CONTENT of APPROVAL SHEET

APPROVAL BY	SAFETY	DIRECTOR	ENGINEER	PREPARED
	呂小娟 2008/03/24	汪建新 2008/03/24	任運根 2008/03/24	陳艷紅 2008/03/21

0. REVISION CONTROL LIST

DATE	REVISION CONTROL ITEMS							
	CONTENT OF APPROVAL SHEET	SPECIFICATION	RATING LABEL DRAWING	DC OUTPUT CORD DRAWING	PRODUCT OUTLINE DRAWING	PACKING DRAWING	SAFETY LICENSE	ROHS SGS REPORT
2008,03,21	A	A	A	A	A	A	A	A

REVISION CHANGE DESCRIPTION

ITEM	REV	DESCRIPTION

1. SPECIFICATION

0. REVISION CHANGE DESCRIPTION

Revision	Description	Date
A	Initial release	2008,03,21

1. GENERAL DESCRIPTION

This specification defines the input, output, performance characteristics, environment, noise and safety requirements for a 36 watts switching type power adapter.

The adapter input/output are full range AC input and +12V DC with 36 watts output maximum

2. INPUT REQUIREMENT

2-1 AC INPUT VOLTAGE

MINIMUM	NOMINAL	MAXIMUM
90 VAC	100 – 240 VAC	264 VAC

2-2 AC INPUT FREQUENCY

MINIMUM	NOMINAL	MAXIMUM
47 Hz	50 / 60 Hz	63 Hz

2-3 AC INPUT CURRENT

115 VAC INPUT	1.0 A maximum
230 VAC INPUT	0.5 A maximum

2-4 AC INRUSH CURRENT

AT FULL LOAD, 25 DEGREE C, COLD START

115 VAC, 60Hz INPUT	No damage shall be occurred and the input fuse shall not be blown up.
230 VAC, 50Hz INPUT	

2-5 PRIMARY CURRENT PROTECTION

An adequate internal fuse on the AC input line is provided.

2-6 CONFIGURATION

Desk-type, IEC320 (C14)

2-7 POWER CONSUMPTION ON POWER SAVING MODE

LOAD	INPUT CONDITION	INPUT POWER REQUIREMENT
0 A	230 VAC 50 Hz	0.5 W maximum

1.SPECIFICATION

3. OUTPUT REQUIREMENT

3-1	DC OUTPUT VOLTAGE	+ 12 V
3-2	MINIMUM LOAD CURRENT	0 A
3-3	NOMINAL LOAD CURRENT	3 A
3-4	NOMINAL OUTPUT POWER	36 W
3-5	TOTAL OUTPUT REGULATION	+/- 5 %
3-6	LINE REGULATION	+/- 2 % At nominal input voltage and full load
3-7	RIPPLE AND NOISE	120 mVp-p maximum At 20 MHz, and output parallel with 0.1uF & 10uF capacitors to ground Temperature at 25℃, At nominal input voltage
3-8	EFFICIENCY	82.25% minimum At nominal input voltage meet Efficiency level: ⅣI15V
3-9	DROP-OUT	With half cycle input voltage drop-out, the unit shall operate within the prescribed voltages with a drop-out pulse repetition rate of 500mS. Conditions: Full load and nominal input AC voltage Limits: Meet the regulation requirement
3-10	PROTECTION	
	OVER-CURRENT PROTECTION	6.5 A maximum with auto-recovery function
	SHORT-CIRCUIT PROTECTION	The adapter shall not be damaged by short the DC output to Ground.
	OPEN CIRCUIT PROTECTION	When primary power is applied with no load on any output level, no components damaged or hazardous conditions should be occurred.
3-11	REMARK	Unless otherwise specification output load Must set at CC mode.

1.SPECIFICATION

4. MECHANICAL REQUIREMENT

4-1 DIMENSION

118.5 (L) * 48.5 (W) * 35 (H) mm maximum

4-2 WEIGHT

270 g maximum

4-3 AC INLET TYPE

IEC320 (C14)

4-4 OUTPUT CORD

WIRE: 18AWG/1C+SH,1500mm

PLUG: JACK PLUG 3.5*1.35*9mm

5. ENVIRONMENTAL REQUIREMENT

5-1 COOLING

Cooling shall be with natural convection cooling

5-2 OPERATING TEMPERATURE

0 °C TO 40 °C

5-3 STORAGE TEMPERATURE

-20 °C TO +60 °C

5-4 OPERATING HUMIDITY

20 ~ 85 % RH. NON-CONDENSING

5-5 STORAGE HUMIDITY

5 ~ 95 % RH. NON-CONDENSING

6. SAFETY REQUIREMENT

6-1 DIELECTRIC WITHSTANDING VOLTAGE TEST (HI-POT TEST)

Primary To Secondary: 1500VAC 10mA 1minute or 2121VDC 10mA 1 minute

Primary TO Ground: 1500VAC 10mA 1minute or 2121VDC 10mA 1 minute

6-2 GND CONTINUITY TEST

Primary inlet F.G to Secondary GND: 25A for 3 seconds, 100mΩ maximum(Can't test this item including the DC Cord)

1.SPECIFICATION

6-3 LEAKAGE CURRENT

3.5mA maximum, at nominal AC input voltage and frequency

6-4 SAFETY STANDARDS

Designed to meet UL/C-UL (UL60950-1), TUV-GS (EN60950-1) SAA (AS/NZS60950), T-LICENSE (BS EN60950-1)

6-5 EMI STANDARDS

Designed to meet FCC(PART 15 Class B), CE(EN55022), C-TICK,

7. RELIABILITY

7-1 MEAN TIME BETWEEN FAILURE (MTBF)

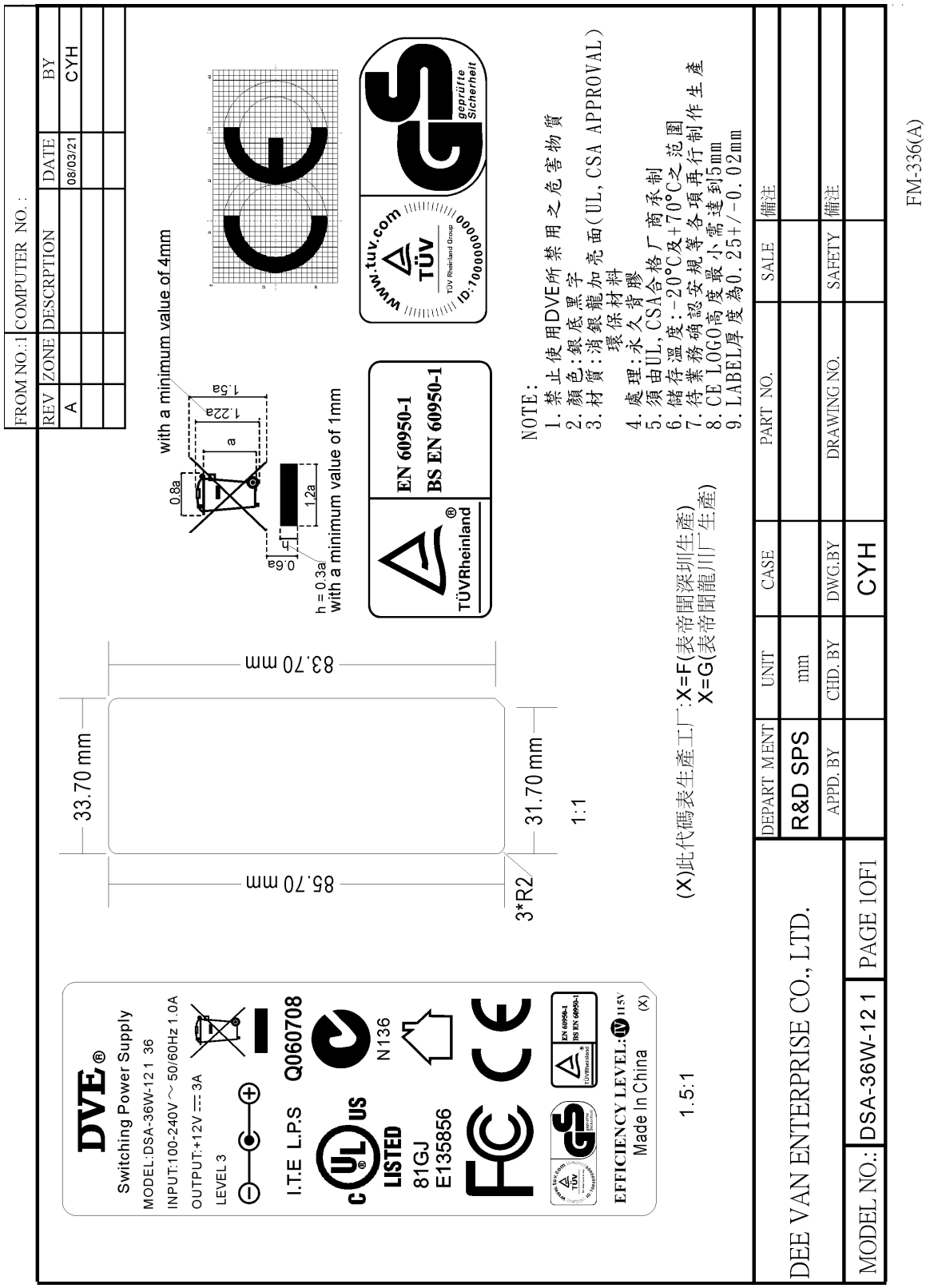
The power supply shall be designed and produced to have a mean time between failures (MTBF) of 50000 operating hours minimum conditions: 80% maximum load at 25 °C, nominal input voltage.

Standard: MIL-HDBK-217F

7-2 BURN-IN TEST

4 hours at 40°C, Nominal input voltage, 80% of maximum load.

