Scanning	LIB.

Safety

RoHS

SPECIFICATION FOR APPROVAL

- **CUSTOMER : LG Electronics inc.**
- **ITEM : Power Supply Unit.**
- **P/NO**

Model Name	Customer	Supplier
LGP32-13PL2	EAY62830901	PLDC-L231A

- **DATE : 2013. 07. 16**
- **Revision : 2.2**
- **Remark : MP (PCB REV 2.0)**

Producing District : YANTAI, CHINA (중국 연태)
(생산지) WROCLAW, POLAND (폴란드 브루츠와프)

★ Safety Standard Parts [안전규격부품 List]

Power Cord, Power Plug, X/Y-Capacitor, Power Switch, Fuse, SMPS Trans, Stand-By Trans, Photo coupler, Insulation(절연) Resistor, Discharge(방전) Resistor, Fusing Resistor, FBT.CPT, CPT Socket, DY, D-Coil, Line Filter, PCB Material, Front / Back-cover Material Relay(1-2차간), Varistor, Adapter

★ EMC Standard Parts [전자규격 부품 List]

Power Plug, Line Filter, X-Capacitor, Y-Capacitor, SMPS Trans, Tuner, Saw-Filter, Shield Case, Oscillator, Pattern Change

★ Green [유해물질 확인사항]

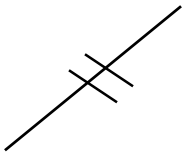
This item must meet the standards of LG Electronics for six major substances as designated by RoHS for control.

(Cd: 10ppm under, Pb/Hg/Cr+6/PBB/PBDE: 100 ppm under)

LG Innotek
LG Innotek Co., Ltd
LG Twin Tower 33/34F, Yeouido-dong,
Yeongdeungpo-gu, Seoul, Korea
Tel. : +82-2-3777-1114
Fax. : +82-2-3777-0082

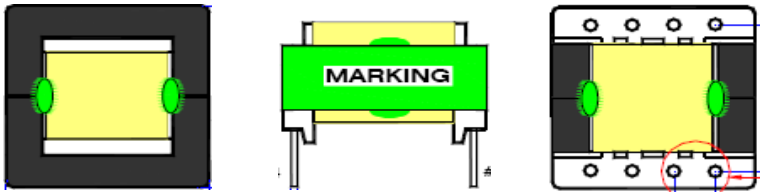
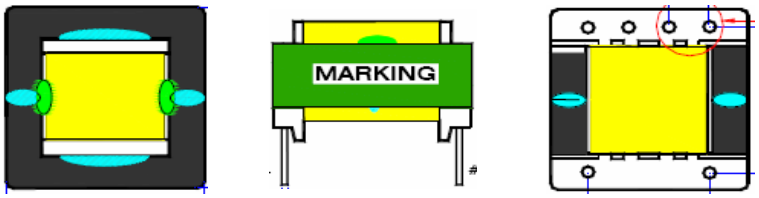
Documentation For Approval

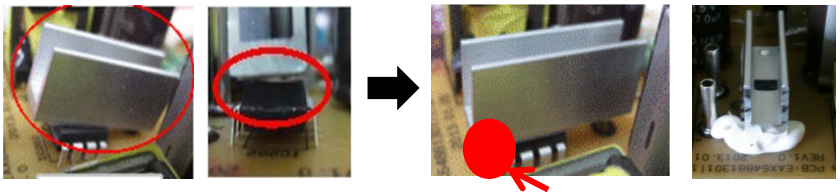
Model Name	Customer	Supplier
LGP32-13PL2	EAY62830901	PLDC-L231A

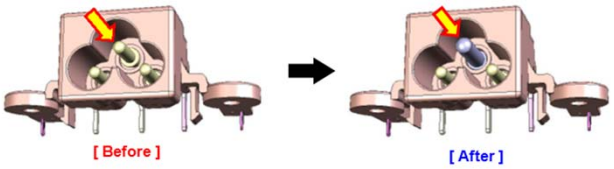
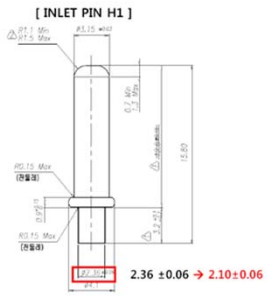
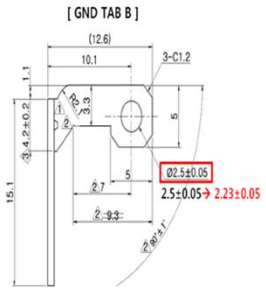
Written	Checked		Approved
			

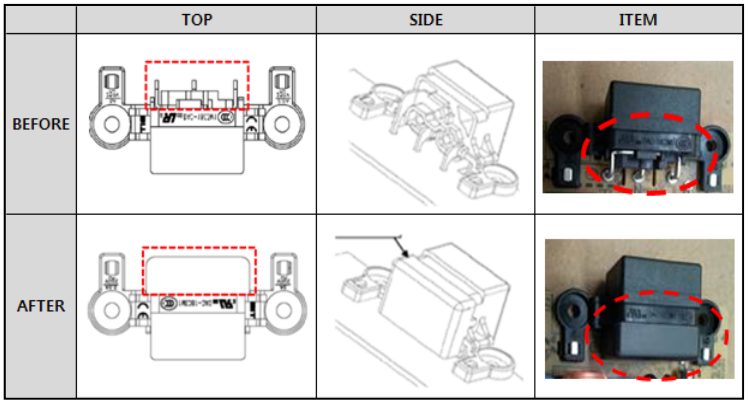
Contents

Revision History

Rev No.	Contents	Date of Approval	Checked	Remark
0.1	Apply to PV (PCB REV 0.2) PCB P/No : EAX64881301(1.4) PV 1st Edition.	12.11.26	K.T.Choi	
1.0	Apply to MP (PCB REV 1.0) PCB P/No : EAX64881301(1.6) MP 1st Edition - Add UL Mark	13.01.09	K.T.Choi	
1.1	Apply to MP (PCB REV 1.0) PCB P/No : EAX64881301(1.6) 1. Delete the POLYESTER FILM TAPE company of Transformer : METAL LINE CO., LTD	13.01.29	K.T.Choi	
1.2	Apply to MP (PCB REV 1.0) PCB P/No : EAX64881301(1.6) 1. Improve Audio Noise : Change Bonding position & Side Bond Material - Item : 13S-DD02 - Location : L801 1) Before : Silicon bond 4 Point + Center Bond  2) After : Silicon bond 2 Point + Three bond 6 Point  4M Change process 1) Responsibility of 4M change : LGE 2) Running Change : YES (Minor) 3) Goods of Stock : No Re-Work	13.02.07	K.T.Choi	

Rev No.	Contents	Date of Approval	Checked	Remark
1.3	**Apply to MP (PCB REV 1.0)** **PCB P/No : EAX64881301(1.6)** **1. To improve Heat Sink 4 assembly issue** **: Add RTV bonding point** **→ Between IC202 top side and HS4 bottom side**  **4M Change process** **1) Responsibility of 4M change : LGE** **2) Running Change : YES (Minor)** **3) Goods of Stock : No Re-Work**	13.02.26	K.T.Choi	
1.4	**Apply to MP (PCB REV 1.0)** **PCB P/No : EAX64881301(1.6)** **1. Update Part list** **: Resister components vendors which LGIT can use.** **2. Update CCL** **: Resister PCB vendors which LGIT can use.** **3. Change supplier company from SENSITRON to SMC** **4M Change process** **1) Responsibility of 4M change : LGE** **2) Running Change : Apply immediately** **3) Goods of Stock : No Re-Work**	13.03.28	K.T.Choi	
1.5	**Apply to MP (PCB REV 1.0)** **PCB P/No : EAX64881301(1.6)** **1. Improve EMI(CE) Margin for new variety models of TV set** **- Change CY103,CY104 : 100pF → 470pF** **4M Change process** **1) Responsibility of 4M change : LGE** **2) Running Change : No (Apply on April 22th)** **3) Goods of Stock : No Re-Work**	13.04.15	K.T.Choi	

Rev No.	Contents	Date of Approval	Checked	Remark
2.0	**Apply to MP (PCB REV 2.0)** **PCB P/No : EAX64881301(1.8)** **1. Change of PCB (Revision 1.0 → 2.0)** **: To improve productivity** **: To ensure safety distance** **: To improve Diode Forming productivity** **< Change List >** **- SK101 insert hole shape change (circle → oval)** **- Change of D251,D252 Forming type** **(Triangular Forming → Straight Forming)** **- Change of Q821 Forming type** **(Triangular Forming → Straight Forming)** **2. Improve mechanical matching for Ground Pin and Ground Tab Spec.** **- Item : AC socket (DAC-18C3M1)** **- Location : SK100** **- Issue : Change Ground Pin and Ground Tab Spec.** **1) Ground PIN Spec : 2.36 ± 0.06 → 2.10 ± 0.06** **2) Ground TAP Spec : 2.5 ± 0.06 → 2.23 ± 0.06**  [Before] [After] 1-1. Ground Pin Spec. 1-2. Ground Tab Spec   **4M Change process** **1) Responsibility of 4M change : LGE** **2) Running Change : YES** **3) Goods of Stock : No Re-Work**	13.04.22	K.T.Choi	

Rev No.	Contents	Date of Approval	Checked	Remark
2.1	**Apply to MP (PCB REV 2.0)** **PCB P/No : EAX64881301(1.8)** **1. Change AC socket to prevent PL (Product liability) problem** **- Location : SK100** **- DAC-18C3M1 → DAC-18C3M1C (with cover)**  **4M Change process** **1) Responsibility of 4M change : LGE** **2) Running Change : YES** **3) Goods of Stock : No Re-Work**	13.07.12	K.T.Choi	
2.2	**Apply to MP (PCB REV 2.0)** **PCB P/No : EAX64881301(1.8)** **1. Add RTV Bond Maker** **- Maker : DAEHEUNG CHEMICAL CO.,LTD.** **- Specification : SR-9000** **2. Change Packing Drawing** **: Change LG INNOTEK Logo size** **4M Change process** **1) Responsibility of 4M change : LGIT** **2) Running Change : YES** **3) Goods of Stock : No Re-Work**	13.07.16	K.T.Choi	

CTQ Management

No.	Contents	Page
1	2.2 Power Output Characteristics	11
2	2.2.1. Stand by Power Consumption	11

Specification

1. INTRODUCTION

1.1 Scope

This approval is the description related to every electrical and structural specifications and reliability For Power Supply Unit used on 32 inch LGE LED TV.

