Industrial Co., Ltd. | WD, KL | Max. 4700 pF, Min. 250 Vac, 125 °C | VDE |
| Varistor (ZNR1) (Optional) | Thinking Electronic Industrial Co., Ltd. | TVR10511-M, TVR14511-M | 320 Vac, 410 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Thinking Electronic Industrial Co., Ltd. | TVR10471-M, TVR14471-M | 300 Vac, 385 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Thinking Electronic Industrial Co., Ltd. | TVR10561-M, TVR14561-M | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|--|---|---------------------------|--|-------------------|
| (Alternate) | Joyin Co., Ltd. | JVT10S471K, JVT14S471K | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Joyin Co., Ltd. | JVT10S511K, JVT14S511K | 320 Vac, 410 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Joyin Co., Ltd. | JVT10S561K, JVT14S561K | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| X-Capacitor (C1, C2) (X1 or X2 type) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.46 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110/125 °C | ENEC |
| (Alternate) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.49 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | ISKRA, d.d. | KNB 1560 | C1=0.82 uF, C2=0.47 uF, 275 V, 110 °C or 300 V, 125 °C | VDE |
| (Alternate) | Liow Gu Electronics Industry Co. Ltd. | GS-L | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | Pilkor Electronics Ltd. | PCX2 337 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | VISHAY Capacitors Belgium NV | 339 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| (Alternate) | Xiamen Faratronic | MKP62 | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | VDE |
| (Alternate) | Hua Jung | MKP | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|---|---|---------------------------------|---|-------------------|
| (Alternate) | Carli | MPX | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | VDE |
| (Alternate) | EPCOS Electronic Components S.A. | B3292#CD series | C1=0.82 uF, C2=0.47 uF, Min. 250 Vac, 110 °C | ENEC |
| Bridge Capacitor (C31) (Y1 type) | Murata Mfg. Co., Ltd. | KX | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | TDK-EPC Corporation | CD | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Walsin Technology Corp | AH | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| (Alternate) | Welson Industrial Co., Ltd. | WD | Max. 2200 pF, Min. 250 Vac, 125 °C | VDE |
| Photo Coupler (U3, U4, U5) (U3 optional provide) | Lite-On Technology Corporation | LTV-817, LTV-817M, LTV817 | Dti=0.4 mm Int. dcr=5.2 mm Ext. dcr=7.0 mm, thermal cycling test, 115 °C | VDE, FIMKO |
| (Alternate) | Sharp Corporation Electronic Components and Devices Division | PC123 | Dti=0.4 mm, Ext. dcr=8.0 mm, thermal cycle test, 110 °C | VDE, Semko |
| (Alternate) | COSMO Electronics Corporation | K1010 | Dti=0.7 mm, Ext. dcr=8.0 mm, thermal cycle test, 100 °C | VDE, Semko |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP785F | Di=0.6 mm, Int. dcr=5.0 mm, Ext. dcr=8 mm, thermal cycling test, 115 °C | VDE |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP785 | Di=0.6 mm, Int. dcr=5.0 mm, Ext. dcr=6.5 mm, thermal cycling test, 115 °C | VDE |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP781F | Di=0.6 mm, Int. dcr=5.0mm, Ext. dcr=8 mm, thermal cycling test, 115 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|---|--|------------------------|--|--------------------------|
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP781 | Di=0.6 mm, Int. dcr=5.0mm, Ext. dcr=6.5 mm, thermal cycling test, 115 °C | VDE |
| Transformer (T1) (For Model GST220A48) | Mean Well | TF-5280A | Class B | Tested with appliance |
| (Alternate) | Yu Jing | TF-5280A | Class B | Tested with appliance |
| Transformer (T1) (For Model GST220A24) | Mean Well | TF-5279A | Class B | Tested with appliance |
| (Alternate) | Yu Jing | TF-5279A | Class B | Tested with appliance |
| Thermal cut-off (TSW1) | Seki Controls Co Ltd | ST-22 | 100-130 °C | VDE |
| (Alternate) | Dongguan Kain Electronic | BW-A1D-*** | 100-130 °C | VDE |
| (Alternate) | Guangzhou Safty Electronic | BW - DCP * | 100-130 °C | VDE |
| (Alternate) | Yangzhou Baozhu | TB02 | 100-130 °C | TUV |
| Discharging IC (U2) | On- Semiconductor | NCP4810 | Maximum AC1 pin Voltage related to AC2 pin = -700 V to 700 V, Idisch_min = 0.85 mA (Applicable for use to mains supply 100-240 Vac 60-50 Hz) X-Caps.: 0.047- 2.2 µF. Resistors: 150 k-1 MΩ | NEMKO |
| PCB | Interchangeable | Interchangeable | V-1 or better, min. 105 °C | UL |
| Bleeder Resistors (R7, R8) | Interchangeable | Interchangeable | Total 150 k-440 kΩ , min. 1/4 W | Tested with appliance |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|----------------------------------|---------------------------------|------------------------|---------------------------------------|-------------------|
|----------------------------------|---------------------------------|------------------------|---------------------------------------|-------------------|