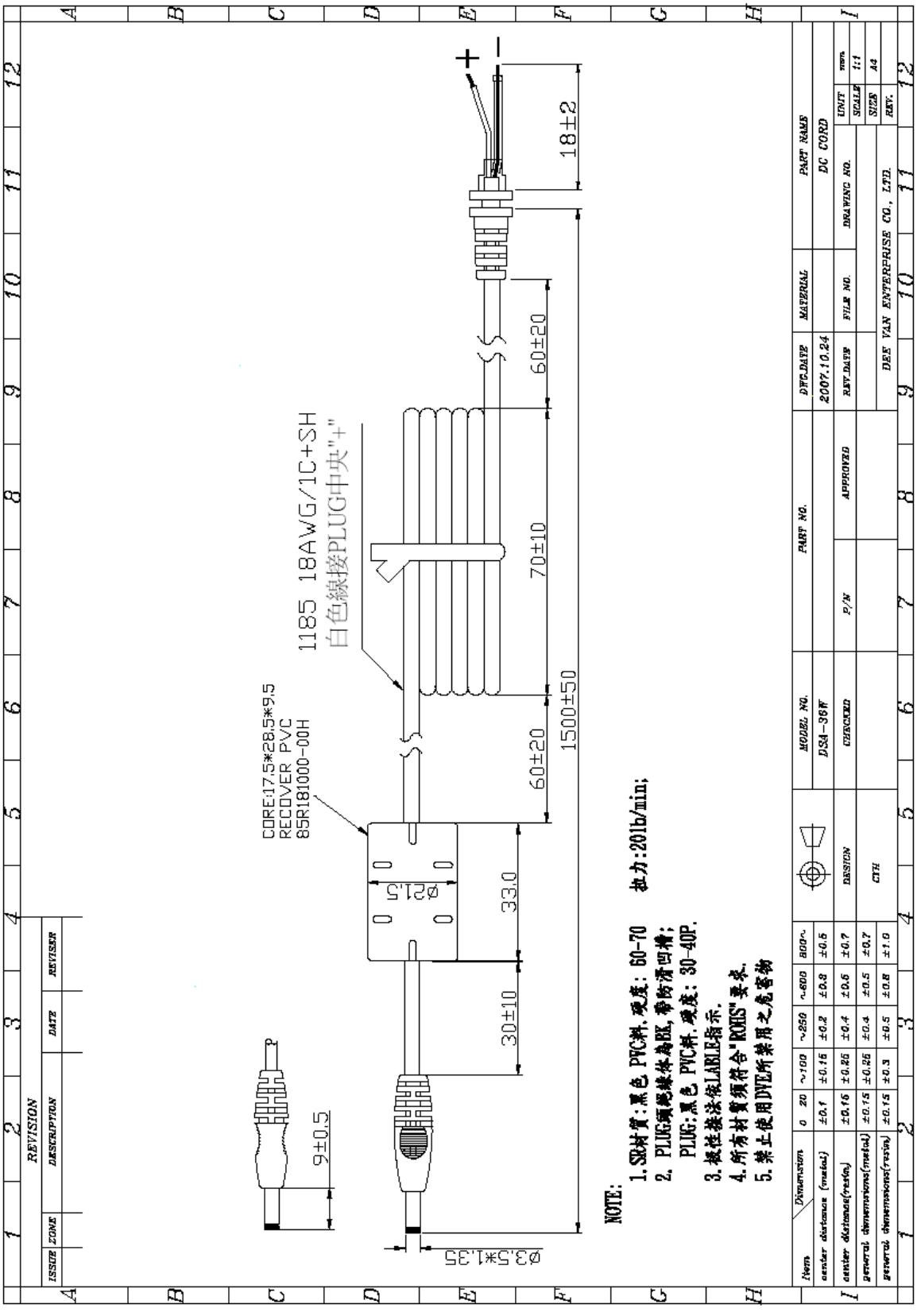
2.RATING LABEL DRAWING



FM-336(A)