1.2 Customers product related items

Product : Power Supply Unit
Part code : EAY62830901

1.3 Product name

Product name : PLDC-L231A
Revision code : 2.2

2. SPECIFICATION

2.1 Input Requirements

Nominal Input Voltage	AC 100V to AC 240V
Input Voltage Variation	AC 90V to AC 264V
Input Current	Under 1.5Arms . (at 100Vac & Nominal Load) Under 0.7Arms . (at 240Vac & Nominal Load)
Nominal Frequency	50 / 60 Hz
Frequency Variation Range	47 Hz to 63 Hz
Phase	Single
Leakage Current	0.35mA_peak. (100Vac ~ 240Vac)
Surge Immunity	± 4kV / 1000ns / 0˚ to 360˚
Hold-up Time	More than 20ms at 100Vac and maximum output load ※When it doesn't meet 20ms hold up time, 1. PSU restarts. 2. No hardware failure.(All components)
Lightning Surge	2kA Normal, Common Mode
Inrush Current	80A zero-peak max at cold start and any specified line, load, temperature conditions.

2.1.1 Power Factor

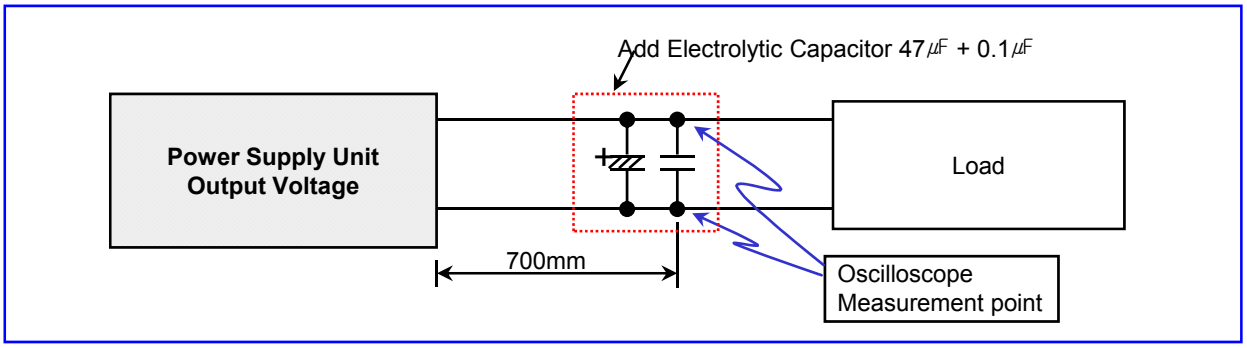
over than 0.4 at 90 – 264Vac & max load condition

2.2 Power Output Characteristics

Output	Voltage Variable range [V]	Rated Current (Min, Max) [Amean]	Voltage Regulation [V]	Ripple Voltage [mVp_p]
3.5V (STBY)	3.325V ~ 3.675V	0.3W Under (15mA)	-	-
		1.4A (0.2~1.4A) (ON condition)	± 5%	250 mVp_p
12V	11.4V ~ 12.6V	1.2A (0.2~1.2A)	± 5%	350 mVp_p
24V	21.6V ~ 27.0V	0.6A (0.1~0.6A)	± 10%	500 mVp_p
LED B+	27.6 ~ 31.6V	0.4A (0.380~0.420A)	± 5%	-
	48.3 ~ 55.3V	0.4A (0.380~0.420A)		

* On Condition : In a moment of Power_ON Signal activated, the current of 3.5V output should be limited within 40mA(Max) at LCD TV condition for stability.
Do not turn “Power_ON” Signal on at the load condition of 3.5V output, more than 40mA.
* Total regulation for each output circuit includes the results of input voltage variation, load variation, warm-up drift and temperature change.
* Maximum input Wattage Rating : Under 75W
* The following instruments shall be used for measuring ripple noise.
1. Probe having impedance ratio of 1:1.
2. Oscilloscope having frequency characteristic of 100MHz or more.

Test Point : power output each pin



※ Ripple and noise are measured at the end of output cable which are added a 0.1uF ceramic capacitor and 47uF electrolytic capacitor. (connected parallel)

2.2.1 Stand By Power Consumption

Output Voltage	3.5V (STBY)	12V	24V
Load [A]	0.015	Don’t Care (Power-Off)	
Wattage [W]	Less than 0.3W Under (230Vac / 50Hz)		

2.3 Environment Requirement

Operating Temperature Range	-10℃ to 40℃ (60℃:No Hardware Failure, TV SET Condition)
Operating Humidity Range	30 to 85 %
Storage Temperature Range	-25 to 85 deg.
Storage humidity Range	5 to 90 %
Power board Storage Condition	Temperature 40℃, Humidity 90%
MTBF (Mean Time Between Failure)	50,000 hour
Cooling Condition	Natural Air
Shock	98 ㎨ Shock test consists of pivoting the power supply, from one edge of it's bottom side, on a flat surface (such as wood having thickness of 10mm or more) and allowing the opposite edge to fall from a height of 50mm to this surface. The test is performed three times on each edge of the bottom side of the power supply

2.4 Dielectric Strength Voltage and Insulation Resistance

Dielectric Strength Voltage	AC 1.5KV or DC 2,121V 1 Min 10 mA (Test SPEC) AC 1.8KV 1 Sec 10 mA (PSU Mass Production) Between Primary and All Secondary Circuits.

Insulation Resistance	Insulation resistance shall be more than 8M ohm (at DC 500V) Between Primary Live, Neutral line and Secondary.

* Above tests are performed at room temperature in non-condensing atmospheric conditions
* Frame grounds are connected to secondary circuits.

2.5 Burn-in

More than 2 hours at 45℃(±5℃), Normal input voltage.
AC on/off must be test 1 time after burn-in.
80% Load of specification.

2.6 Interface

Appellation	Explanation	Signal Direction	Action
POWER ON	Vcc Circuit ON/OFF	Input	High : Vcc ON Low : Vcc OFF

2.7 Product Safety

Safety Standards to be applied	Design to meet the requirements as follows UL60950, IEC60950, IEC60065 and 60950
EMI/RFI Standards to be applied	Design to meet the requirements as follows FCC and EN55020, EN55013 Class B with 4dB minimum margin.

2.8 Construction

Weight	Less than 400g
Unit Size (typ.)	159(W) X 159(D) X 26.1(H)

2.9 Function of protection

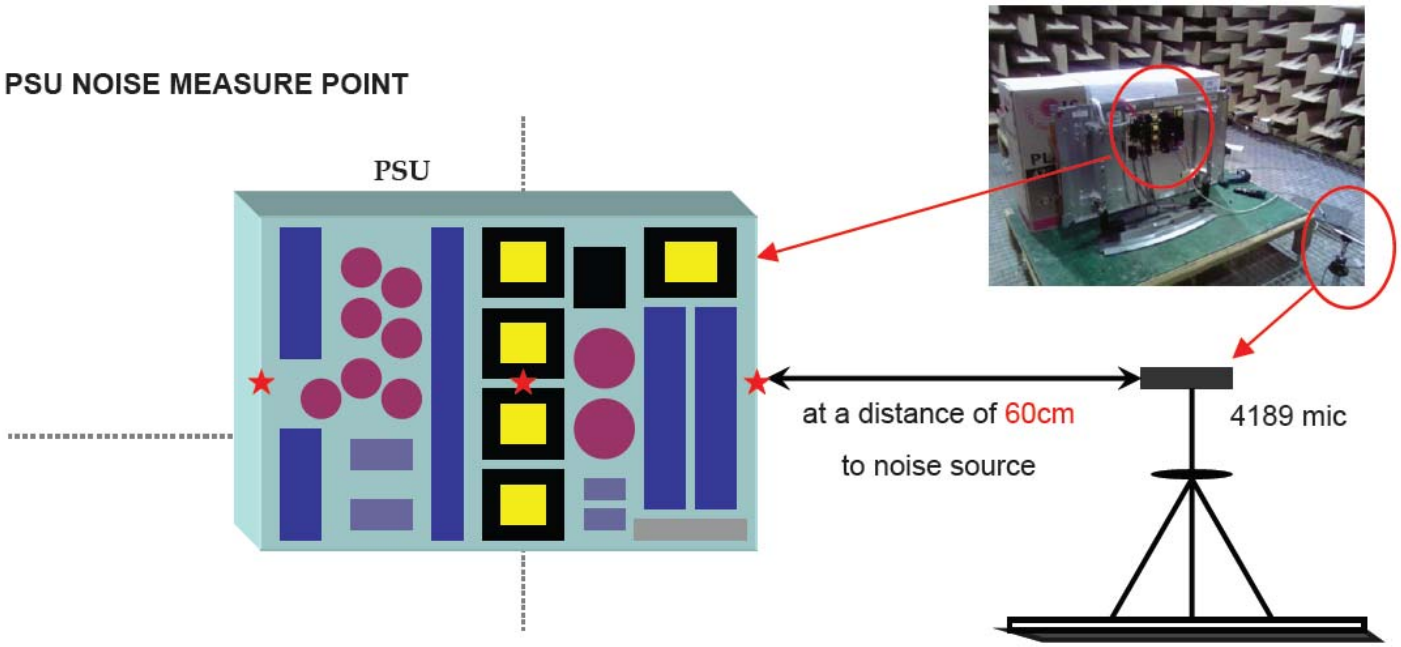
Protection	Output Circuit	Trip point		Notes
		Min	Max	
Over Current	STBY 3.5V	1.8A	6.0A	Auto Re-start
	12V	2.0A	7.0A	Latch
	24V	0.8A	6.0A	Latch
Short Circuit	STBY 3.5V	-	-	Auto Re-start
	12V	-	-	Auto Re-start
	24V	-	-	Latch

* This Power Supply has above-mentioned protections.
* Short circuit protection between different output terminals is not considered.
* Trip point for over voltage indicates the operating point when the output voltage slowly increases.
* The conditions of Over Current measurement
  Multi output(3.5V,12V,24V) is nominal load state except an over current measurement.