☐ 유의사항 (Attention) :

1. 안전관리부품은 전기적인 안전에 직접적인 영향을 주는 부품으로서 안전인증기관이 정기공장검사 시 확인 관리 하는 사항입니다. 따라서 상기목록에 기재된 사항을 변경하거나 또는 복수등록을 원하시는 경우는 안전인증기관에 인증변경신청을 하여야 합니다.

As the "Critical components" are parts in directly related with safety, these components shall be checked during a factory inspection by the certification body. In case of applying multiful listing or changing the items above, the certification revision shall be applied.

2. 인증변경신청 없이 임의로 변경하는 경우는, 전기용품안전관리법 제 8 조제 1 항의 규정에 의한 안전인증취소 사유가 됨을 유의하시기 바랍니다.

The Safety Certification will be cancelled under the Safety Control Law for Electrical Appliances, Paragraph 1 of Article 8 if the contents of the Certification is altered without our authorization.

FP511-10-00

☐ 첨부 2 : 기본모델 · 파생모델의 내용
General description of Certified Products

| 파생모델명 Derivative model | 기본모델과의 차이점 Differences between the basic and derivative model(s) |
|---|--|
| GST220A24 | Same as basic model except for transformer sources, output rating and model designation. (Output: 24 Vdc, 9.2 A, 221 W MAX.) |
| 제품특기사항 및 시험조건 Remarks & Test conditions | |
| <p>1. Test Report Ref. No. : 16-027189-01 (2016.06.02)</p> <p>2. Product Description</p> <ul style="list-style-type: none"> - Measured power consumption: 238 W - Class of equipment: Class I - Protection against ingress of water: IPX0 - Mass of equipment (kg): 1.04 kg | |
| <p><input type="checkbox"/> 본 제품의 시험내용에 관하여 문의하실 사항이 있으시면 아래 연락처로 문의하시기 바랍니다. 시험담당자 : 디지털산업본부 정보조명평가센터 박일우 / 02-860-1436</p> <p><input type="checkbox"/> If you have any question on product testing, please contact the person below : Job holder : S.M.A.R.T. Industry Division, IT & Lighting Testing Center, Park Il-Woo / +82 2 860-1436</p> | |