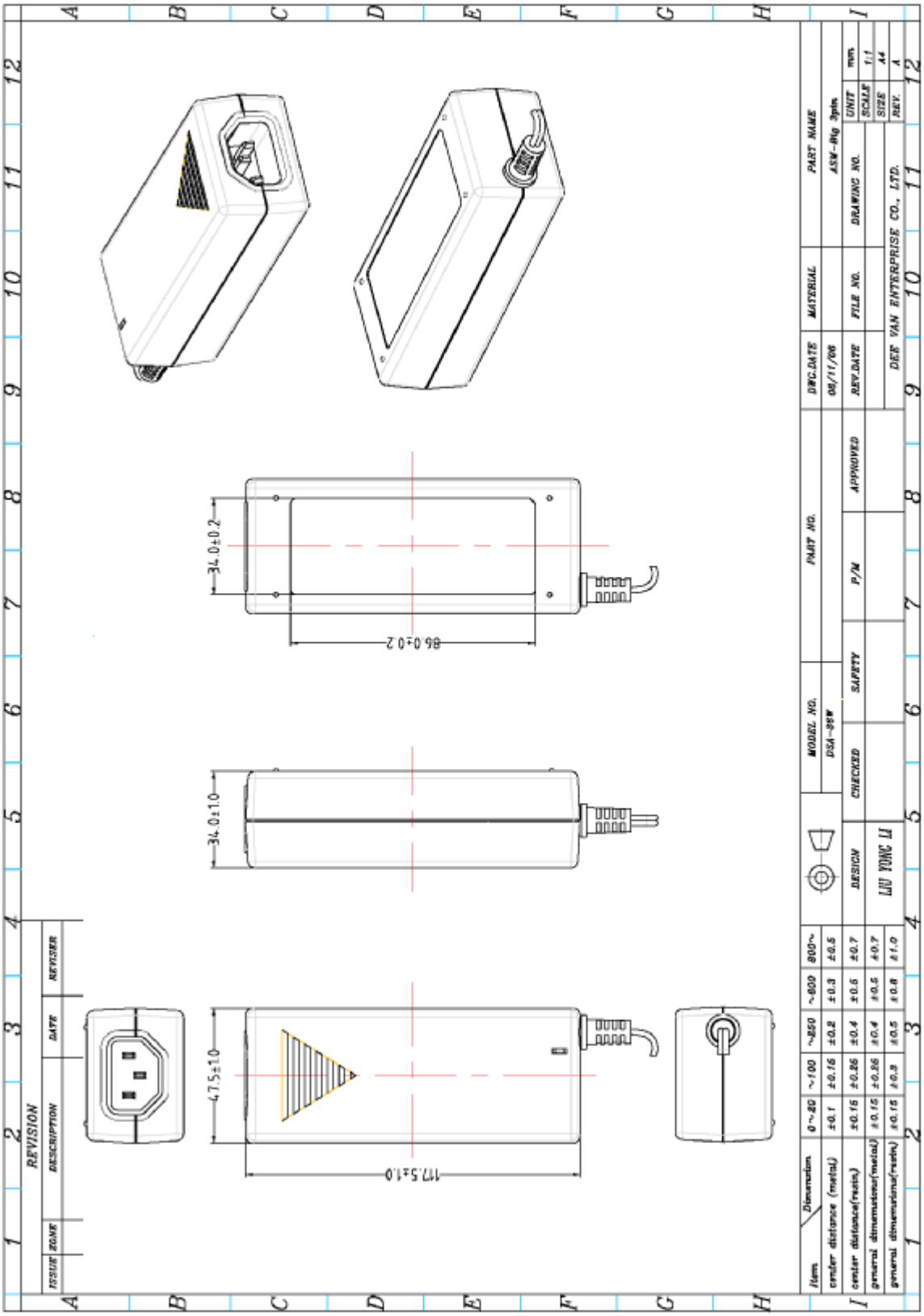
3. DC OUTPUT CORD DRAWING

-- 1 / 1

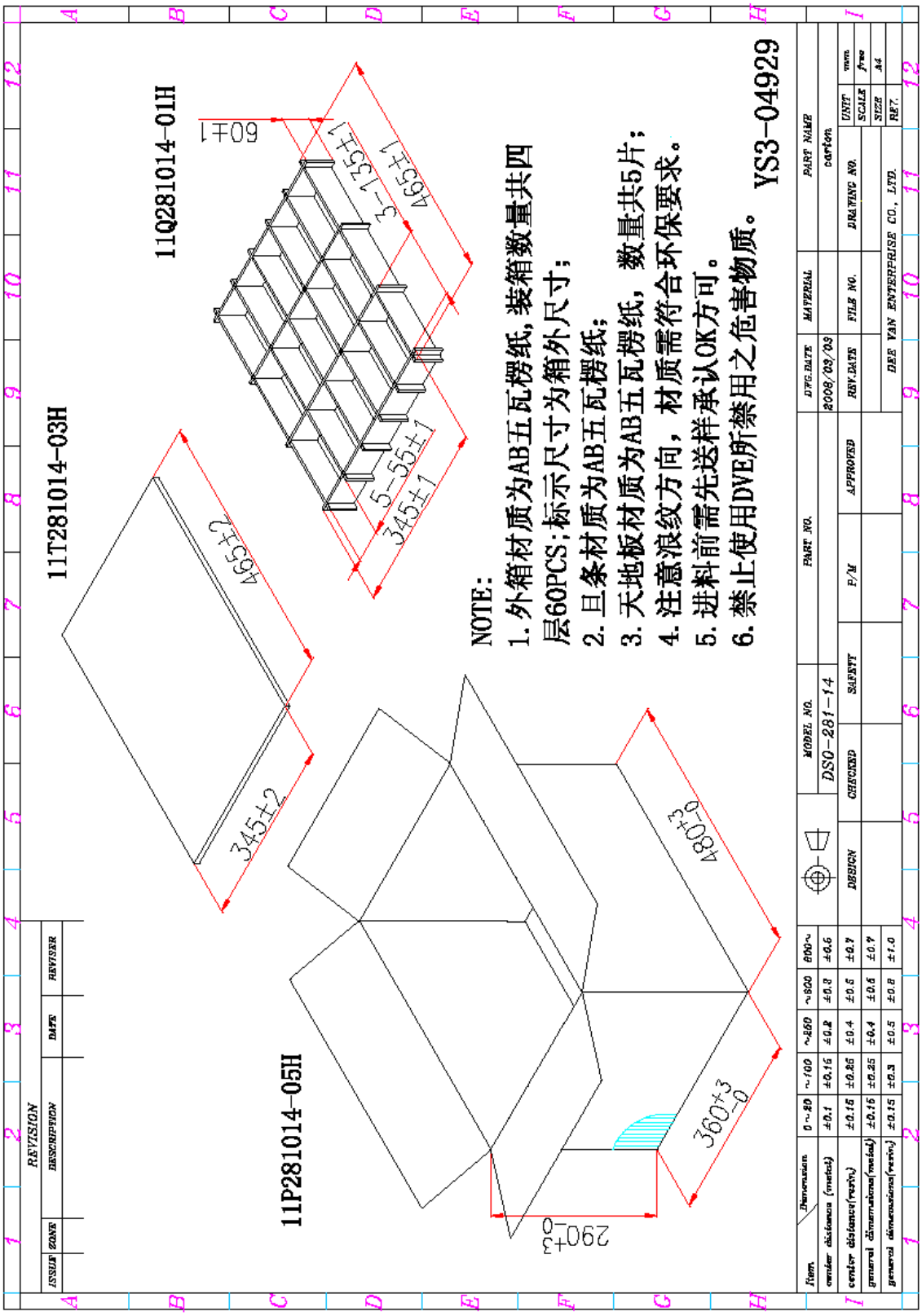


4.PRODUCT OUTLINE DRAWING

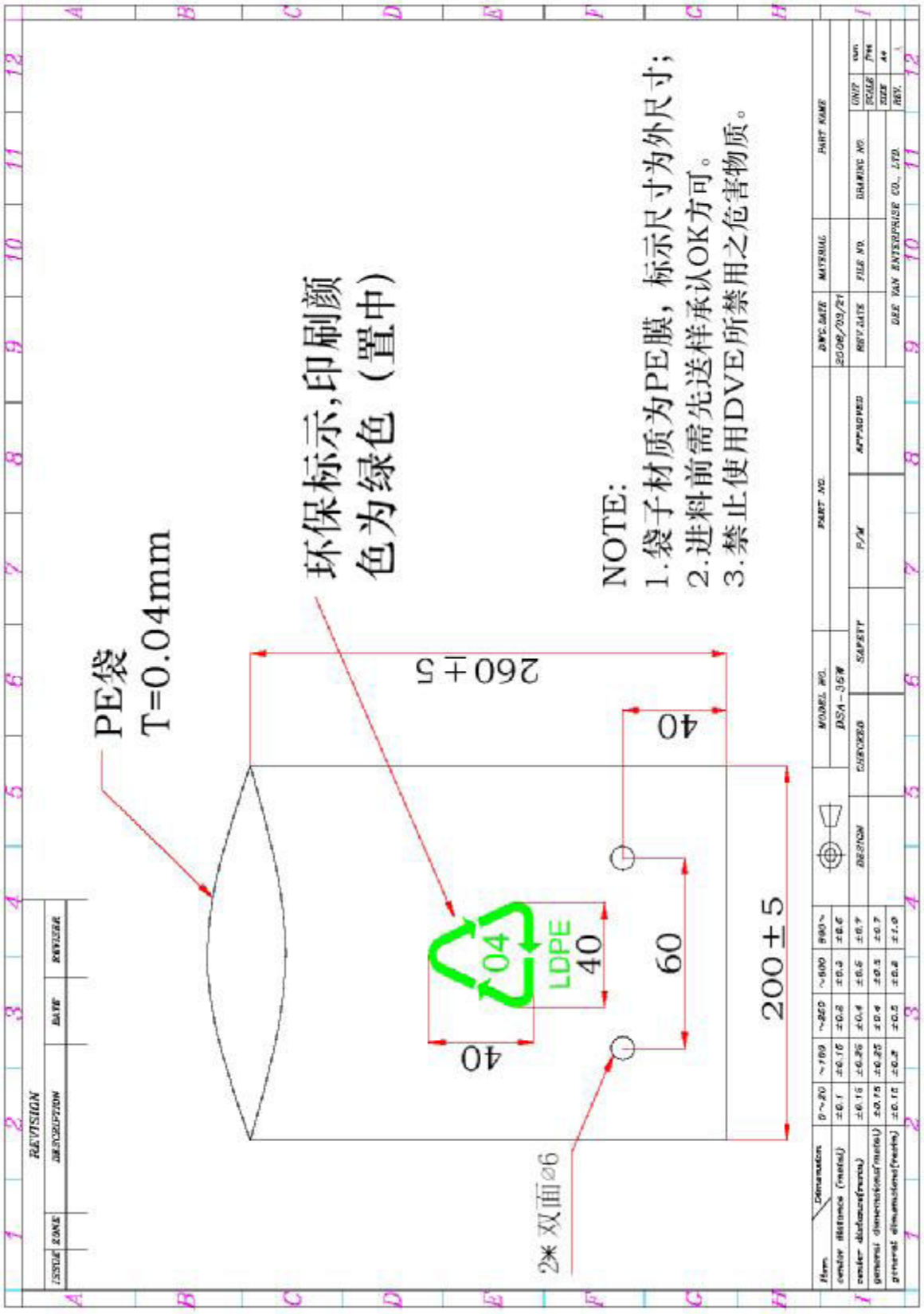
-- 1 / 1



5. PACKING DRAWING



5. PACKING DRAWING



6.SAFETY LICENSE(UL/CUL)

UL Online Certifications Directory

QQGQ.E135856
Power Supplies, Information Technology Equipment Including Electrical Business Equipment

Page Bottom

Power Supplies, Information Technology Equipment Including Electrical Business Equipment

See General Information for Power Supplies, Information Technology Equipment Including Electrical Business Equipment

DEE VAN ENTERPRISE CO LTD E135856
NO 5 PAO-KAO RD
HSIN-TIEN, TAIPEI TAIWAN

AC adapters, Model(s) 403A, AC-CS1-U(FUJIFILM), DSA-0021F-05A, DSA-0072, DSA-0101-05, DSA-0101F-05A, DSA-0131F-033, DSA-0131F-05, DSA-0131F-06, DSA-0131F-09, DSA-0131F-12, DSA-0132, DSA-0151-12, DSA-0151-12S, DSA-0151AD-05, DSA-0151AD-12, DSA-0151D-05, DSA-0151D-05 x y, where x = 1 or 3, y = 0-13, DSA-0151D-12, DSA-0151F-05, DSA-0151F-12, DSA-0182, DSA-0251-05, DSA-0283A, DSA-0301-05, DSA-0301-12, DSA-0301-16, DSA-0301-18, DSA-0301-24, DSA-0302-01, DSA-0303-01, DSA-0303-02, DSA-0303-03, DSA-0303-04, DSA-0303-04A, DSA-1001, DSA0101A-05A, DV-1250, DV-1280, DV-1280-3D, DV-1485AC, DV-1840WAC, DV-51A5R, DV-51A5RD, DV-51AAT, DV-52AR-1, DV-580R, MPA-015-12A(J), TDS-0182A, TDS-051211-I-DT.

Adapter, Model(s) FSP150-AAA, FSP150-AAB, FSP150-ABA, FSP150-ABB, FSP150-ACA, FSP150-ACB, FSP150-AGA, FSP150-AGB, FSP150-AHA, FSP150-AHB.

Direct Plug In Adaptor, Model(s) DSA-12R-12 AUS yz, DSA-20P-05 US cd, where c can be 030 to 075, d can be 000 to 150. , DSA-20P-10 US cd, where c can be 080 to 094, d can be 000 to 150 , DSA-20P-10 US cd, where c can be 095 to 140, d can be 000 to 204 , DSA-20P-20 US cd, where c can be 180 to 240, d can be 000 to 204 , DSA-30PF-12A, DSA-5R-05 FUS xxxyyy, DSC-51F-52P US, DSC-51FL-52P US.

Direct Plug-In AC/DC Adapters, Model(s) DSA-0201F-12, DV-0555R-1, DVS-xAyFUSz, where x can be 050 to 080, y can be 00 to 28, z can be N or blank. , DVS-xAyFUSz, where x can be 081 to 110, y can be 00 to 20, z can be N or blank. , DVS-xAyFUSz, where x can be 111 to 140, y can be 00 to 16, z can be N or blank. , DVS-xAyFUSz, where x can be 141 to 180, y can be 00 to 14, z can be N or blank., Models DV-095930, DV-0555R.

Direct Plug-In Power Adaptor, Model(s) DSC-51FL ab(#).