2.10 Sound Noise Characteristics.

PSU Noise Specification
22.5 dB(a) / 20.u Pa 2.0E-5 Pa
(1/1 octave, A-weighting, to 1khz ~ 16khz Total overall

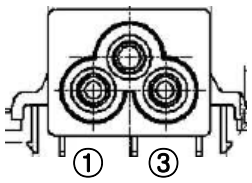
Measure Location : Anechoic Room
Measure Condition : At a distance of 60cm mic
Full white pattern, at AC 110V/220V
The max specification
(measure 3 points, at PSU center and left & right on the side)



2.11 Connector Specification

2.11.1 Connectors Usage

SK100 DONGIL TECH (DAC-18C3M1)	
Pin No.	Assignment
1	LIVE
2	GND
3	NEUTRAL

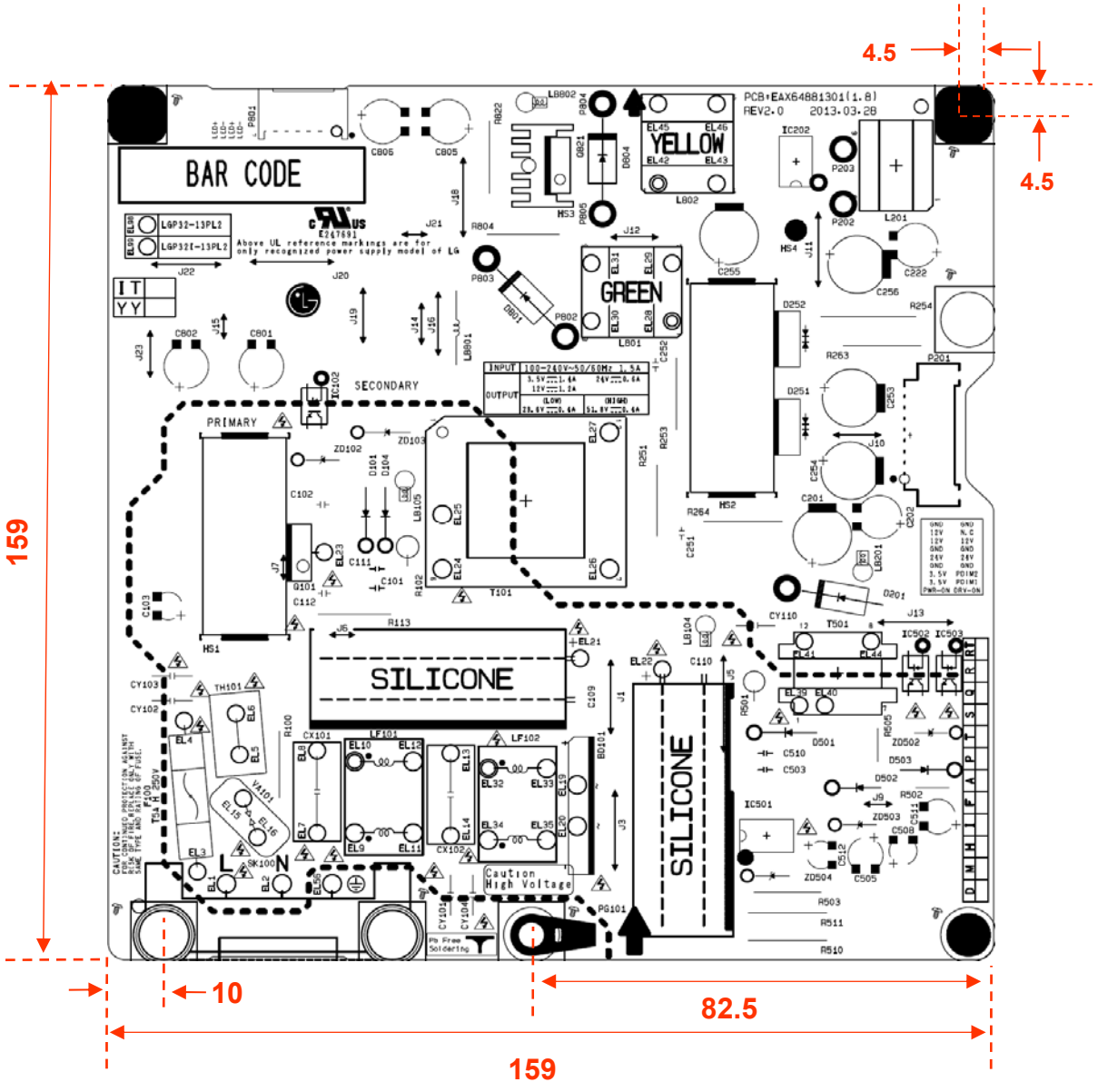


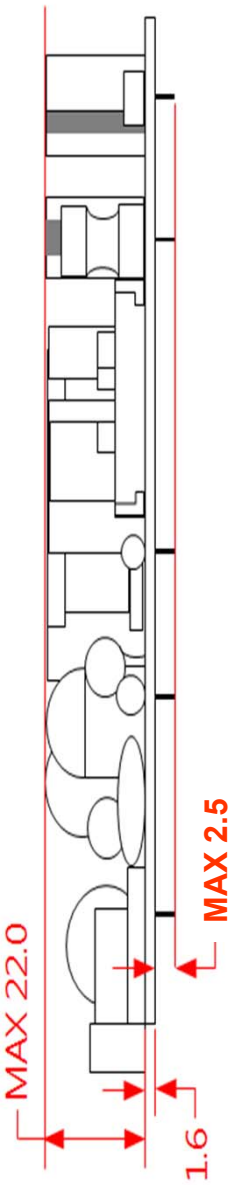
P801 YEONHO (SMAW200A-H07AA2)	
Pin No.	Assignment
1	LED-
2	Remove
3	LED+
4	Remove
5	LED-
6	Remove
7	LED+

P201 YEONHO (SMAW200-H18S2)			
Pin No.	Assignment	Pin No.	Assignment
1	Power on	2	DRV-ON
3	3.5V	4	PDIM 1
5	3.5V	6	PDIM 2
7	GND	8	GND
9	24V	10	24V
11	GND	12	GND
13	12V	14	12V
15	12V	16	N.C
17	GND	18	GND

2.12 PCB Dimension.

1) Power board PCB	: 159mm × 159mm × 1.6(T)mm
2) Component height	: Max 22.0mm (Except LF101, LF102, T101 : Max 23.0mm)
3) Lead Cutting	: Max 2.5mm
4) PCB Material	: FR-1 KB,DS,L,R-8700 CTI-600

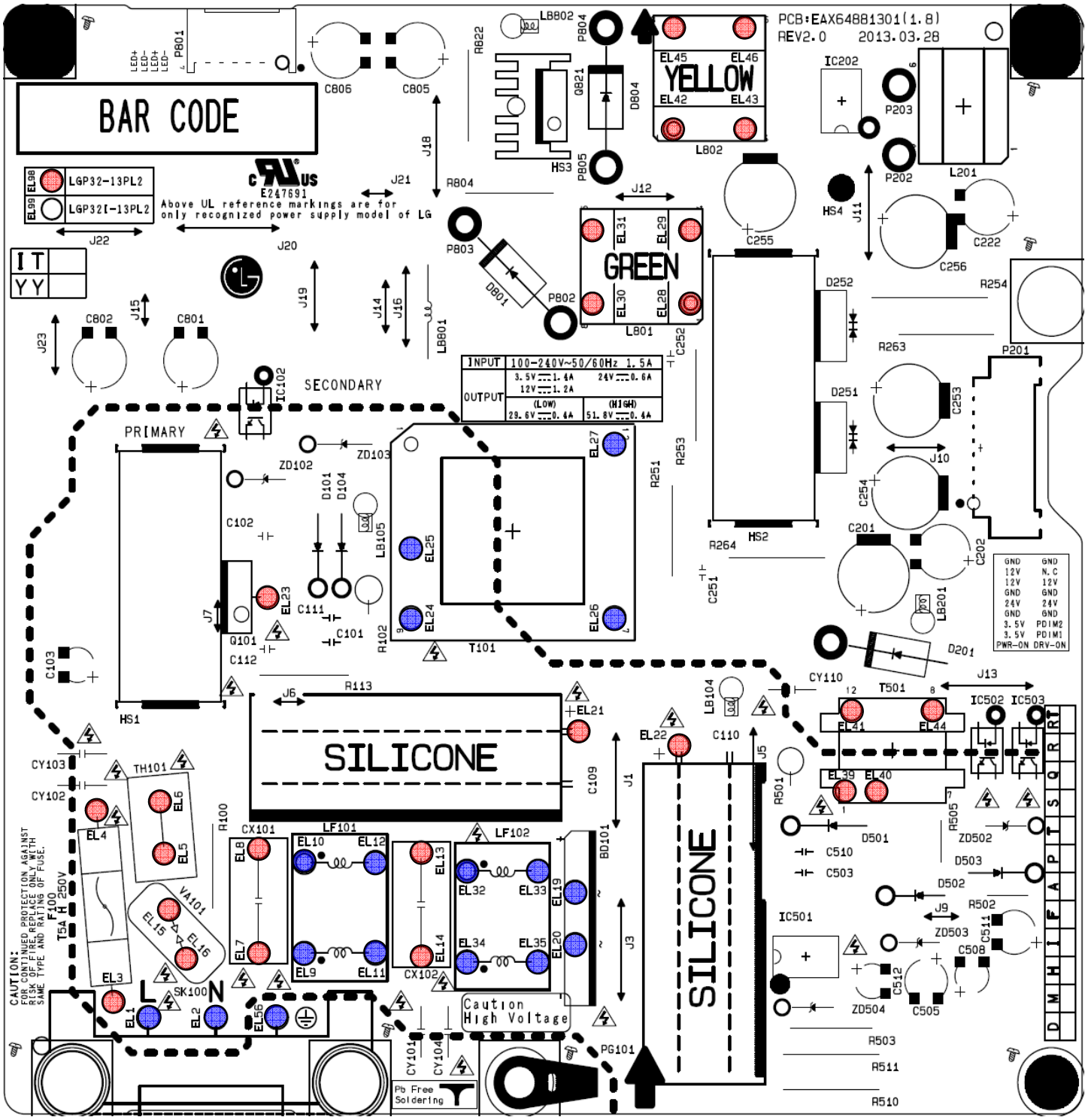




2.13 Apply to the Eyelet point.

Apply to the Eyelet point 2.0Φ : EL1,EL2,EL9,EL10,EL11,EL12,EL19,EL20,EL24,EL25,EL26,EL27,EL32,EL33,EL34, EL35,EL56 (17EA)