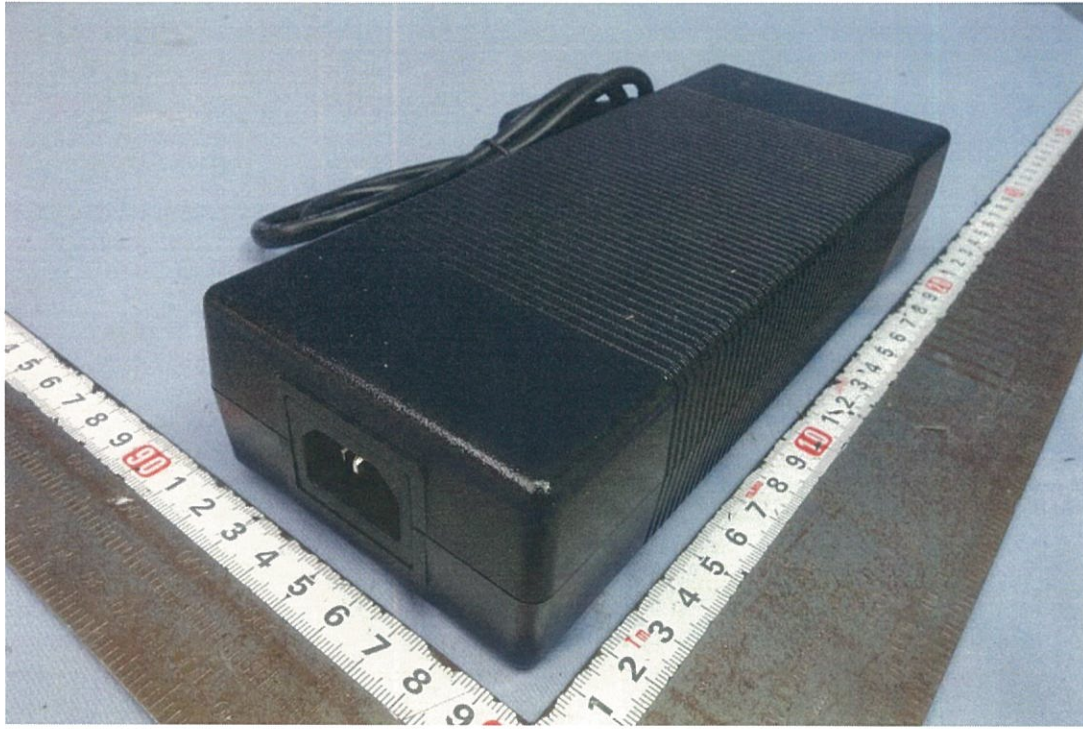
FP511-09-00

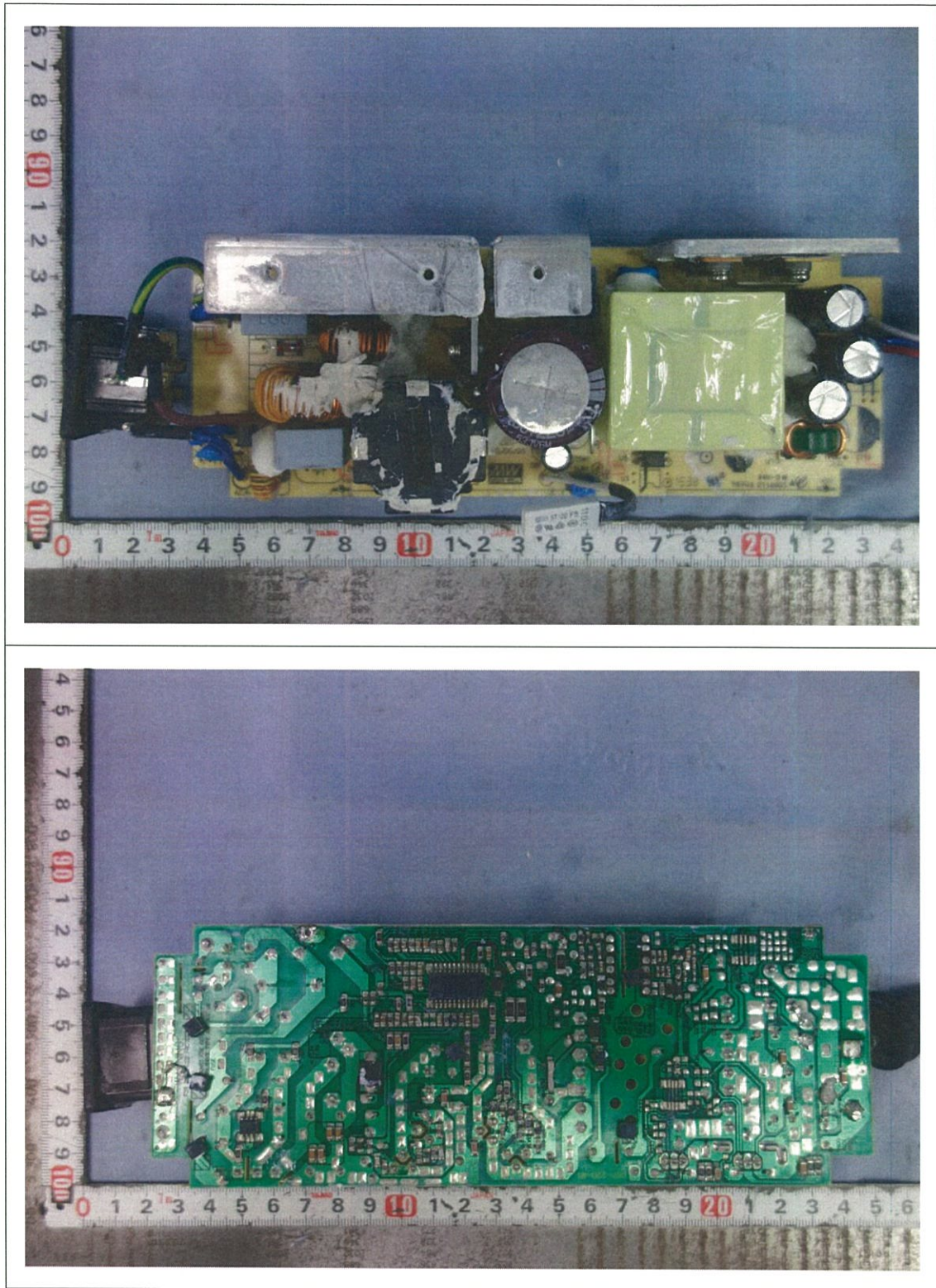
☐ 첨부 3 : 전기용품안전인증의 변경 현황
Status of Certificate Revisions