Direct plug-in power supplies, Model(s) AAA00131-E-3, AD-071, AD-A95100UI, DSA-0031F-05, DSA-0051-03C zJP@, DSA-0051-yyC zUS@, DSA-0051-yyCC zUS@, DSA-0051F-033, DSA-006-03A, DSA-006F-03A, DSA-006X-YYA, DSA-009X-YYA, DSA-0121-XXA, DSA-0121F-XX, DSA-0126A, DSA-0126F, DSA-0151A-XX, DSA-0151F-40, DSA-0151F-X, DSA-0161F-09A, DSA-0186A, DSA-0186F, DSA-0301W-12, DSA-12W-05 AUSx yyy zz, where x can be 1 or blank, yyy can be 040 to 060, zz can be 00 to 10., DSA-12W-05 FUS, DSA-12W-10 FUS, DSA-12W-15 FUS, DSA-12W-20 FUS, DSA-151MZ-03, DSA-151MZ-05, DSA-31AUS, DSA31SAUS, DSA-31FUS, DSA-31SFUS, DSA-S15-03, DSA-S15-05, DSx-0051-yy zUS@, DV-0550R, DV-062AX, DV-0935-1, DV-0935S-1, DV-0970R, DV-102AAC, DV-1270R, DV-1280-3, DV-2480AC, DV-3060, DV-751A, DV-751A5, DV-752AX, DV-91A, DV-9210-1, DV-XXXXX-B11, DV-XXXXXAC-B11, DVR-3508, DVR-3512, DVR-4109, DVR-4114, DVR-4814, DVR-4818, DVR-530, DVR-5716, DVR-5720, DVR-5725, DVR-B11, DVS-xyAzaUSC, where x can be 03 to 06, yz can be 00 to 30, a can be F or blank., DVS-xyAzaUSC, where x can be 07 to 10, yz can be 00 to 18, a can be F or blank. , DVS-xyAzaUSC, where x can be 11 to 14, yz can be 00 to 11, a can be F or blank. , DVS-xyAzaUSC, where x can be 15 to 18, yz can be 00 to 09, a can be F or blank., EI-3508, EI-3512, EI-4109, EI-4114, EI-4811, EI-4818, MJ-0506, MPA-020-09AJ.

Direct Plug-In Power Supply Adapter, Model(s) DVR-07520-3508, DVR-XXXXX-3508 Series (=).

Direct Plug-in Switching Adapter, Model(s) DSA-10P-ab cd, where ab can be 03, 05, 07 or 12; c can be 3 digits; d can be 2 digits., DSA-12W-05FUS1050xx, DSA-12W-05FUS1051xx, DSA-12W-05FUS1052xx, DSA-5P-ab xUS c d, where ab can be 03, 05, 08 or 12; x can by F or A; c can be 3 digits; d can be 3 digits. , DSC-5P-01 US bc, where b can be 40 to 65, c can be 000 to 100, DVS-120A10AUSz, DVS-120A12AUSz, DVS-150A10AUSz.

Direct Plug-In Switching Adaptor, Model(s) DSC-5P-01L US bc.

Linear Direct Plug-In Power supplies, Model(s) DV-1250AC-01.

6.SAFETY LICENSE(UL/CUL)

Linear power supplies, Model(s) DV-121A6ACD, DV-1351AD, MJ-8552US.

Power adapters, Model(s) A1F2BN/OZP, DSA-0421S-XX Y#.

Power supplies, Model(s) DSA-0121D-03, DSA-0151AD-06, DSA-0151D-05, DSA-0151D-06, DSA-0151D-09, DSA-0151D-09.5, DSA-0481-12, DSA-0481-12HA, DSA-0501-12, DSA-1001, DSA-1001-13, DSA-1001-24, DSA-1301-20.

Switching Adaptor, Model(s) DSA-21F-05-01 US, DSA-36W-12 X YY, DSA-36W-12 xx, DSA-55W-12 3 xx(%), DSA-65W-2 xxyy(%), DSA-65W-3 xxyy(%), DSA-90W-ab c xxxyy, where ab can be 12 or 24; c can be 1, 2 or 3; xxx can be 120 to 240; yy can be 00 to 90., DSC-31F US52050, DSC-31FLUS52050.

Switching Charger, Model(s) DSC-0051-03C, M120201.

Switching Power Adapter, Model(s) DSA-15P-a US yz.

Switching power adaptors, Model(s) DSA-0421S-50Y*, DSA-0601S-12 1, DSA-0601S-12 2, DSA-0601S-12 3, DSA-0601S-19 1, DSA-0601S-19 2, DSA-0601S-19 3, DSA-342, DSA-60W-12 1, DSA-60W-12 2, DSA-60W-12 3, DSA-60W-16 1, DSA-60W-16 2, DSA-60W-16 3, DSA-60W-20 1, DSA-60W-20 2, DSA-60W-20 3.

Switching Power Supply, Model(s) DSC-51F ab(a).

(#) - Where "a" may be 40 to 60, and "b" may be 001 to 100.

(%) - Where x, y can be any alphanumeric charter or blank.

(=) - Where X can be any alphanumeric charter or blank.

(a) - where "a " may be 40 to 60, and "b" may be 001 to 100.

* - Y= 1, 2, 3

@ - Where x may A or R; yy may 03, 05, 07, 12; z may be A or F denoting rated voltage range, F for 100 -240V, A for 100-120V.

a US yz - where a can be "05", y can be any number between 050 -075, z can be any number between 001 -130; or where a can be "12", y can be any number between 090 -135, z can be any number between 001 -150 .

AUS yz - where y can be any numbers between 090 - 120; z can be any numbers between 001 - 120.

FUS xxxyyy - where xxx can be any numbers between 042 - 090; yyy can be any numbers between 050 - 080.

Last Updated on 2006-06-06

Questions? Notice of Disclaimer Page Top

6.SAFETY LICENSE(UL/CUL)

UL Online Certifications Directory

QQGQ7.E135856
Power Supplies,Information Technology Equipment Including Electrical Business Equipment Certified for Canada

Page Bottom

Power Supplies, Information Technology Equipment Including Electrical Business Equipment Certified for Canada

See General Information for Power Supplies, Information Technology Equipment Including Electrical Business Equipment Certified for Canada

DEE VAN ENTERPRISE CO LTD E135856
NO 5 PAO-KAO RD
HSIN-TIEN, TAIPEI TAIWAN

AC adapters, Model(s) 403A, AC-CS1-U(FUJIFILM), DSA-0021F-05A, DSA-0072, DSA-0101-05, DSA-0101F-05A, DSA-0131F-033, DSA-0131F-05, DSA-0131F-06, DSA-0131F-09, DSA-0131F-12, DSA-0132, DSA-0151AD-05, DSA-0151AD-12, DSA-0151D-05, DSA-0151D-05 x y, where x = 1 or 3, y = 0-13, DSA-0151D-12, DSA-0151F-05, DSA-0151F-12, DSA-0251-05, DSA-1001, DV-1250, DV-1280, DV-1280-3D, DV-1485AC, DV-51A5R, DV-51A5RD, DV-51AAT, DV-52AR-1, DV-580R, MPA-015-12A(J), TDS-0182A, TDS-051211-I-DT.

Adapter, Model(s) FSP150-AAA, FSP150-AAB, FSP150-ABA, FSP150-ABB, FSP150-ACA, FSP150-ACB, FSP150-AGA, FSP150-AGB, FSP150-AHA, FSP150-AHB.

Direct Plug In Adaptor, Model(s) DSA-12R-12 AUS yz, DSA-20P-05 US cd, where c can be 030 to 075, d can be 000 to 150. , DSA-20P-10 US cd, where c can be 080 to 094, d can be 000 to 150 , DSA-20P-10 US cd, where c can be 095 to 140, d can be 000 to 204, DSA-20P-20 US cd, where c can be 180 to 240, d can be 000 to 204 , DSA-30PF-12A, DSA-5R-05 FUS xxxyyy, DSC-51F-52P US, DSC-51FL-52P US.

Direct Plug-In AC/DC Adapters, Model(s) DSA-0201F-12, DV-0555R-1, DVS-xAyFUSz, where x can be 050 to 080, y can be 00 to 28, z can be N or blank. , DVS-xAyFUSz, where x can be 081 to 110, y can be 00 to 20, z can be N or blank. , DVS-xAyFUSz, where x can be 111 to 140, y can be 00 to 16, z can be N or blank. , DVS-xAyFUSz, where x can be 141 to 180, y can be 00 to 14, z can be N or blank., Models DV-095930, DV-0555R.

Direct Plug-In Power Adaptor, Model(s) DSC-51FL ab(#).

Direct plug-in power supplies, Model(s) AAA00131-E-3, AD-071, AD-A95100UI, DSA-0031F-05, DSA-0051-03C zJP@, DSA-0051-yyC zUS@, DSA-0051-yyCC zUS@, DSA-0051F-033, DSA-006-03A, DSA-006F-03A, DSA-006X-YYA, DSA-009X-YYA, DSA-0121-XXA, DSA-0121F-XX, DSA-0126A, DSA-0126F, DSA-0151A-XX, DSA-0151F-40, DSA-0151F-X, DSA-0161F-09A, DSA-0186A, DSA-0186F, DSA-0301W-12, DSA-12W-05 AUSx yyy zz, where x can be 1 or blank, yyy can be 040 to 060, zz can be 00 to 10., DSA-12W-05 FUS, DSA-12W-10 FUS, DSA-12W-15 FUS, DSA-12W-20 FUS, DSA-151MZ-03, DSA-151MZ-05, DSA-31AUS, DSA31SAUS, DSA-31FUS, DSA-31SFUS, DSA-S15-03, DSA-S15-05, DSx-0051-yy zUS@, DV-0550R, DV-062AX, DV-0935-1, DV-0935S-1, DV-0970R, DV-1270R, DV-1280-3, DV-751A, DV-751A5, DV-752AX, DV-91A, DV-9210-1, DV-XXXXX-B11, DV-XXXXXAC-B11, DVR-3508, DVR-3512, DVR-4109, DVR-4114, DVR-4814, DVR-4818, DVR-530, DVR-5716, DVR-5720, DVR-5725, DVR-B11, DVS-xyAzaUSC, where x can be 03 to 06, yz can be 00 to 30, a can be F or blank. , DVS-xyAzaUSC, where x can be 07 to 10, yz can be 00 to 18, a can be F or blank. , DVS-xyAzaUSC, where x can be 11 to 14, yz can be 00 to 11, a can be F or blank., DVS-xyAzaUSC, where x can be 15 to 18, yz can be 00 to 09, a can be F or blank. , EI-3508, EI-3512, EI-4114, MJ-0506, MPA-020-09AJ.

Direct Plug-In Power Supply Adapter, Model(s) DVR-07520-3508, DVR-XXXXX-3508 Series (=).