Apply to the small Eyelet point 1.6Φ : EL3,EL4,EL5,EL6,EL7,EL8,EL13,EL14,EL15,EL16,EL21,EL22,EL23,EL28,EL29, EL30,EL31,EL39,EL40,EL41,EL42,EL43,EL44,EL45,EL46,EL98 (26EA)



2.14 Electrical Characteristics

<table>
<tr><th>No.</th><th>Test Item</th><th>Test method</th></tr>
<tr><td>1</td><td>Intermittent Operation stability Test</td><td>The switching regulator shall ON/OFF for 20,000 time at an Interval of 10 sec at maximum load, after that electrical Characteristics shall be satisfied.</td></tr>
<tr><td>2</td><td>Low temperature operation</td><td>The switching regulator is left at the operating guarantee Minimum temperature for 2 hours without applying electricity. After that power shall be turned on, and then the electrical Characteristics shall be satisfied.</td></tr>
<tr><td>3</td><td>Low temperature Storage test Leave At low temperature</td><td>The switching regulator is left at minimum storage Temperature for 96 hours or more.
Then the switching regulator is left at a room temperature and humidity for 1 hour or more, after that electrical characteristics shall be satisfied.</td></tr>
<tr><td>4</td><td>Heat cycle storage test</td><td>The switching regulator is 10 consecutive temperature cycle that shown below is performed and then leave them at room temperature and humidity for 1 hour or more.
After that, electrical characteristics shall be satisfied.
<table>
<tr><th>Time</th><th>Temperature</th></tr>
<tr><td>30 minutes</td><td>25℃</td></tr>
<tr><td>30 minutes</td><td>25℃ -> -20℃</td></tr>
<tr><td>60 minutes</td><td>Minimum storage temperature (-20℃)</td></tr>
<tr><td>30 minutes</td><td>-20℃ -> 25℃</td></tr>
<tr><td>30 minutes</td><td>25℃</td></tr>
<tr><td>30 minutes</td><td>25℃ -> 70℃</td></tr>
<tr><td>60 minutes</td><td>Maximum storage temperature (70℃)</td></tr>
<tr><td>30 minutes</td><td>70℃ -> 25℃</td></tr>
</table></td></tr>
<tr><td>5</td><td>Heat shock test</td><td>Heat shock test performed under following conditions without applying electricity and then leave them at room temperature and humidity for 1 hour or more.
After that, electrical characteristics shall be satisfied.
Condition : -45℃(30minutes), 120℃(30minutes),
Switching time : Less than 5 minutes, 200 cycles.</td></tr>
</table>

2.15 Mechanical Characteristics

No.	Test Item	Test method
1	Appearance	There shall be no contaminant or dirt on the switching regulator which has adverse effect on electrical characteristics. There shall be no excessive unevenness or scratches on the plated or painted surface.
2	Vibration	While applying electricity : Vibration frequency : 5 ~ 100Hz Acceleration : 4.9 m/s∧2 Vibration in X,Y,Z direction for 30 minutes While applying electricity : Vibration frequency : 5 ~ 100Hz Acceleration : 14.7 m/s∧2 Vibration in X,Y,Z direction for 30 minutes After that electrical characteristics shall be satisfied. There shall be no damage to appearance and construction.
3	Shock	Shock : 98 m/s∧2 On the oak more than 10mm thickness with the flat face, raise the one side for 50mm, and it carries out each side free fail for three sides. There shall be no damage to appearance and construction.

Schematic Diagram

MODEL	C109,C110
LGP32-13PL2	68uF/450V
LGP32I-13PL2	100uF/500V

LGP32-13PL2	EL08
LGP32I-13PL2	EL09

THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FILRE AND ELECTRICAL SHOCK HAZARDS, WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFATURES SPECFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC.

SECRET
LGElectronics

LG ELECTRONICS

MODEL	LGP32-13PL2	DATE	'13.03.18
BLOCK	PFC\STBY\MULTI	SHEET	1 / 2

LOW
29.6V/0.4A

HIGH
51.8V/0.4A

L801
30uH
13S-DD02

L802
45uH
12S-DD02

SMAW200-07
P801

DD
DD18V

P802
P803
D801
SB5100
LB801
A-TYPE

LED1
LED2

LED+
LED-
LED+
LED-

C801
22uF
100V
NXB

C802
22uF
100V
NXB

C806
22uF
100V
NXB

C805
22uF
100V
NXB

P804
P805
D804
SB5100
LB802
R-TYPE

HS3
T-3110KT0334A_F

24V

Q801
AP18N20GH

D802
1N4148W

R802
7.5
3216

GATE1
R801
47
3216

Q802
MMBT2907A

R803
100K

R804
0.16
2W

CS1

PDIM01

R807
5.1K

R808
1K

D803
1N4148W

Q803
FDT86106

R809
100K

ISEN1

R810
1K

C804
330pF
50V

R811
4.3
2012
1%

R812
3.9
2012
1%

R813
4.3
2012
1%

R814
3.9
2012
1%

R815
4.3
2012
1%

R816
3.9
2012
1%

R817
4.3
2012
1%

R818
3.9
2012
1%

Q806
FDT86106

R825
5.1K

D806
1N4148W

R826
1K

PDIM02

R827
100K

R828
1K

ISEN2

C808
330pF
50V

R835
4.3
2012
1%

R836
3.9
2012
1%

R833
4.3
2012
1%

R834
3.9
2012
1%

R831
4.3
2012
1%

R832
3.9
2012
1%

R829
4.3
2012
1%

R830
3.9
2012
1%

Q821
STF19NF20

R820
7.5
3216

D805
1N4148W

Q805
MMBT2907A

R819
47
3216

GATE2

CS2

R822
0.1
2W

R821
10K

IC801
BD9483

12V	VCC	1	
DRV_ON	STB	2	
CS1	CS1	3	
GATE1	GATE1	4	
	GND1	5	
PDIM01	DIMOUT1	6	
ISEN1	ISENSE1	7	
	FB1	8	
	ADIM	9	
PDIM1	PWM1	10	
PDIM2	PWM2	11	
	FAILB	12	
	RT	13	
	OVP	14	
	SS	15	
	CP	16	
	UVLO	17	
	FB2	18	
	ISENSE2	19	
	DIMOUT2	20	
	GND2	21	
GATE2	GATE2	22	
CS2	CS2	23	
	REG90	24	

R841
10

C813
0.1uF
50V

R806
1K

C826
0.1uF
50V

R805
1K

R842
47K

C809
470pF
50V

REG9V

C823
0.47uF
25V

C811
470pF
50V

R839
1K

CS2

GATE2

PDIM02

R840
1K

ISEN2

R823
1K

R851
150K
1%

R850
150K
1%

12V

R858
750K
1%

R859
750K
1%

R843
750K
1%

R844
750K
1%

R845
47K
1%

R857
4.7K
1%

R849
75K
1%

R824
1K

R837
1K

R862
75K
1%
3216

R852
75K
1%
3216

D809
MMSD4148

R860
75K
1%

LED2

D810
MMSD4148

R861
0

LED1

C810
N.C

R846
6.8K
1%

R848
30K
1%

R847
6.8K
1%

C812
N.C

R854
62K
1%

R863
62K
1%

D811
1N4148W

R838
200K
1%

C815
0.47uF
25V

C814
0.47uF
25V

C819
0.47uF
25V

R856
150K
1%

C822
0.068uF
50V

C824
1000pF
50V

C825
1000pF
50V

C816
1000pF
50V

C821
0.068uF
50V

C817
1000pF
50V

C818
1000pF
50V

C820
1000pF
50V

R855
7.5K
1%

THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FILRE AND ELECTRICAL SHOCK HAZARDS, WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFATURES SPECFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC.