| 변경발급 내용 Contents of Certificate Revisions |
|--|
| Not applicable |

FP511-11-00

☐ 첨부 : 제품사진
Photographs





접 수 번 호 : 16-009386-02
(Receipt No.)



전 기 용 품 안 전 인 증 서

Electrical Appliances Safety Certificate

안 전 인 증 번 호 : SU10509-16002
(Certificate No.)

제 조 업 자 명 : Suzhou Mean Well Technology Co., Ltd.
(Manufacturer)

대 표 자 명 : Mr. Jerry Lin
(President)

제조공장의 주소 : No. 77, Jian-Min Road, Dong-Qiao, Pan-Yang Ind. Park,
(Factory Address) Huang-Dai Town, Xiang-Cheng District, Suzhou, Jiangsu 215152,
P.R. China

제 품 명 : 직류전원장치
(Product) (AC/DC adapter)

기 본 모 델 명 : GST220A48-AG1
(Basic Model)

정 격 : Input: 100-240 V~, 50/60 Hz, 4.0 A
(Rating) (Output: 48 Vdc, 4.6 A, 221 W MAX.)

파 생 모 델 명 : Not Applicable
(Series Model)

적 용 기 준 : K60950-1 (2011-12)
(Standard)

「전기용품안전 관리법 시행규칙」 제6조제2항에 따라 위의 전기용품에 대하여 안전인증서를 발급합니다.

We issue Electrical Appliances Safety Certification as above product by Article 6 Section 2 of the Electrical Appliances Safety Control Law Enforcement Regulation.

2016 년 04 월 14 일
Year month day



한국산업기술시험원장
KOREA TESTING LABORATORY



※ 이 인증서는 「전기용품안전 관리법」에 따른 전기용품 안전성 확인에 한정된 것이며, 그 밖의 다른 법률이 적용되는 제품의 경우에는 해당 법률에 따라 추가로 인증·허가 등을 받아야 합니다.

첨 부 :
(Annex)

1. 안전관리부품 및 재질목록 (List of Critical Components)
2. 기본모델·파생모델의 내용 (Descriptions of the basic and series model)
3. 전기용품안전인증의 변경 현황 (Revisions Status)