Direct Plug-in Switching Adapter, Model(s) DSA-10P-ab cd, where ab can be 03, 05, 07 or 12; c can be 3 digits; d can be 2 digits., DSA-12W-05FUS1050xx, DSA-12W-05FUS1051xx, DSA-12W-05FUS1052xx, DSA-5P-ab xUS c d, where ab can be 03, 05, 08 or 12; x can by F or A; c can be 3 digits; d can be 3 digits. , DSC-5P-01 US bc, where b can be 40 to 65, c can be 000 to 100, DVS-120A10AUSz, DVS-120A12AUSz, DVS-150A10AUSz.

Direct Plug-In Switching Adaptor, Model(s) DSC-5P-01L US bc.

Linear Direct Plug-In Power supplies, Model(s) DV-1250AC-01.

Linear power supplies, Model(s) DV-121A6ACD, DV-1351AD, MJ-8552US.

6.SAFETY LICENSE(UL/CUL)

Power adapters, Model(s) A1F2BN/OZP, DSA-0421S-XX Y#.

Power supplies, Model(s) DSA-0121D-03, DSA-0151AD-06, DSA-0151D-05, DSA-0151D-06, DSA-0151D-09, DSA-0151D-09.5, DSA-0481-12, DSA-0481-12HA, DSA-0501-12, DSA-1001, DSA-1001-13, DSA-1001-24, DSA-1301-20.

Switching Adaptor, Model(s) DSA-21F-05-01 US, DSA-36W-12 X YY, DSA-36W-12 xx, DSA-55W-12 3 xx(%), DSA-65W-2 xxyy(%), DSA-65W-3 xxyy(%), DSA-90W-ab c xxxyy, where ab can be 12 or 24; c can be 1, 2 or 3; xxx can be 120 to 240; yy can be 00 to 90., DSC-31F US52050, DSC-31FLUS52050.

Switching Charger, Model(s) DSC-0051-03C, M120201.

Switching Power Adapter, Model(s) DSA-15P-a US yz.

Switching power adaptors, Model(s) DSA-0421S-50Y*, DSA-0601S-12 1, DSA-0601S-12 2, DSA-0601S-12 3, DSA-0601S-19 1, DSA-0601S-19 2, DSA-0601S-19 3, DSA-60W-12 1, DSA-60W-12 2, DSA-60W-12 3, DSA-60W-16 1, DSA-60W-16 2, DSA-60W-16 3, DSA-60W-20 1, DSA-60W-20 2, DSA-60W-20 3.

Switching Power Supply, Model(s) DSC-51F ab(a).

(#) - Where "a" may be 40 to 60, and "b" may be 001 to 100.

(%) - Where x, y can be any alphanumeric charter or blank.

(=) - Where X can be any alphanumeric charter or blank.

(a) - where "a " may be 40 to 60, and "b" may be 001 to 100.

* - Y= 1, 2, 3

@ - Where x may A or R; yy may 03, 05, 07, 12; z may be A or F denoting rated voltage range, F for 100 -240V, A for 100-120V.

a US yz - where a can be "05", y can be any number between 050 -075, z can be any number between 001 -130; or where a can be "12", y can be any number between 090 -135, z can be any number between 001 -150 .

AUS yz - where y can be any numbers between 090 - 120; z can be any numbers between 001 - 120.

FUS xxxyyy - where xxx can be any numbers between 042 - 090; yyy can be any numbers between 050 - 080.

Last Updated on 2006-06-06

Questions? Notice of Disclaimer Page Top

6.SAFETY LICENSE(FCC)

Certificate of Test

July 2006

Dee Van Enterprise Co., Ltd.

Product Type	: Switching Adaptor
Model Number	: DSA-36W-12 x yy, x=1 or 3, yy=0-9, A-Z or blank
Test Report Number	: 0606048 Rev.1
Date of Test	: June 15, 2006

This Product was tested to the following standards at the laboratory of Global EMC Standard Tech. Corp., and found Compliance.

Standards:
CFR 47, Part 15 / CISPR 22 3rd Edition: 1997, Class B
ANSI C63.4: 2003
Canadian ICES-003

http : //www.gestek.com.tw

Sharon Chang, President

Date: July 07, 2006

GesTek EMC Lab
N0. 3, Pau-Tou-Tsuo Valley, Chia-Pau Tsuen,
Lin Kou Hsiang, Taipei County, Taiwan, R.O.C.
TEL:886-2-2603-5321
FAX:886-2-2603-5325

NEMKO NVLAP 200085-0 VCCI

Certificate

6.SAFETY LICENSE(TUV-GS)

Zertifikat *Certificate*

TÜV

Zertifikat Nr. *Certificate No.*
S1 50084496

Blatt *Page*
0001

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Längstens gültig bis *Latest expiration date (day/mo/yr)*
J.H.Z.	05-YGH- 16007402 001	30.11.2010

Genehmigungsinhaber *License Holder*
Dee Van Enterprise Co., Ltd.
No. 5, Pao-Kao Road
Hsin Tien, Taipei 231
Taiwan

Fertigungsstätte *Manufacturing Plant*
Dee Van Electronics (Shenzhen) Co., Ltd.
The 5th Industrial District
Gongming, Bao An District
Shenzhen, Guangdong 518106
P.R. China

Prüfzeichen *Test Mark*
TÜV Rheinland Product Safety GS geprüfte Sicherheit

Geprüft nach *Tested acc. to*
EN 60950-1:2001+A11

Der Anhang I der Richtlinie 73/23/EWG ist eingehalten. Das Zertifikat kann im Rahmen der Konformitätserklärung nach Anhang III verwendet werden.
Annex I of the directive 73/23/EEC is complied with. The certificate can be used in connection with the EC declaration of conformity acc. to Annex III.

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*	**Lizenzentgelte - Einheit** *License Fee - Unit*
Netzgerät (Switching Power Supply)	
Serienbezeichnung (Series Type Designation) : DSA-36W-12 b a (DVE) Variable b = 1, 3; Variable a = Zweistellige Zahl, welche die Ausgangsleistung in W angibt und bis max. 36W in Schritten von 1W ansteigt. (Are 2 numerical digits, which represent the output power up to max. 36W, rising in steps of 1W.)	15
Nenneingangswerte (Rated Input Values) : AC 100-240V; 50/60Hz; 1,0A Ausgangswerte (Output Values) : DC 12,0V; max. 3,0A Schutzklasse (Protection Class) : I Umgebungstemperatur (Ambient Temperature) : 40°C	
	15

ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Produkt und Fertigungsstätte erfüllen § 4 (1) bzw. (2) und § 7(1) des Geräte- und Produktsicherheitsgesetzes.
This certificate is based on our Testing and Certification Regulation.
Product and production fulfill par 4 Art. 1 or Art. 2 and Par 7 Art. 1 of the German Equipment and Product Safety Law.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Dipl.-Ing. F. Nispel

TÜV Rheinland Product Safety GmbH Zertifizierungsstelle

Ausstellungsdatum *Date of Issue* : 18.05.2006 (day/mo/yr)

6.SAFETY LICENSE(T-LICENSE)

Certificate

TÜV

Certificate no. TA 50084706 01

License Holder:
Dee Van Enterprise Co., Ltd.
No. 5, Pao-Kao Road
Hsin Tien, Taipei 231
Taiwan

Manufacturing Plant:
Dee Van Electronics (Shenzhen) Co., Ltd.
The 5th Industrial District
Gongming, Bao An District
Shenzhen, Guangdong 518106
P.R. China

Test report no.: YGH 16007403 001 **Client Reference:** J.H.Z.

Tested to:
EN 60950-1:2001+A11
BS EN 60950-1:2002

Certified Product: (Switching Power Supply) **License Fee - Units**

Series Type Designation : DSA-36W-12 b a (DVE) 15
Variable b = 1, 3;
Variable a = Are 2 numerical digits, which represent the output power up to max. 36W, rising in steps of 1W.

Rated Input Values : AC 100-240V; 50/60Hz; 1,0A

Output Values : DC 12,0V; max. 3,0A

Protection Class : I

Ambient Temperature : 40°C

15

Appendix: 1

Licensed Test mark: EN 60950-1 / BS EN 60950-1

Signatures
Dipl.-Ing. P. Seidel
Dipl.-Ing. F. Nispel

Date of Issue (day/mo/yr)
19/05/2006

TÜV Rheinland Product Safety GmbH Zertifizierungsstelle TÜV Rheinland

6.SAFETY LICENSE(CE)

CE

Declaration of Conformity

CE

Product:	SWITCHING POWER SUPPLY
Type Designation/Trademark:	DSA-36W-12 b a (b can "1" or "3", "a" is 2 digit number which represents the output power)
Manufacturer's Name:	Dee Van Enterprise Co., Ltd
Manufacturer's Address:	5 Pao-Kao Road, Hsin-Tien Taipei 231 Taiwan

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336EEC) and Low Voltage directive (73/23/EEC amended by 93/68/EEC) . For the evaluation of the compliance with this Directives, the following standards were applied:

EN 60950-1:2001+A11

EN 55022:1998+A1+A2; EN 55024:1998+A1+A2

EN 61000-3-2:2000; EN 61000-3-3: 1995+A1

Responsible for making this declaration is the :

Manufacturer [X] **Authorized representative established within the EU** [ ]

Authorized representative established within the EU (if applicable) :

Company Name :	Dee Van Enterprise Co., Ltd
Company Address :	5 Pao-Kao Road, Hsin-Tien Taipei 231 Taiwan

Person responsible for making this declaration

Name, Surname :	Tony Zheng
Position/Title :	President

Shenzhen,China May.26,2006

(Place) (Date)

6.SAFETY LICENSE(SAA)

6. JUN. 2006 16:10 ELECTRICAL SAFETY 07 3406 3808

Your Ref:
Our Ref: 060708
Enquiries: Administration
Telephone: (07) 3237 0281
Facsimile: (07) 3406 3808
Email: equipmentsafety@dir.qld.gov.au

Queensland Government

Department of Industrial Relations

15 June 2006

Mr Huang Zehong
Dee Van Enterprise Co., Ltd.
c/- Ms Jill Wei
TUV Rheinland (Guangdong) Ltd.
43/F, Metro Plaza
183 Tianhe Road North
Guangzhou 510620 - CHINA

Dear Mr Zehong

CERTIFICATE OF APPROVAL OF PRESCRIBED ELECTRICAL EQUIPMENT
ELVPSU
SWITCHING POWER SUPPLY
MODEL NO. DSA-36W-12 B A SERIES

I am pleased to advise that your application for approval of the above mentioned electrical equipment has been approved.