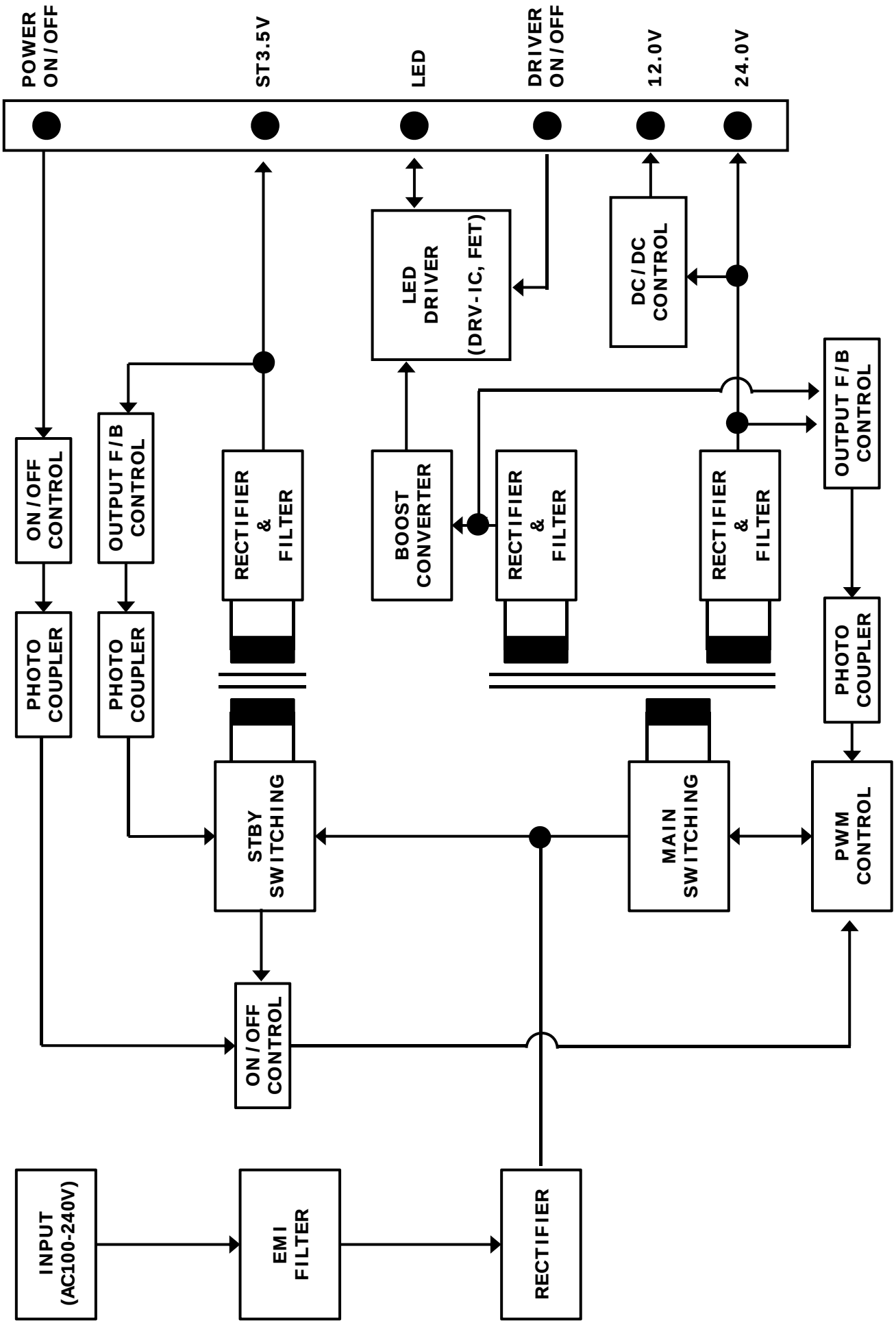
SECRET

LGElectronics

LG ELECTRONICS

MODEL	LGP32-13PL2	DATE	'13.03.18
BLOCK	PFC\STBY\MULTI	SHEET	2 / 2

Block Diagram


POWER ON/OFF
ST3.5V
LED
DRIVER ON/OFF
12.0V
24.0V
LED DRIVER (DRV-IC, FET)
DC/DC CONTROL
ON/OFF CONTROL
OUTPUT F/B CONTROL
RECTIFIER & FILTER
BOOST CONVERTER
RECTIFIER & FILTER
RECTIFIER & FILTER
OUTPUT F/B CONTROL
PHOTO COUPLER
PHOTO COUPLER
PHOTO COUPLER
STBY SWITCHING
MAIN SWITCHING
PWM CONTROL
ON/OFF CONTROL
INPUT (AC100-240V)
EMI FILTER
RECTIFIER

Parts List

LGP32-13PL2 (EAY62830901)

REV	P/N	Product Maker	L/V	Q'ty	UNIT	LOCATION	SPECIFICATION	DESCRIPTION	MAKER	New part history
2.2	EAY62830901	LGIT	MI				FET ASS'Y	HEAT SINK ASS'Y		
2.2	EAY62830901	LGIT	MI	1	EA	HS1	HS1 (36X15X18.3)	HEAT SINK	YUWON NRT	
2.2	EAY62830901	LGIT	MI	1	EA	HS1	HS1 (36X15X18.3)	HEAT SINK	HUAPENG	
2.2	EAY62830901	LGIT	MI	1	EA	HS1	HS1 (36X15X18.3)	HEAT SINK	GUOTAI	
2.2	EAY62830901	LGIT	MI	1	EA	Q101	MDF11N65B 650V 12A TO-220F	FET	MAGNACHIP	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	Q101	TK8A65D 650V 8A TO-220F	FET	TOSHIBA	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	FOR Q101	BHM Screw , M3.0 * 6.0L, w ith Clamfix, Cr3+WH Plating	SCREW	SEOUL METAL	
2.2	EAY62830901	LGIT	MI	1	EA	FOR Q101	BHM Screw , M3.0 * 6.0L, w ith Clamfix, Cr3+WH Plating	SCREW	ASEA BOLT	
2.2	EAY62830901	LGIT	MI	1	EA	FOR Q101	BHM Screw , M3.0 * 6.0L, w ith Clamfix, Cr3+WH Plating	SCREW	SUNG HO METAL	
2.2	EAY62830901	LGIT	MI	0.01	GR	FOR Q101	HC300	SILICON GREASE	CHANG AMLS	
2.2	EAY62830901	LGIT	MI	0.01	GR	FOR Q101	DS-323	SILICON GREASE	DONGYANG SILICON	
2.2	EAY62830901	LGIT	MI				DIODE ASS'Y	HEAT SINK ASS'Y		
2.2	EAY62830901	LGIT	MI	1	EA	HS2	HS2 (38X15X18.3)	HEAT SINK	YUWON NRT	
2.2	EAY62830901	LGIT	MI	1	EA	HS2	HS2 (38X15X18.3)	HEAT SINK	HUAPENG	
2.2	EAY62830901	LGIT	MI	1	EA	HS2	HS2 (38X15X18.3)	HEAT SINK	GUOTAI	
2.2	EAY62830901	LGIT	MI	2	EA	D251,D252	MBRF10200CT 200V 10A ITO-220AB	DIODE	SMC	
2.2	EAY62830901	LGIT	MI	2	EA	D251,D252	MBRF10U200CT 200V 10A TO-220IS	DIODE	KEC	
2.2	EAY62830901	LGIT	MI	2	EA	FOR D251,D252	BHM Screw , M3.0 * 6.0L, w ith Clamfix, Cr3+WH Plating	SCREW	SEOUL METAL	
2.2	EAY62830901	LGIT	MI	2	EA	FOR D251,D252	BHM Screw , M3.0 * 6.0L, w ith Clamfix, Cr3+WH Plating	SCREW	ASEA BOLT	
2.2	EAY62830901	LGIT	MI	2	EA	FOR D251,D252	BHM Screw , M3.0 * 6.0L, w ith Clamfix, Cr3+WH Plating	SCREW	SUNG HO METAL	
2.2	EAY62830901	LGIT	MI	0.01	GR	FOR D251,D252	HC300	SILICON GREASE	CHANG AMLS	
2.2	EAY62830901	LGIT	MI	0.01	GR	FOR D251,D252	DS-323	SILICON GREASE	DONGYANG SILICON	
2.2	EAY62830901	LGIT	MI				FET ASS'Y	HEAT SINK ASS'Y		
2.2	EAY62830901	LGIT	MI	1	EA	HS3	HS3 (15X11X20)	HEAT SINK	YUWON NRT	
2.2	EAY62830901	LGIT	MI	1	EA	HS3	HS3 (15X11X20)	HEAT SINK	HUAPENG	
2.2	EAY62830901	LGIT	MI	1	EA	HS3	HS3 (15X11X20)	HEAT SINK	GUOTAI	
2.2	EAY62830901	LGIT	MI	1	EA	Q821	STF19NF20 200V 15A TO-220	FET	STM	
2.2	EAY62830901	LGIT	MI	1	EA	Q821	TK15A20D 200V 15A TO-200	FET	TOSHIBA	
2.2	EAY62830901	LGIT	MI	1	EA	FOR Q821	BHM Screw , M3.0 * 6.0L, w ith Clamfix, Cr3+WH Plating	SCREW	SEOUL METAL	
2.2	EAY62830901	LGIT	MI	1	EA	FOR Q821	BHM Screw , M3.0 * 6.0L, w ith Clamfix, Cr3+WH Plating	SCREW	ASEA BOLT	
2.2	EAY62830901	LGIT	MI	1	EA	FOR Q821	BHM Screw , M3.0 * 6.0L, w ith Clamfix, Cr3+WH Plating	SCREW	SUNG HO METAL	
2.2	EAY62830901	LGIT	MI	0.01	GR	FOR Q821	HC300	SILICON GREASE	CHANG AMLS	
2.2	EAY62830901	LGIT	MI	0.01	GR	FOR Q821	DS-323	SILICON GREASE	DONGYANG SILICON	
2.2	EAY62830901	LGIT	MI				LGP32-13PL2 MI COMPONENTS	MI ASS'Y		
2.2	EAY62830901	LGIT	MI	1	EA	BD101	KBJ1006G 600V 10A	DIODE	LITEON	
2.2	EAY62830901	LGIT	MI	1	EA	BD101	D10XB60 600V 10A	DIODE	DACHANG	
2.2	EAY62830901	LGIT	MI	1	EA	BD101	D10XB60 600V 10A	DIODE	SHINDENGEN	
2.2	EAY62830901	LGIT	MI	2	EA	C109,C110	KMF 68uF 450V M RB P7.5 Φ18X31.5	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62830901	LGIT	MI	2	EA	C109,C110	SK 68uF 450V M RB P7.5 Φ18X30	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62830901	LGIT	MI	2	EA	CX101,CX102	PCX2 337 0.33uF 275V P15	CAPACITOR, FILM	PILKOR	
2.2	EAY62830901	LGIT	MI	2	EA	CX101,CX102	MPX 0.33uF 275V P15	CAPACITOR, FILM	EUROPTRONIC	
2.2	EAY62830901	LGIT	MI	1	EA	D201	SB560 60V 5A P20	DIODE	DACHANG	
2.2	EAY62830901	LGIT	MI	1	EA	D201	SB560 60V 5A P20	DIODE	LITEON	
2.2	EAY62830901	LGIT	MI	2	EA	D801,D804	SB5100 100V 5A P20 C-FORMMING	DIODE	LITE-ON	
2.2	EAY62830901	LGIT	MI	2	EA	D801,D804	SB5100 100V 5A P20 C-FORMMING	DIODE	DACHANG	
2.2	EAY62830901	LGIT	MI	1	EA	F100	T5A H 250V 215 RED(1-LINE)	FUSE, TIME LAG	LITTELFUSE	
2.2	EAY62830901	LGIT	MI	1	EA	F100	T5A H 250V 50CT RED(1-LINE)	FUSE, TIME LAG	Dainfuse	
2.2	EAY62830901	LGIT	MI	3	EA	IC102,IC502,IC503	EL817MB(DT)	IC-SHUNT REGULATOR	EVERLIGHT	
2.2	EAY62830901	LGIT	MI	3	EA	IC102,IC502,IC503	LTV817M-BN	IC-SHUNT REGULATOR	LITEON	
2.2	EAY62830901	LGIT	MI	1	EA	TH101	DSC5D15 5Ω 8A Φ15 IN, OUT FORMING	THERMISTOR	DSC	
2.2	EAY62830901	LGIT	MI	1	EA	IC501	ICE3BR4765JZ	IC	INFINEON	
2.2	EAY62830901	LGIT	MI	1	EA	PG101	Rug Ground SPCC 0.4t Cusn Plating	GND REINFORCE	LEZHI	
2.2	EAY62830901	LGIT	MI	1	EA	L801	13S-DD02 30uH EE1616	CHOKE	FEELUX	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	L801	13S-DD02 30uH EE1616	CHOKE	SOOJUNG	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	L802	12S-DD02 45uH EE1616	CHOKE	FEELUX	
2.2	EAY62830901	LGIT	MI	1	EA	L802	12S-DD02 45uH EE1616	CHOKE	SOOJUNG	
2.2	EAY62830901	LGIT	MI	1	EA	L201	13S-DD06 22uH EE1616	CHOKE	FEELUX	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	L201	13S-DD06 22uH EE1616	CHOKE	SOOJUNG	2013Y
2.2	EAY62830901	LGIT	MI	2	EA	LF101,LF102	LLF-124, 28mH	LINE FILTER	FEELUX	
2.2	EAY62830901	LGIT	MI	2	EA	LF101,LF102	LLF-124, 28mH	LINE FILTER	SOOJUNG	
2.2	EAY62830901	LGIT	MI	2	EA	LF101,LF102	CV620280SH(HF), 28mH	LINE FILTER	TNC	
2.2	EAY62830901	LGIT	MI	2	EA	LF101,LF102	LSD020280, 28mH	LINE FILTER	DONG IL TECH	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	T101	13S-LPM02 340uH EER2934	TRANSFORMER	FEELUX	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	T101	13S-LPM02 340uH EER2934	TRANSFORMER	SOOJUNG	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	T501	LS-110 EE1916	TRANSFORMER	FEELUX	
2.2	EAY62830901	LGIT	MI	1	EA	T501	LS-110 EE1916	TRANSFORMER	SOOJUNG	
2.2	EAY62830901	LGIT	MI	1	EA	VA101	INR14D621K-CAP 620V Φ14 TUBE	VARISTOR	AMOTECH	
2.2	EAY62830901	LGIT	MI	1	EA	VA101	SVC621D-14ATW7 620V Φ14 TUBE	VARISTOR	SAMWHA	
2.2	EAY62830901	LGIT	MI	1	EA	SK100	DAC-18C3M1 BLACK	AC SOCKET	DONGIL TECH	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	SK100	DAC-18C3M1C (with cover) BLACK	AC SOCKET	DONGIL TECH	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	P201	SMAW200-H18S2 18PIN WHITE	WAFER	YEONHO	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	P801	SMAW200A-H07AA2 4PIN WHITE	WAFER	YEONHO	2013Y
2.2	EAY62830901	LGIT	MI	1	EA	R113	WNPS 0.25Ω 2W J SMALL FLOAT TYPE	RESISTOR,WIRE WOUND	ABCO	
2.2	EAY62830901	LGIT	MI	1	EA	R113	PRN 0.25Ω 2W J SMALL FLOAT TYPE	RESISTOR,WIRE WOUND	SMART	
2.2	EAY62830901	LGIT	MI	1	EA	HS4	HS4 (22.7X6.5X10.0)	HEAT SINK	YUWON NRT	
2.2	EAY62830901	LGIT	MI	1	EA	HS4	HS4 (22.7X6.5X10.0)	HEAT SINK	HUAPENG	
2.2	EAY62830901	LGIT	MI	1	EA	HS4	HS4 (22.7X6.5X10.0)	HEAT SINK	GUOTAI	
2.2	EAY62830901	LGIT	MI	1	EA	IC202	NR891D DIP-8	IC-DC DC	SANKEN	2013Y