□ 첨부 1 : 안전관리부품 및 재질목록

List of Critical Components

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|----------------------------------|--|--|--|-------------------|
| Plastic Enclosure | Sabic Innovative Plastics | 945, 940 | V-0, 120 °C, min. 1.5 mm thick | UL |
| AC Inlet | Pronic Electronics (Shenzhen) Co., Ltd. | PST-101 | 10 A, 250 Vac | VDE |
| (Alternate) | TECX-UNIONS Technology Corporation | TU-301-A TU-301-AP TU-301-S TU-301-SP | 10 A, 250 Vac | VDE |
| (Alternate) | Rong Feng Industrial Co., Ltd. | SS-7B Series, SS-120 Series | 10 A, 250 Vac | VDE |
| Fuse (FS1) | Littelfuse Inc. | 392, 369 | T 5 AL, 250 V | VDE |
| (Alternate) | Ever Island Electric Co., Ltd. and Walter Electric | 2010 Serie(s) | T 5 AL, 250 V | VDE |
| (Alternate) | Conquer | MST | T 5 AL, 250 V | VDE |
| Y-Capacitors (C3, C4, C22) | Murata Mfg. Co., Ltd. | KH KX KY | Min. 250 Vac, 125 °C, Max.4700 pF, Y1 or Y2 | VDE |
| (Alternate) | TDK-EPC Corporation | CD CS | Min. 250 Vac, 125 °C, Max.4700 pF, Y1 or Y2 | VDE |
| (Alternate) | Walsin Technology Corp | AH AC | Min. 250 Vac, 125 °C, Max.4700 pF, Y1 or Y2 | VDE |
| (Alternate) | Welson Industrial Co., Ltd. | WD KL | Min. 250 Vac, 125 °C, Max.4700 pF, Y1 or Y2 | VDE |
| Varistor (ZNR1) (Optional) | Thinking Electronic Industrial Co., Ltd. | TVR10511-M, TVR14511-M | 320 Vac, 410 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Thinking Electronic Industrial Co., Ltd. | TVR10471-M, TVR14471-M | 300 Vac, 385 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|----------------------------------|--|-----------------------------|--|-------------------|
| (Alternate) | Thinking Electronic Industrial Co., Ltd. | TVR10561-M, TVR14561-M | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Joyin Co., Ltd. | JVT10S471K or JVT14S471K | 350 Vac, 450 Vdc (Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Joyin Co., Ltd. | JVT10S511K or JVT14S511K | 320 Vac, 410 Vdc(Flame class of body coating complied with V-0), 125 °C | VDE |
| (Alternate) | Joyin Co., Ltd. | JVT10S561K or JVT14S561K | 350 Vac, 450 Vdc(Flame class of body coating complied with V-0), 125 °C | VDE |
| X-Capacitor (C1) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.46 | Min. 250 Vac, 110/125 °C, 0.82 μ F, X1 or X2 type | ENEC |
| (Alternate) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.49 | Min. 250 Vac, 110 °C, 0.82 μ F, X1 or X2 type | ENEC |
| (Alternate) | ISKRA, d.d. | KNB 1560 | 275 V, 110 °C or 300 V, 125 °C, 0.82 μ F, X1 or X2 type | VDE |
| (Alternate) | Liow Gu Electronics Industry Co. Ltd. | GS-L | Min. 250 Vac, 110 °C, 0.82 μ F, X1 or X2 type | ENEC |
| (Alternate) | Pilkor Electronics Ltd. | PCX2 337 | Min. 250 Vac, 110 °C, 0.82 μ F, X1 or X2 type | ENEC |
| (Alternate) | VISHAY Capacitors Belgium NV | 339 | Min. 250 Vac, 110 °C, 0.82 μ F, X1 or X2 type | ENEC |
| (Alternate) | Xiamen Faratronic | MKP62 | Min. 250 Vac, 110 °C, 0.82 μ F, X1 or X2 type | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|----------------------------------|---|------------------------|--|-------------------|
| (Alternate) | Hua Jung | MKP | Min. 250 Vac, 110 °C, 0.82 μ F, X1 or X2 type | VDE |
| (Alternate) | Carli | MPX | Min. 250 Vac, 110 °C, 0.82 μ F, X1 or X2 type | VDE |
| (Alternate) | EPCOS Electronic Components S.A. | B3292#CD series | Min. 250 Vac, 110 °C, 0.82 μ F, X1 or X2 type | ENEC |
| (Alternate) | Ultra Tech Xiphi Enterprise Co. Ltd. | HQX | Min. 250 Vac, 110 °C, 0.82 μ F, X1 or X2 type | ENEC |
| X-Capacitor (C2) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.46 | Min. 250 Vac, 110/125 °C, 0.47 μ F, X1 or X2 type | ENEC |
| (Alternate) | Kemet Electronics Italia Srl (Arcotronics SPA) | R.49 | Min. 250 Vac, 110 °C, 0.47 μ F, X1 or X2 type | ENEC |