The registration number allocated to the electrical equipment is Q060708. This registration number must be marked on all electrical equipment covered by the enclosed. Alternatively you may use the Regulatory Compliance Mark (RCM) in lieu of the registration number. Please advise this office if you intend to use the RCM in lieu of the registration number.

Please note that it is a requirement of the Electrical Safety Act and Regulations 2002 that if you modify the electrical equipment in any way you are required to notify this office of the details of the modifications for approval. An application for modification form is available from this office.

If you have supplied a sample of the product for examination, please arrange to collect the sample within thirty days of the date of this letter. If the sample has not been collected by this date it will be disposed of in accordance with section 118* of the Electrical Safety Regulation 2002.

You are reminded that it is mandatory for all plugs manufactured or imported to incorporate insulated live pins from 3 April 2005. It is required that all electrical equipment with out insulated pin plugs, be sold from all points of sale, by 3 April 2006.

Yours sincerely

B RICHARDSON
Manager – Equipment Safety
Electrical Safety Office

*Section 118 provides for the disposal of samples that have not been collected after six months from when notice is given requesting collection and that a person is not entitled to claim for the loss or damage so it.

Electrical Safety Office
Block B Neville Bonner Building
75 William Street Brisbane
Queensland 4000 Australia
LMB 2234 Brisbane
Queensland 4001 Australia
Telephone +61 7 3237 0281
Facsimile +61 7 3406 3808
Website www.eso.qld.gov.au

6.SAFETY LICENSE(SAA)

16. JUN. 2006 16:11 ELECTRICAL SAFETY 07 3900 3000

Queensland Government
Department of Industrial Relations

Electrical Safety Act 2002

Certificate of Approval for an Electrical Article

Registration No: Q060708

This is to certify that the Regulator has approved the electrical article described hereunder.

Registered Declarant: **Dee Van Enterprise Co., Ltd.**
No. 5 Pao-Kao Road
Hsin Tien, Taipei 231 - TAIWAN

DETAILS OF ARTICLE

Article:	**ELVPSU** **Switching Power Supply**
Trade Name:	**DVE**
Catalogue/Model/Type Number:	**DSA-36W-12 b x SERIES**
Marking Details:	**Input: 100-240Vac 50/60Hz 1.0A** **Output: 12Vdc 1.36W**
Reference Number:	**060708**
Relevant Standard:	**AS/NZS60950.1: 2003**
Date of Registration:	**08 June 2006**
Expiry Date:	**08 June 2011**

Director – Equipment Safety
Electrical Safety Office
/ /

Electrical Safety Office
Department of Industrial Relations
LMB 2234
Brisbane QLD 4001

6.SAFETY LICENSE(SAA)

16. JUN. 2006 16:11 ELECTRICAL SAFETY 07 3406 3000

Queensland Government
Department of Industrial Relations

Electrical Safety Act 2002

Attachment to Certificate of Approval for an Electrical Article

Part A

Approval Number:	**Q060708**
Modification to:	ELVPSU Switching Power Supply
Trade Name:	DVE
Catalogue/Model/Type Number:	DSA-36W-12 b a SERIES
Marking Details:	Input: 100-240Vac 50/60Hz 1.0A Output: 12Vdc 1-36W

Part B

Date of Modification: 08 June 2006

Details of Modification:

The following model numbering code applies:
- b represents appliance inlet type where 1 = C14 type and 3 = C6 type; and
- a represents the output power rating from 1-36W where 01 = 1W, 12 = 12W, 24 = 24W etc.

Director – Equipment Safety
Electrical Safety Office
16/6/06

Electrical Safety Office
Department of Industrial Relations
LMB 2234
Brisbane QLD 4001

6.SAFETY LICENSE(C-TICK) -- 12 / 13

QUALSURE CONSULTANTS
PO Box 80 Rosedale Vic. 3847 Australia
Phone +61 412 933497 Fax +61 3 5199 2544

Supplier's Declaration of Conformity
Radiocommunications Act 1992 Section 182

Suppliers Details

Name: **Qualsure Consultants** ACN

o f 18 Hood Street Rosedale Vic. 3847

Supplier Code **N136**

Product Details

Product	*Trade Name*	*Model Numbers*
Switching Adapter	DVE	DSA-36W-12 b a series

('b' can be '1' or '3', '1' represents C14 type inlet used, and '3' represents C6 type inlet used. 'a' is 2 digit number which represents the output power, up to 36W by step of 1W, for example, '12' represents the output power is 12W, '24' represents the output power is 24W.)

Australian Standard(s)

Title	Number	Date of issue
Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	AS/NZSCISPR22	2004

Declaration

I hereby declare under sole responsibility that the product mentioned above to which this declaration relates complies with the above mentioned standard(s).

(S I G NATURE OF THE AUTHORIZED PERSON)

Gordon Slimmon
(NAME OF THE AUTHORIZED PERSON)

Director
(POSITION IN COMPANY)

9 May 06
(DATE OF ISSUE)

Quality Systems International Permits Compliance Folders
A division of Bluien Pty Ltd (ACN 090 692 354) Registered Office 18 Hood Street Rosedale Vic. 3847
CF1294-1

6.SAFETY LICENSE(C-TICK) -- 13 / 13

QUALSURE CONSULTANTS
PO Box 80 Rosedale Vic. 3847
Australia
Phone +61 412 933497 Fax +61 3 5199 2544

9 May 2006

Jill Wei
TUV Rheinland (Guangdong) Ltd

Dear Ms Wei

LETTER OF AUTHORISATION

This letter authorises Dee Van Enterprises Co., Ltd, to label the product(s) listed below, with the C-Tick compliance mark and supplier number N136, subject to the following conditions:

a. The units supplied are identical to those held by and described in the compliance folder held by Qualsure Consultants.
b. Qualsure Consultants assumes no responsibility in the retail supply, servicing or repair of the listed product.
c. Any modification to the listed product(s) voids this authorisation.
d. This authorisation pertains only to the product(s) listed.
e. The product(s) listed, where necessary, hold and maintain an Australian electrical safety certificate .
f. Dee Van Enterprises Co., Ltd. takes responsibility and agrees to meet all costs in any action relating from a breach of the conditions of this authorisation.
g. Dee Van Enterprises Co., Ltd. agrees to supply to Qualsure Consultants the names and addresses of all Australian importers if required by the relevant Australian authority.

Product	*Trade Name*	*Model Number*
Switching Adapter	**DVE**	**DSA-36W-12 b a series** ('b' can be '1' or '3', '1' represents C14 type inlet used, and '3' represents C6 type inlet used. 'a' is 2 digit number which represents the output power, up to 36W by step of 1W, for example, '12' represents the output power is 12W, '24' represents the output power is 24W.)

The labelling and supply of the product with a C-Tick compliance label including the identifier N136 is agreement with the above conditions.

Gordon Slimmon.
Director

7. ROHS SGS REPORT

-- 1 / 9

Produktsicherheit und –qualität
Product Safety and Quality

TÜV Rheinland Group

Prüfbericht - Nr.: 143036497a 001
Test Report No.:

Seite 1 von 9
Page 1 of 9

Auftraggeber: *Client:*	**Dee Van Electronics (Shenzhen) Co.,Ltd.** The 5th Industrial District Gongming, Bao An District Shenzhen, Guangdong 518106 P.R. China		
Prüfgegenstand: *Test item:*	Switching Adaptor	**Wareneingangs-Nr.:** *Receipt No.:*	060922739/0612 05519
Bezeichnung: *Identification:*	DSA-xxxxy-z series, DSR-xxxxy-z series, DSC-xxxxy-z series, DVS-xxxxy-z series, DSO-xxxxy-z series, (x,y z= A-Z or 0-9 or blank)		
Anlieferungszustand: *Delivery condition:*	**einwandfrei** *apparent good*	**Eingangsdatum:** *Date of receipt:*	22 September 2006
Prüfort: *Testing location:*	TÜV Rheinland Hong Kong Ltd.		
Prüfgrundlage: *Test specification:*	Restriction of the Use of Hazardous Substances Directive (RoHS), 2002/95/EC		
Prüfergebnis: *Test result:*	**Nach Art und Umfang der durchgeführten Prüfungen hat der Prüfgegenstand die oben genannten Prüfgrundlage bestanden.** According to the kind and extent of tests performed the test item complied with the test specification.		

Geprüft: *tested by:*

11 October 2006 Raymond Chin/ Lab. Project Manager

Datum *Date* | Name/Stellung *Name/Position* | Unterschrift *Signature*

Kontrolliert: *checked by:*

11 October 2006 Hilda Tang/ Project Manager

Datum *Date* | Name/Stellung *Name/Position* | Unterschrift *Signature*

Sonstiges/ *Other Aspects:*

Chemical Testing

Attachment: Photographic Documentation

Abkürzungen:			Abbreviations:		
ok / P	=	entspricht Prüfgrundlage	ok / P	=	passed
fail / F	=	entspricht nicht Prüfgrundlage	fail / F	=	failed
n.a. / N	=	nicht anwendbar	n.a. / N	=	not applicable

Dieser Prüfbericht bezieht sich nur auf den Prüfgegenstand und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.

This test report relates to the test item. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to use a test mark.