2.2	EAY62830901	LGIT	SMT				LGP32-13PL2 SMD COMPONENT	SMT ASS'Y		
2.2	EAY62830901	LGIT	SMT	3	EA	C106,C804,C808	330pF 50V J 1608 COG	CAPACITOR, CHIP	MURATA	
2.2	EAY62830901	LGIT	SMT	3	EA	C106,C804,C808	330pF 50V J 1608 COG	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62830901	LGIT	SMT	3	EA	C106,C804,C808	330pF 50V J 1608 COG	CAPACITOR, CHIP	TDK	
2.2	EAY62830901	LGIT	SMT	3	EA	C106,C804,C808	330pF 50V J 1608 COG	CAPACITOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	3	EA	C104,C809,C811	470pF 50V J 1608 COG	CAPACITOR, CHIP	MURATA	
2.2	EAY62830901	LGIT	SMT	3	EA	C104,C809,C811	470pF 50V J 1608 COG	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62830901	LGIT	SMT	3	EA	C104,C809,C811	470pF 50V J 1608 COG	CAPACITOR, CHIP	TDK	
2.2	EAY62830901	LGIT	SMT	3	EA	C104,C809,C811	470pF 50V J 1608 COG	CAPACITOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	9	EA	C105,C221,C504,C816,C817, C818,C820,C824,C825	1000pF 50V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62830901	LGIT	SMT	9	EA	C105,C221,C504,C816,C817, C818,C820,C824,C825	1000pF 50V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62830901	LGIT	SMT	9	EA	C105,C221,C504,C816,C817, C818,C820,C824,C825	1000pF 50V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62830901	LGIT	SMT	9	EA	C105,C221,C504,C816,C817, C818,C820,C824,C825	1000pF 50V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	C218	1200pF 50V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62830901	LGIT	SMT	1	EA	C218	1200pF 50V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62830901	LGIT	SMT	1	EA	C218	1200pF 50V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62830901	LGIT	SMT	1	EA	C218	1200pF 50V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	2	EA	C821,C822	0.068uF 50V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62830901	LGIT	SMT	2	EA	C821,C822	0.068uF 50V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62830901	LGIT	SMT	2	EA	C821,C822	0.068uF 50V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62830901	LGIT	SMT	2	EA	C821,C822	0.068uF 50V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	12	EA	C108,C205,C215,C217,C219, C259,C501,C502,C507,C509, C813,C826	0.1uF 50V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62830901	LGIT	SMT	12	EA	C108,C205,C215,C217,C219, C259,C501,C502,C507,C509, C813,C826	0.1uF 50V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62830901	LGIT	SMT	12	EA	C108,C205,C215,C217,C219, C259,C501,C502,C507,C509, C813,C826	0.1uF 50V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62830901	LGIT	SMT	12	EA	C108,C205,C215,C217,C219, C259,C501,C502,C507,C509, C813,C826	0.1uF 50V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	C220	0.22uF 50V K 2012 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62830901	LGIT	SMT	1	EA	C220	0.22uF 50V K 2012 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62830901	LGIT	SMT	1	EA	C220	0.22uF 50V K 2012 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62830901	LGIT	SMT	1	EA	C220	0.22uF 50V K 2012 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	9	EA	C107,C204,C207,C506,C513, C814,C815,C819,C823	0.47uF 16V K 1608 X7R /0.47uF 25V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62830901	LGIT	SMT	9	EA	C107,C204,C207,C506,C513, C814,C815,C819,C823	0.47uF 16V K 1608 X7R /0.47uF 25V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62830901	LGIT	SMT	9	EA	C107,C204,C207,C506,C513, C814,C815,C819,C823	0.47uF 16V K 1608 X7R /0.47uF 25V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62830901	LGIT	SMT	9	EA	C107,C204,C207,C506,C513, C814,C815,C819,C823	0.47uF 16V K 1608 X7R /0.47uF 25V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	10	EA	D103,D207,D504,D802,D803, D805,D806,D809,D810,D811	1N4148W 100V 150mA SOD-123	DIODE	RECTRON	
2.2	EAY62830901	LGIT	SMT	10	EA	D103,D207,D504,D802,D803, D805,D806,D809,D810,D811	1N4148W 100V 150mA SOD-123	DIODE	DIODES	
2.2	EAY62830901	LGIT	SMT	10	EA	D103,D207,D504,D802,D803, D805,D806,D809,D810,D811	MMSD4148T1 100V 200mA SOD-123	DIODE	ONSEMI	
2.2	EAY62830901	LGIT	SMT	10	EA	D103,D207,D504,D802,D803, D805,D806,D809,D810,D811	SDS4148G 100V 150mA SOD-123	DIODE	AUK	
2.2	EAY62830901	LGIT	SMT	1	EA	D206	SMAB36 60V 3A	DIODE	KEC	2013Y
2.2	EAY62830901	LGIT	SMT	1	EA	D206	B360A 60V 3A	DIODE	DIODES	2013Y
2.2	EAY62830901	LGIT	SMT	1	EA	Q801	STD20NF20 18A 200V D-PAK	FET	STM	2013Y
2.2	EAY62830901	LGIT	SMT	1	EA	Q801	AP18N20GH 18A 200V D-PAK	FET	APEC	2013Y
2.2	EAY62830901	LGIT	SMT	1	EA	Q801	FQD18N20V2 15A 200V D-PAK	FET	FAIRCHILD	2013Y
2.2	EAY62830901	LGIT	SMT	2	EA	Q803,Q806	FDT86106LZ 100V 3.2A SOT-223	FET	FAIRCHILD	
2.2	EAY62830901	LGIT	SMT	2	EA	Q803,Q806	PF610BL 100V 0.9A SOT-223	FET	NIKO-SEM	2013Y
2.2	EAY62830901	LGIT	SMT	2	EA	Q803,Q806	STN4NF20L 200V 1A SOT-223	FET	STM	
2.2	EAY62830901	LGIT	SMT	2	EA	Q803,Q806	MDHT4N20Y 200V 0.85A SOT-223	FET	MAGNACHIP	
2.2	EAY62830901	LGIT	SMT	1	EA	Q501	BCW66GLT SOT-23 NPN	FET	ONSEMI	
2.2	EAY62830901	LGIT	SMT	1	EA	Q501	KTC3551T 80V 1A TSM NPN	FET	KEC	
2.2	EAY62830901	LGIT	SMT	1	EA	Q501	2SC5865 SOT-23 NPN	FET	ROHM	
2.2	EAY62830901	LGIT	SMT	2	EA	Q201,Q502	MMBT2222A 40V 600mA SOT-23 NPN	TRANSISTOR	ONSEMI	
2.2	EAY62830901	LGIT	SMT	2	EA	Q201,Q502	KTN2222AS 40V 600mA SOT-23 NPN	TRANSISTOR	KEC	
2.2	EAY62830901	LGIT	SMT	2	EA	Q201,Q502	SBT2222A 40V 600mA SOT-23 NPN	TRANSISTOR	AUK	
2.2	EAY62830901	LGIT	SMT	2	EA	Q802,Q805	MMBT2907A -60V -600mA SOT-23 PNP	TRANSISTOR	ONSEMI	
2.2	EAY62830901	LGIT	SMT	2	EA	Q802,Q805	KTN2907AS -60V -600mA SOT-23 PNP	TRANSISTOR	KEC	
2.2	EAY62830901	LGIT	SMT	2	EA	Q802,Q805	SBT2907A -60V -600mA SOT-23 PNP	TRANSISTOR	AUK	
2.2	EAY62830901	LGIT	SMT	1	EA	IC101	MMBT2907A -60V -600mA SOT-23 PNP	TRANSISTOR	ONSEMI	
2.2	EAY62830901	LGIT	SMT	1	EA	IC101	KTN2907AS -60V -600mA SOT-23 PNP	TRANSISTOR	KEC	
2.2	EAY62830901	LGIT	SMT	1	EA	IC101	SBT2907A -60V -600mA SOT-23 PNP	TRANSISTOR	AUK	
2.2	EAY62830901	LGIT	SMT	1	EA	IC801	BD9483F, SOP-24	IC	ROHM	2013Y
2.2	EAY62830901	LGIT	SMT	1	EA	IC201	SJ432BS 1.24V ±0.5% SOT-23	IC	AUK	
2.2	EAY62830901	LGIT	SMT	1	EA	IC201	TLV431BSN1T1G 1.24V±0.5% SOT-23	IC	ON SEMI	
2.2	EAY62830901	LGIT	SMT	1	EA	IC201	AZ431LANTR-E1 1.24V±0.5% SOT-23	IC	BCD	
2.2	EAY62830901	LGIT	SMT	1	EA	IC251	SNF431BS 2.5V ±0.5% SOT-23	IC	AUK	
2.2	EAY62830901	LGIT	SMT	1	EA	IC251	AS431ANTR-E1 2.5V ±0.5% SOT-23	IC	BCD	
2.2	EAY62830901	LGIT	SMT	1	EA	IC251	KIA431BM 2.5V ±0.5% SOT-23	IC	KEC	
2.2	EAY62830901	LGIT	SMT	2	EA	R207,R861	0Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	2	EA	R207,R861	0Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	2	EA	R207,R861	0Ω J 1608	RESISTOR, CHIP	YAGEO	