| (Alternate) | ISKRA, d.d. | KNB 1560 | 275 V, 110 °C or 300 V, 125 °C, 0.47 μ F, X1 or X2 type | VDE |
| (Alternate) | Liow Gu Electronics Industry Co. Ltd. | GS-L | Min. 250 Vac, 110 °C, 0.47 μ F, X1 or X2 type | ENEC |
| (Alternate) | Pilkor Electronics Ltd. | PCX2 337 | Min. 250 Vac, 110 °C, 0.47 μ F, X1 or X2 type | ENEC |
| (Alternate) | VISHAY Capacitors Belgium NV | 339 | Min. 250 Vac, 110 °C, 0.47 μ F, X1 or X2 type | ENEC |
| (Alternate) | Xiamen Faratronic | MKP62 | Min. 250 Vac, 110 °C, 0.47 μ F, X1 or X2 type | VDE |
| (Alternate) | Hua Jung | MKP | Min. 250 Vac, 110 °C, 0.47 μ F, X1 or X2 type | VDE |
| (Alternate) | Carli | MPX | Min. 250 Vac, 110 °C, 0.47 μ F, X1 or X2 type | VDE |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|---|---|--|--|-------------------|
| (Alternate) | EPCOS Electronic Components S.A. | B3292#CD series | Min. 250 Vac, 110 °C, 0.47 μ F, X1 or X2 type | ENEC |
| (Alternate) | Ultra Tech Xiphi Enterprise Co. Ltd. | HQX | Min. 250 Vac, 110 °C, 0.47 μ F, X1 or X2 type | ENEC |
| (Alternate) | Joey | MPX | Min. 250 Vac, 105 °C, 0.47 μ F, X1 or X2 type | VDE |
| (Alternate) | EPCOS Electronic Components S.A. | B3292# | Min. 250 Vac, 105 °C, 0.47 μ F, X1 or X2 type | VDE |
| (Alternate) | Pilkor Electronics Ltd. | PCX2 335M | Min. 250 Vac, 105 °C, 0.47 μ F, X1 or X2 type | ENEC |
| Bridge Capacitor (C31) | Murata Mfg. Co., Ltd. | KX | Min. 250 Vac, 125 °C, Max. 2200 pF, Y1 type | VDE |
| (Alternate) | TDK-EPC Corporation | CD | Min. 250 Vac, 125 °C, Max. 2200 pF, Y1 type | VDE |
| (Alternate) | Walsin Technology Corp | AH | Min. 250 Vac, 125 °C, Max. 2200 pF, Y1 type | VDE |
| (Alternate) | Welson Industrial Co., Ltd. | WD | Min. 250 Vac, 125 °C, Max. 2200 pF, Y1 type | VDE |
| Photo Coupler (U3, U4, U5) (U3 optional provide) | Lite-On Technology Corporation | VDE: LTV-817 FI: LTV817 may be followed by suffix M, S, S- TA, S TA1, S-TP | Dti=0.4mm Int. dcr=5.2mm Ext. dcr=7.0mm, thermal cycling test, 115°C | VDE, FIMKO |
| (Alternate) | Sharp Corporation Electronic Components and Devices Division | PC123 | Dti=0.4mm, Ext. dcr=8.0mm, thermal cycle test, 110°C | VDE, Semko |
| (Alternate) | COSMO Electronics Corporation | K1010 | Dti=0.7mm, Ext. dcr=8.0mm, thermal cycle test, 100°C | VDE, Semko |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|----------------------------------|---|------------------------|---|------------------------|
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP785F | Di = 0.6 mm, Int. dcr =5.0mm, Ext. dcr = 8 mm, thermal cycling test, 115 °C | VDE |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP785 | Di = 0.6 mm, Int. dcr =5.0mm, Ext. dcr=6.5mm, thermal cycling test, 115 °C | VDE |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP781F | Di = 0.6 mm, Int. dcr=5.0mm, Ext. dcr = 8 mm, thermal cycling test, 115 °C | VDE |
| (Alternate) | Toshiba Corp, Semiconductor Co Discrete Semiconductor Div | TLP781 | Di = 0.6 mm, Int. dcr=5.0 mm, Ext. dcr=6.5mm, thermal cycling test, 115 °C | VDE |
| Transformer (T1) | Mean Well | TF-5280A | Class B | Test with appliance |
| (Alternate) | Yu Jing | TF-5280A | Class B | Test with appliance |
| Thermal cut-off (TSW1) | Seki Controls Co Ltd | ST-22 | 100-130 °C | VDE |
| (Alternate) | Dongguan Kain Electronic | BW-A1D-*** | 100-130 °C | VDE |
| (Alternate) | Guangzhou Safty Electronic | BW - DCP * | 100-130 °C | VDE |
| (Alternate) | Yangzhou Baozhu | TB02 | 100-130 °C | VDE |
| Discharging IC (U2) | On- Semiconductor | NCP4810 | Maximum AC1 pin Voltage related to AC2 pin = -700V to700V, Idisch_min= 0.85mA (Applicable for use to mains supply 100- 240 Vac 60-50 Hz) X-Caps.: 0.047-2.2 μ F. Resistors: 150k-1MΩ | NEMKO |
| PCB | Interchangeable | Interchangeable | V-1 or better, min. 105 °C | UL |