TÜV Rheinland Hong Kong Ltd. · Unit 8, 25/F., Skyline Tower, 39 Wang Kwong Room, Kowloon Bay, Kowloon, Hong Kong
Tel.: (852) 2192 1000 Fax: (852) 2192 1003 Mail: info@hk.chn.tuv.com · Web: www.chn.tuv.com

7. ROHS SGS REPORT

www.tuv.com

TÜV Rheinland Group

Prüfbericht - Nr.: 143036497a 001
Test Report No.:

Seite 2 von 9
Page 2 of 9

A) Chemical Testing

Test Method : IEC 111/54/CDV (Project Number: 62321, Ed.1) - Procedures for Determination of Levels of Six Regulated Substances in Electrical Products.

Material list

Material No.	Material	Location	Color	Remark	Raw material No.	Test plan* A= Test HM only B = Test FR only C = Test HM + FR
1	Plastic	CASE	black	NORYL SE1X	1	C
2	Metal	AC PIN	silver	copper alloy	2	A
3	Plastic	LEAD WIRE	blue	PVC	4-1	C
4	Metal	LEAD WIRE	silver	copper wire	4-2	A
5	Metal	DC WIRE	copper	copper wire	5-1	A
6	Ele. Com.	DC WIRE	black	black plastic tube	5-2	C
7	Ele. Com.	DC WIRE	black	black insulation tube	5-3	C
8	Ele. Com.	DC WIRE	red	red insulation tube	5-4	C
9	Plastic	SR	black	PVC	6	C
10	Plastic	STRIP WIRE BLACK	black	Plastic tube	7-1	C
11	Metal	STRIP WIRE BLACK	silver	Fe wire	7-2	A
12	Plastic	FOAM	black	RESIN	8	C
13	Metal	SOLDER WIRE	silver	Sn & Cu	10	A
14	liquid	WASH-FREE	transparent	liquid	11	C
15	liquid	ALCOHOL	transparent	liquid	12	C
16	Plastic	HOT MELT GLUE	white	GLUE	13	C
17	Plastic	LABEL	multiple colored	plastic	14	C
18	Plastic	TEFLON-TUBING	transparent	plastic	15	C
19	Plastic	MYLAR TAPE	yellow	plastic	16	C
20	Plastic	ACETATE TAPE	white	plastic	17	C
21	Plastic	PVC BOARD	transparent	PVC	18	C
22	Metal	JUMPWIRE-ANNFALED	silver	Copper	19	A
23	Metal	BRASS PLATE COPPER	copper	BRASS	20	A
24	Metal	ENAMELED COPPER WIRE	copper	Copper	21	A
25	liquid	THINNER/XFMR	transparent	liquid	22	C
26	liquid	VARNISH/XFMR	yellow	liquid	23	C
27	Ele. Com.	DIODE	black & grey	body	24-1	C
28	Metal	DIODE	silver	metal pin	24-2	A

7. ROHS SGS REPORT

www.tuv.com

TÜV Rheinland Group

Prüfbericht - Nr.: 143036497a 001
Test Report No.:

Seite 3 von 9
Page 3 of 9

29	Metal	AL PLATE	silver	AL	25	A
30	Metal	CU PLATE	copper	Cu	26	A
31	Metal	SPRING-WASHER	silver	Cu	27	A
32	Plastic	SCREW-FIXED	liquid	GLUE	28	C
33	Ele. Com.	SILICON HEATSINK	white	paste	29	C
34	Metal	TRANSISTOR NPN	silver & copper	metal pin	30-1	A
35	Ele. Com.	TRANSISTOR NPN	black	silicon body	30-2	C
36	Ele. Com.	FERRITE CORE	black	FERRITE	31	C
37	Plastic	UL ADHESIVE WHITE	white	ADHESIVE	32	C
38	Metal	SOLDER BAR	silver	Sn	33	A
39	Plastic	PHOTO COUPLER	black	body	34-1	C
40	Metal	PHOTO COUPLER	silver	metal pin	34-2	A
41	Ele. Com.	IC	black	body	35-1	C
42	Metal	IC	silver	metal pin	35-2	A
43	Ele. Com.	DIODE-SW	multiple colored	body	36-1	C
44	Metal	DIODE-SW	silver	metal pin	36-2	A
45	Metal	STAINLESS STEEL	silver	Fe	37	A
46	Ele. Com.	DIODE ZENER	multiple colored	body	38-1	C
47	Metal	DIODE ZENER	silver	metal pin	38-2	A
48	Metal	FUSE	silver	metal pin	39-1	A
49	Metal	FUSE	silver	metal cover	39-2	A
50	Powder	FUSE	grey	powder	39-3	A
51	Metal	FUSE	silver	contact	39-4	A
52	Plastic	FUSE	white	fuse wire	39-5	C
53	Ceramic	FUSE	white	ceramic tube	39-6	A
54	Plastic	X-CAP	grey	plastic enclosure	40-1	C
55	Ele. Com.	X-CAP	grey	body	40-2	C
56	Metal	X-CAP	silver	metal pin	40-3	A
57	Ele. Com.	Y-CAP	blue	body	41-1	C
58	Metal	Y-CAP	silver	pin	41-2	A
59	Ele. Com.	Ceramic CAP	brown	ceramic body	42-1	C
60	Metal	Ceramic CAP	silver	metal pin	42-2	A
61	Plastic	E-CAP	black and grey	plastic enclosure	43-1	C
62	Plastic	E-CAP	black	plastic cover	43-2	C
63	Metal	E-CAP	silver	metal pin	43-3	A

7. ROHS SGS REPORT

www.tuv.com

TÜV Rheinland Group

Prüfbericht - Nr.: 143036497a 001
Test Report No.:

Seite 4 von 9
Page 4 of 9

64	Metal	E-CAP	silver	metal enclosure	43-4	A
65	Metal	E-CAP	silver	metal film	43-5	A
66	Paper	E-CAP	shallow yellow	paper with E-solution	43-6	C
67	Plastic	TR. INSULATION	white	plastic	44	C
68	Metal	SCREW BID	silver	Fe	45	A
69	Ele. Com.	CARBON-Resistor	brown with color ring	body	47-1	C
70	Metal	CARBON-Resistor	silver	metal pin	47-2	A
71	Ele. Com.	SMD-CAP	Black & white		48	C
72	Ele. Com.	CHIP RESISTOR	Black & white		49	C
73	Ele. Com.	PCB	multiple colored	epoxy	50	C
74	Plastic	PVC-TUBING	black	PVC	51	C
75	Metal	INDUCTOR	copper	Copper	52-1	A
76	Ele. Com.	INDUCTOR	black	magnetic pole	52-3	C
77	Plastic	INDUCTOR	green	paint	52-4	C
78	Plastic	SILICON-RUBBER	grey	RUBBER	53	C
79	Plastic	BOBBIN	white	NYLON/PBT	54	C
80	Plastic	USB	black	plastic body	55-1	C
81	Metal	USB	silver & copper	metal pin	55-2	A
82	Metal	USB	silver	metal enclosure	55-3	A
83	Ele. Com.	MOF-Resistor	green with colored ring	body	56-1	C
84	Metal	MOF-Resistor	silver	metal pin	56-2	A
85	Ele. Com.	MOSFET	black	body	57-1	C
86	Metal	MOSFET	silver	metal pin	57-2	A
87	Ele. Com.	BRIDGE-DIODE	black	body	58-1	C
88	Metal	BRIDGE-DIODE	silver	metal pin	58-2	A
89	Ele. Com.	IC SMD PWM	multiple colored	Metal + plastic	59	C
90	Ele. Com.	VARISTOR	blue	body	60-1	C
91	Metal	VARISTOR	silver	metal pin	60-2	A
92	Ele. Com.	THERMISTOR	green	Body	61-1	C
93	Metal	THERMISTOR	silver	metal pin	61-2	A
94	Plastic	INLET	black	Plastic body	62-1	C
95	Metal	INLET	silver	metal pin	62-2	A

7. ROHS SGS REPORT

www.tuv.com

TÜV Rheinland Group

Prüfbericht - Nr.: 143036497a 001
Test Report No.:

Seite 5 von 9
Page 5 of 9

96	Metal	INLET	silver	metal nut	62-3	A
97	Metal	DC PLUG	silver	copper enclosure	63-1	A
98	Plastic	DC PLUG	black	plastic	63-3	C
99	Ele. Com.	SMD-ZENER	multiple colored	metal+ plastic	64	C
100	Paper	INSULATION PAPER	brown	PAPER	65	C
101	Metal	TERMINAL	silver	METAL	66	A
102	Ele. Com.	SMD-TRANSISTOR	multiple colored	metal+ plastic	67	C
103	liquid	Flux	transparent	Liquid	68	C
104	Plastic	HEAT SHRINKABLE TUBE	black	PE	69	C
105	Plastic	Brow LEAD WIRE	brown	PVC	70-1	C

Abbreviation: *HM (Heavy metal) denotes Cd, Pb, Hg, Cr VI
FR (Flame Retardant) denotes PBB, PBDE

Test result

Material No.	[mg/kg]					
	Cd	Cr VI^	Pb	Hg	PBB	PBDE
	Limit					
	100	1000	1000	1000	1000	1000
1	<2	<2	<2	<2	<30	<30
2	<2	<2	16	<2	N.A.	N.A.
3	<2	<2	<2	<2	<30	<30
4	<2	<2	19	<2	N.A.	N.A.
5	<2	<2	10	<2	N.A.	N.A.
6	<2	<2	<2	<2	<30	<30
7	<2	<2	<2	<2	<30	<30
8	<2	<2	<2	<2	<30	<30
9	<2	<2	<2	<2	<30	<30
10	<2	<2	23	<2	<30	<30
11	<2	118	18	<2	N.A.	N.A.
12	<2	<2	20	<2	<30	<30
13	<2	<2	64	<2	N.A.	N.A.
14	<2	<2	<2	<2	<30	<30
15	<2	<2	<2	<2	<30	<30
16	<2	<2	<2	<2	<30	<30
17	<2	<2	<2	<2	<30	<30
18	<2	<2	<2	<2	<30	<30
19	<2	<2	<2	<2	<30	<30
20	<2	<2	<2	<2	<30	<30
21	<2	<2	<2	<2	<30	<30
22	<2	<2	48	<2	N.A.	N.A.
23	<2	<2	117	<2	N.A.	N.A.