2.2	EAY62830901	LGIT	SMT	1	EA	R226	4.7Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R226	4.7Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R226	4.7Ω J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R841	10Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R841	10Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R841	10Ω J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	2	EA	R103,R109	22Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	2	EA	R103,R109	22Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	2	EA	R103,R109	22Ω J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R106	220Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R106	220Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R106	220Ω J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R210	270Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R210	270Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R210	270Ω J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R201	330Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R201	330Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R201	330Ω J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	3	EA	R208,R209,R227	470Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	3	EA	R208,R209,R227	470Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	3	EA	R208,R209,R227	470Ω J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	16	EA	R105,R202,R256,R504,R508, R805,R806,R808,R810,R823, R824,R826,R828,R837,R839, R840	1KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	16	EA	R105,R202,R256,R504,R508, R805,R806,R808,R810,R823, R824,R826,R828,R837,R839, R840	1KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	16	EA	R105,R202,R256,R504,R508, R805,R806,R808,R810,R823, R824,R826,R828,R837,R839, R840	1KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R255	1.5KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R255	1.5KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R255	1.5KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R255	1.5KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R255	1.5KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R255	1.5KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R104	8.2KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R104	8.2KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R104	8.2KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	7	EA	R111,R211,R220,R239,R507, R803,R821	10KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	7	EA	R111,R211,R220,R239,R507, R803,R821	10KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	7	EA	R111,R211,R220,R239,R507, R803,R821	10KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R233	20KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R233	20KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R233	20KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	5	EA	R110,R238,R257,R842,R845	47KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	5	EA	R110,R238,R257,R842,R845	47KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	5	EA	R110,R238,R257,R842,R845	47KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R506	75KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R506	75KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R506	75KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	3	EA	R509,R809,R827	100KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	3	EA	R509,R809,R827	100KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	3	EA	R509,R809,R827	100KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R838	200KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R838	200KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R838	200KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	4	EA	R843,R844,R858,R859	750KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	4	EA	R843,R844,R858,R859	750KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	4	EA	R843,R844,R858,R859	750KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R204	100Ω F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R204	100Ω F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R204	100Ω F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R261	910Ω F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R261	910Ω F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R261	910Ω F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R206	1.5KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R206	1.5KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R206	1.5KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	2	EA	R234,R260	2.4KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	2	EA	R234,R260	2.4KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	2	EA	R234,R260	2.4KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R205	2.7KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R205	2.7KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R205	2.7KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R857	4.7KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R857	4.7KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R857	4.7KΩ F 1608	RESISTOR, CHIP	YAGEO	