| 부품명(회로기호) Component(Part no.) | 제조사(상표명) Manufacturer(Brand) | 모델명(형식) Model(Type) | 정격 또는 특성 Rating or Characteristics | 인증마크 Tested by |
|----------------------------------|---------------------------------|------------------------|---------------------------------------|--------------------------|
| Bleeder Resistors (R7, R8) | Interchangeable | Interchangeable | Total 150 k-440kΩ , min. 1/4 W | Tested with appliance |

☐ 유의사항 (Attention) :

1. 안전관리부품은 전기적인 안전에 직접적인 영향을 주는 부품으로서 안전인증기관이 정기공장검사 시 확인 관리 하는 사항입니다. 따라서 상기목록에 기재된 사항을 변경하거나 또는 복수등재를 원하시는 경우는 안전인증기관에 인증변경신청을 하여야 합니다.

As the "Critical components" are parts in directly related with safety, these components shall be checked during a factory inspection by the certification body. In case of applying multiful listing or changing the items above, the certification revision shall be applied.

2. 인증변경신청 없이 임의로 변경하는 경우는, 전기용품안전관리법 제 8 조제 1 항의 규정에 의한 안전인증취소 사유가 됨을 유의하시기 바랍니다.

The Safety Certification will be cancelled under the Safety Control Law for Electrical Appliances, Paragraph 1 of Article 8 if the contents of the Certification is altered without our authorization.

FP511-10-00

☐ **첨부 2 : 기본모델 · 파생모델의 내용**
General description of Certified Products

| 파생모델명 Derivative model | 기본모델과의 차이점 Differences between the basic and derivative model(s) |
|--|---|
| Not applicable | |
| 제품특기사항 및 시험조건 Remarks & Test conditions | |
| <p>1. Test Report Ref. No. : 16-009386-02 (2016.04.08)</p> <p>2. Product Description</p> <ul style="list-style-type: none"> - Measured power consumption(W): 238 W - Class of equipment: Class I - Protection against ingress of water: IPX0 - Mass of equipment(kg): 1.04 Kg | |
| <p><input type="checkbox"/> 본 제품의 시험내용에 관하여 문의하실 사항이 있으시면 아래 연락처로 문의하시기 바랍니다. 시험담당자 : 디지털산업본부 정보조명평가센터 문 상 현 / 02-860-1432</p> <p><input type="checkbox"/> If you have any question on product testing, please contact the person below : Job holder : S.M.A.R.T. Industry Division, IT & Lighting Testing Center, Sang-Heon MOON / +82 2-860-1432</p> | |

FP511-09-00

☐ **첨부 3 : 전기용품안전인증의 변경 현황**
Status of Certificate Revisions

| 변경발급 내용 Contents of Certificate Revisions |
|--|
| Not applicable |

FP511-11-00