7. ROHS SGS REPORT

www.tuv.com

TÜV Rheinland Group

Prüfbericht - Nr.: 143036497a 001
Test Report No.:

Seite 6 von 9
Page 6 of 9

24	<2	<2	<2	<2	N.A.	N.A.
25	<2	<2	<2	<2	<30	<30
26	<2	<2	<2	<2	<30	<30
27	<2	<2	<2	<2	<30	<30
28	<2	<2	<2	<2	N.A.	N.A.
29	<2	26	<2	<2	N.A.	N.A.
30	<2	<2	65	<2	N.A.	N.A.
31	16	<2	24179*	<2	N.A.	N.A.
32	<2	<2	<2	<2	<30	<30
33	<2	<2	14	<2	<30	<30
34	<2	<2	<2	<2	N.A.	N.A.
35	<2	<2	7470*	<2	<30	<30
36	<2	16	11	<2	<30	<30
37	<2	<2	14	<2	<30	<30
38	<2	<2	146	<2	N.A.	N.A.
39	<2	26	10	<2	<30	<30
40	<2	<2	<2	<2	N.A.	N.A.
41	<2	<2	<2	<2	<30	<30
42	<2	<2	<2	<2	N.A.	N.A.
43	<2	89	218881*	<2	<30	<30
44	<2	<2	<2	<2	N.A.	N.A.
45	<2	219	43	<2	N.A.	N.A.
46	<2	78	70213*	<2	<30	<30
47	<2	<2	<2	<2	N.A.	N.A.
48	<2	<2	32	<2	N.A.	N.A.
49	<2	<2	<2	<2	N.A.	N.A.
50	<2	<2	<2	<2	N.A.	N.A.
51	<2	<2	43	<2	N.A.	N.A.
52	<2	<2	100	<2	<30	<30
53	<2	<2	327	<2	N.A.	N.A.
54	<2	<2	<2	<2	<30	<30
55	<2	<2	<2	<2	<30	<30
56	<2	<2	<2	<2	N.A.	N.A.
57	<2	<2	<2	<2	<30	<30
58	<2	<2	<2	<2	N.A.	N.A.
59	<2	25	856	<2	<30	<30
60	<2	<2	<2	<2	N.A.	N.A.
61	<2	<2	<2	<2	<30	<30
62	<2	<2	<2	<2	<30	<30
63	<2	<2	<2	<2	N.A.	N.A.
64	<2	<2	<2	<2	N.A.	N.A.
65	<2	<2	<2	<2	N.A.	N.A.
66	<2	<2	<2	<2	<30	<30
67	<2	<2	<2	<2	<30	<30
68	<2	140	28	<2	N.A.	N.A.
69	<2	52	<2	<2	<30	<30
70	<2	<2	<2	<2	N.A.	N.A.
71	<2	84	11	<2	<30	<30
72	<2	112	2426*	<2	<30	<30

7. ROHS SGS REPORT

www.tuv.com

TÜV Rheinland Group

Prüfbericht - Nr.: 143036497a 001
Test Report No.:

73	<2	<2	<2	<2	<30	<30
74	<2	<2	<2	<2	<30	<30
75	<2	<2	<2	<2	N.A.	N.A.
76	<2	86	14	<2	<30	<30
77	<2	<2	<2	<2	<30	<30
78	<2	<2	<2	<2	<30	<30
79	<2	<2	<2	<2	<30	<30
80	<2	<2	25	<2	<30	<30
81	<2	<2	<2	<2	N.A.	N.A.
82	<2	<2	194	<2	N.A.	N.A.
83	<2	23	<2	<2	<30	<30
84	<2	<2	<2	<2	N.A.	N.A.
85	<2	<2	4846*	<2	<30	<30
86	<2	<2	<2	<2	N.A.	N.A.
87	<2	15	10128*	<2	<30	<30
88	<2	<2	<2	<2	N.A.	N.A.
89	<2	<2	16	<2	<30	<30
90	<2	21	98	<2	<30	<30
91	<2	<2	<2	<2	N.A.	N.A.
92	<2	64	101	<2	<30	<30
93	<2	<2	<2	<2	N.A.	N.A.
94	<2	<2	<2	<2	<30	<30
95	13	<2	44	<2	N.A.	N.A.
96	13	<2	20556*	<2	N.A.	N.A.
97	<10	<10	29	<10	N.A.	N.A.
98	<10	<10	<10	<10	<30	<30
99	<2	124	80172*	<2	<30	<30
100	<2	<2	11	<2	<30	<30
101	<2	<2	27	<2	N.A.	N.A.
102	<2	112	17	<2	<30	<30
103	<2	<2	<2	<2	<30	<30
104	<2	<2	<2	<2	<30	<30
105	<2	<2	<2	<2	<30	<30

Abbreviation:

Pb	denotes Lead
Cd	denotes Cadmium
Hg	denotes Mercury
Cr (VI)	denotes Chromium (VI)
PBB	denotes Polybrominated Biphenyls
PBDE	denotes Polybrominated Diphenyl Ethers
<	denotes less than
N.A.	denotes Not Applicable
^	The total Chromium have been determined.

Remark :

7. ROHS SGS REPORT

www.tuv.com

TÜV Rheinland Group

Prüfbericht - Nr.: 143036497a 001
Test Report No.:

Seite 8 von 9
Page 8 of 9

(*1) According to Commission Decision 2005/618/EC of 18 August 2005, amending Directive 2002/95/EC (RoHS), the maximum concentration values for each homogenous material are:

Lead	0.1%	(1000 ppm)
Cadmium	0.01 %	(100 ppm)
Mercury	0.1%	(1000 ppm)
Chromium(VI)	0.1%	(1000 ppm)
Polybrominated Biphenyls	0.1%	(1000 ppm)
Polybrominated Diphenyl Ethers	0.1%	(1000 ppm)

(*2) For Polybrominated Biphenyls (PBB), the determined PBB are:

PBB 3	(4-Bromobiphenyl)
PBB 4	(2,2'-Dibromobiphenyl)
PBB 18	(2,2',5-Tribromobiphenyl)
PBB 77	(3,3',4,4'-Tetrabromobiphenyl)
PBB 101	(2,2',4,5,5'-Pentabromobiphenyl)
PBB 153	(2,2',4,4',5,5'-Hexabromobiphenyl)
PBB 209	(2,2',3,3',4,4'5,5'6,6'-Decabromobiphenyl)

(*3) For Polybrominated Diphenyl Ethers (PBDE), the determined PBDE are:

PBDE 3	(4-Bromodiphenyl ether)
PBDE 4	(2,2'-Dibromodiphenyl ether)
PBDE 28	(2,4,4'-Tribromodiphenyl ether)
PBDE 47	(2,2',4,4'-Tetrabromodiphenyl ether)
PBDE 85	(2,2',3,4,4'-Pentabromodiphenyl ether)
PBDE 99	(2,2',4,4',5-Penta bromodiphenyl ether)
PBDE 100	(2,2',4,4',6-Pentabromodiphenyl ether)
PBDE 153	(2,2',4,4',5,5'-Hexabromodiphenyl ether)
PBDE 154	(2,2',4,4',5,6'-Hexabromodiphenyl ether)
PBDE 180	(2,2',3,4,4',5,5'-Heptabromodiphenyl ether)
PBDE 196	(2,2',3,3',4,4',5,6'-Octabromodiphenyl ether)
PBDE 197	(2,2',3,3',4,4',6,6'-Octabromodiphenyl ether)
PBDE 203	(2,2',3,4,4',5,5',6-Octabromodiphenyl ether)
PBDE 206	(2,2',3,3',4,4',5,5',6-Nonabromodiphenyl ether)
PBDE 209	(2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether)

(*4) The detection limit for each hazardous substances, and determined individual PBBs and individual PBDEs are :

Detection limit in ppm (mg/kg)		
Heavy Metals	Cadmium (Cd)	2
	Chromium (Cr(VI))	2
	Lead (Pb)	2
	Mecury (Hg)	2
PBBs	Bromobiphenyl	1
	Dibromobiphenyl	1
	Tribromobiphenyl	1
	Tetrabromobiphenyl	1
	Pentabromobiphenyl	1
	Hexabromobiphenyl	2
	Heptabromobiphenly	2
	Octabromobiphenyl	5
	Nonabromobiphenyl	5
	Decabromobiphenyl	10

7. ROHS SGS REPORT

-- 9 / 9

PBDEs	Bromodiphenylether	1
	Dibromodiphenyl ether	1
	Tribromodiphenyl ether	1
	Tetrabromodiphenyl ether	1
	Pentabromodiphenyl ether	1
	Hexabromodiphenyl ether	2
	Heptabromodiphenyl ether	2
	Octabromodiphenyl ether	5
	Nonabromodiphenyl ether	10

According to 2002/95/EC, Annex of Amendment Directive, 2005/717/EC, Decabromodiphenyl ether (DecaBDE) in polymeric applications is exempted from requirement.

(*5) According to Annex of 2002/95/EC, Lead in glass of cathode ray tubes, electronic components and fluorescent tubes are exempted from requirement

(*6) According to Annex of 2002/95/EC, Lead as an alloying element in steel containing up to 0.35% lead by weight, Aluminum containing up to 0.4% lead by weight and as a copper alloy containing up to 4% lead by weight are exempted from requirement

(*7) According to Annex of 2002/95/EC, Lead in high melting temperature type solders (i.e.lead-based alloys containing 85% by weight or more lead) is exempted from requirement

--- END ---