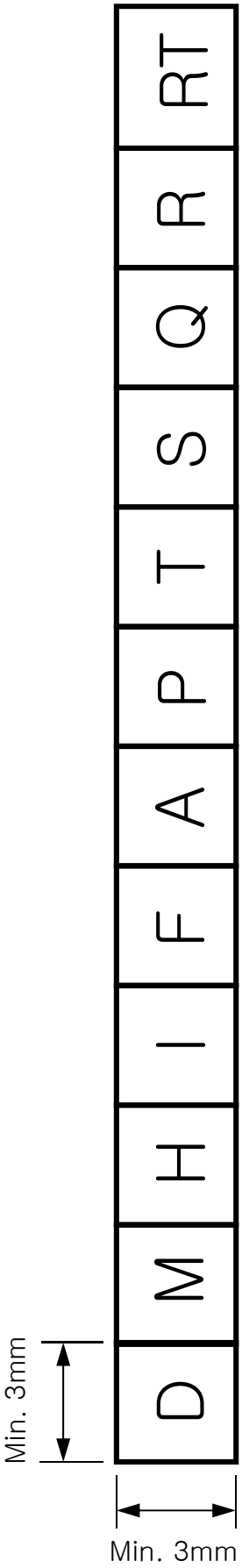
2.2	EAY62830901	LGIT	SMT	2	EA	R846,R847	6.8KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	2	EA	R846,R847	6.8KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	2	EA	R846,R847	6.8KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R855	7.5KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R855	7.5KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R855	7.5KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R262	20KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R262	20KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R262	20KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R848	30KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R848	30KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R848	30KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R235	56KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R235	56KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R235	56KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	2	EA	R854,R863	62KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	2	EA	R854,R863	62KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	2	EA	R854,R863	62KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	2	EA	R849,R860	75KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	2	EA	R849,R860	75KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	2	EA	R849,R860	75KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	3	EA	R850,R851,R856	150KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	3	EA	R850,R851,R856	150KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	3	EA	R850,R851,R856	150KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	8	EA	R812,R814,R816,R818,R830, R832,R834,R836	3.9Ω F 2012	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	8	EA	R812,R814,R816,R818,R830, R832,R834,R836	3.9Ω F 2012	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	8	EA	R812,R814,R816,R818,R830, R832,R834,R836	3.9Ω F 2012	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	8	EA	R811,R813,R815,R817,R829, R831,R833,R835	4.3Ω F 2012	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	8	EA	R811,R813,R815,R817,R829, R831,R833,R835	4.3Ω F 2012	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	8	EA	R811,R813,R815,R817,R829, R831,R833,R835	4.3Ω F 2012	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	2	EA	R802,R820	7.5Ω J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	2	EA	R802,R820	7.5Ω J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	2	EA	R802,R820	7.5Ω J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R236	10Ω J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R236	10Ω J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R236	10Ω J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R107	22Ω J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R107	22Ω J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R107	22Ω J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	2	EA	R801,R819	47Ω J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	2	EA	R801,R819	47Ω J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	2	EA	R801,R819	47Ω J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	1	EA	R108	100Ω J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	1	EA	R108	100Ω J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	1	EA	R108	100Ω J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	2	EA	R852,R862	75KΩ F 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62830901	LGIT	SMT	2	EA	R852,R862	75KΩ F 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62830901	LGIT	SMT	2	EA	R852,R862	75KΩ F 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62830901	LGIT	SMT	0.5	GR		HT-130A-106	BOND	HITECH KOREA	
2.2	EAY62830901	LGIT	SMT	0.5	GR		HT-130D-7	BOND	HITECH KOREA	
2.2	EAY62830901	LGIT	SMT	0.5	GR		TB-2217H	BOND	Three Bond	
2.2	EAY62830901	LGIT	AI				LGP32-13PL2 AI COMPONENTS	AI ASS'Y		
2.2	EAY62830901	LGIT	AI	3	EA	C103,C508,C512	NXB 10uF 50V M P5 Φ5X11	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62830901	LGIT	AI	3	EA	C103,C508,C512	SG 10uF 50V M P5 Φ5X11	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62830901	LGIT	AI	2	EA	C505,C511	NXB 47uF 50V M P5 Φ6.3X11	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62830901	LGIT	AI	2	EA	C505,C511	SG 47uF 50V M P5 Φ6.3X11	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62830901	LGIT	AI	4	EA	C253,C254,C255,C256	NXB 470uF 35V M TP P5 Φ10X20	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62830901	LGIT	AI	4	EA	C253,C254,C255,C256	SG 470uF 35V M TP P5 Φ10X20	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62830901	LGIT	AI	1	EA	C201	NXB 1500uF 10V M P5 Φ10X20	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62830901	LGIT	AI	1	EA	C201	MG 1500uF 10V M P5 Φ10X20	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62830901	LGIT	AI	1	EA	C202	NXB 470uF 10V M P5 Φ8X11.5	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62830901	LGIT	AI	1	EA	C202	SG 470uF 10V M P5 Φ8X12	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62830901	LGIT	AI	1	EA	C222	NXB 220uF 25V M P5 Φ8X11.5 SG 220uF 25V M P5 Φ8X12	CAPACITOR, ALUMINUM	SAMYOUNG SUSCON	
2.2	EAY62830901	LGIT	AI	1	EA	C222	NXB 220uF 25V M P5 Φ8X11.5 SG 220uF 25V M P5 Φ8X12	CAPACITOR, ALUMINUM	SAMYOUNG SUSCON	
2.2	EAY62830901	LGIT	AI	4	EA	C801,C802,C805,C806	NXB 22uF 100V M P5 Φ8X11.5	CAPACITOR, ALUMINUM	SAMYOUNG	2013Y
2.2	EAY62830901	LGIT	AI	1	EA	C102	CT81 330pF 1KV K P5 125℃	CAPACITOR, CERAMIC	YINANDON	
2.2	EAY62830901	LGIT	AI	1	EA	C102	EK R 3A 330pF 1KV K P5 125 ℃	CAPACITOR, CERAMIC	SAMWHA	
2.2	EAY62830901	LGIT	AI	5	EA	C101,C251,C252,C503,C510	CT81 1000pF 1KV K P5 125℃	CAPACITOR, CERAMIC	YINANDON	
2.2	EAY62830901	LGIT	AI	5	EA	C101,C251,C252,C503,C510	EK R 3A 1000pF 1KV K P5 125 ℃	CAPACITOR, CERAMIC	SAMWHA	
2.2	EAY62830901	LGIT	AI	2	EA	CY101,CY102	CT81 100pF 250V K P10 ,Y1	CAPACITOR, CERAMIC	YINANDON	
2.2	EAY62830901	LGIT	AI	2	EA	CY101,CY102	SD 100pF 250V K P10 ,Y1	CAPACITOR, CERAMIC	SAMWHA	
2.2	EAY62830901	LGIT	AI	2	EA	CY103,CY104	CT81 470pF 250V K P10 ,Y1	CAPACITOR, CERAMIC	YINANDON	
2.2	EAY62830901	LGIT	AI	2	EA	CY103,CY104	SD 470pF 250V K P10 ,Y1	CAPACITOR, CERAMIC	SAMWHA	
2.2	EAY62830901	LGIT	AI	1	EA	CY110	CT81 1000pF 250V M P10, Y1	CAPACITOR, CERAMIC	YINANDON	
2.2	EAY62830901	LGIT	AI	1	EA	CY110	SD 1000pF 250V M P10 ,Y1	CAPACITOR, CERAMIC	SAMWHA	
2.2	EAY62830901	LGIT	AI	4	EA	LB104,LB105,LB201,LB802	BFS3550R2F SINGLE RADIAL	INDUCTOR, BEAD FILTER LEAD	SAMWHA	
2.2	EAY62830901	LGIT	AI	1	EA	LB801	BFS3550A0L SINGLE AXIAL	INDUCTOR, BEAD FILTER LEAD	SAMWHA	

2.2	EAY62830901	LGIT	AI	5	EA	D101,D104,D501,D502,D503	HER108G 1KV 1A DO-41	DIODE	RECTRON	
2.2	EAY62830901	LGIT	AI	5	EA	D101,D104,D501,D502,D503	UF4007 1KV 1A DO-41	DIODE	TSC	
2.2	EAY62830901	LGIT	AI	5	EA	D101,D104,D501,D502,D503	UF4007 1KV 1A DO-41	DIODE	DACHANG	
2.2	EAY62830901	LGIT	AI	5	EA	D101,D104,D501,D502,D503	UF1007 1KV 1A DO-41	DIODE	DIODES	
2.2	EAY62830901	LGIT	AI	1	EA	ZD504	1N5235B 6.8V DO-35	DIODE, ZENER	VISHAY	
2.2	EAY62830901	LGIT	AI	1	EA	ZD504	1N5235B 6.8V DO-35	DIODE, ZENER	RECTRON	
2.2	EAY62830901	LGIT	AI	2	EA	ZD102,ZD103	1N5246B 16V DO-35	DIODE, ZENER	VISHAY	
2.2	EAY62830901	LGIT	AI	2	EA	ZD102,ZD103	1N5246B 16V DO-35	DIODE, ZENER	RECTRON	
2.2	EAY62830901	LGIT	AI	2	EA	ZD502,ZD503	1N5250B 20V DO-35	DIODE, ZENER	VISHAY	
2.2	EAY62830901	LGIT	AI	2	EA	ZD502,ZD503	1N5250B 20V DO-35	DIODE, ZENER	RECTRON	
2.2	EAY62830901	LGIT	AI	26	EA	EL3,EL4,EL5,EL6,EL7, EL8,EL13,EL14,EL15,EL16, EL21,EL22,EL23,EL28,EL29, EL30,EL31,EL39,EL40,EL41, EL42,EL43,EL44,EL45,EL46, EL98	1.6X3.0	EYELET	LEZHI	
2.2	EAY62830901	LGIT	AI	17	EA	EL1,EL2,EL9,EL10,EL11, EL12,EL19,EL20,EL24,EL25, EL26,EL27,EL32,EL33,EL34, EL35,EL56	2.0X3.0	EYELET	LEZHI	
2.2	EAY62830901	LGIT	AI	6	EA	P202,P203,P802,P803,P804, P805	SSJS236-6-4	GT PIN	LEZHI	
2.2	EAY62830901	LGIT	AI	19	EA	J1,J3,J5,J6,J7, J9,J10,J11,J12,J13, J14,J15,J16,J18,J19, J20,J21,J22,J23	Φ0.6	JUMPER WIRE	TPI	
2.2	EAY62830901	LGIT	AI	19	EA	J1,J3,J5,J6,J7, J9,J10,J11,J12,J13, J14,J15,J16,J18,J19, J20,J21,J22,J23	Φ0.6	JUMPER WIRE	ILKWANG	
2.2	EAY62830901	LGIT	AI	19	EA	J1,J3,J5,J6,J7, J9,J10,J11,J12,J13, J14,J15,J16,J18,J19, J20,J21,J22,J23	Φ0.6	JUMPER WIRE	Seungw on	
2.2	EAY62830901	LGIT	AI	19	EA	J1,J3,J5,J6,J7, J9,J10,J11,J12,J13, J14,J15,J16,J18,J19, J20,J21,J22,J23	Φ0.6	JUMPER WIRE	LEAN TECH	
2.2	EAY62830901	LGIT	AI	1	EA	R505	CRS 1Ω 1/4W J SMALL	RESISTOR, CARBON FILM	ABCO	
2.2	EAY62830901	LGIT	AI	1	EA	R505	RDM94 1Ω 1/4W J SMALL	RESISTOR, CARBON FILM	SMART	
2.2	EAY62830901	LGIT	AI	1	EA	R505	SFR25 1Ω 1/4W J SMALL	RESISTOR, CARBON FILM	PILKOR	
2.2	EAY62830901	LGIT	AI	1	EA	R503	CRS 20Ω 1/4W J SMALL	RESISTOR, CARBON FILM	ABCO	
2.2	EAY62830901	LGIT	AI	1	EA	R503	RDM94 20Ω 1/4W J SMALL	RESISTOR, CARBON FILM	SMART	
2.2	EAY62830901	LGIT	AI	1	EA	R503	SFR25 20Ω 1/4W J SMALL	RESISTOR, CARBON FILM	PILKOR	
2.2	EAY62830901	LGIT	AI	1	EA	R502	CRS 100Ω 1/4W J SMALL	RESISTOR, CARBON FILM	ABCO	
2.2	EAY62830901	LGIT	AI	1	EA	R502	RDM94 100Ω 1/4W J SMALL	RESISTOR, CARBON FILM	SMART	
2.2	EAY62830901	LGIT	AI	1	EA	R502	SFR25 100Ω 1/4W J SMALL	RESISTOR, CARBON FILM	PILKOR	
2.2	EAY62830901	LGIT	AI	1	EA	R100	MSR37 1.2MΩ 1/2W J SURGE	RESISTOR, FIXED CARBON COMPOSITION	PILKOR	
2.2	EAY62830901	LGIT	AI	1	EA	R100	PRC 1.2MΩ 1/2W J SURGE	RESISTOR, FIXED CARBON COMPOSITION	SMART	
2.2	EAY62830901	LGIT	AI	2	EA	R510,R511	WNPS 0.82Ω 1W J SMALL	RESISTOR,WIRE WOUND	ABCO	
2.2	EAY62830901	LGIT	AI	2	EA	R510,R511	PRN 0.82Ω 1W J SMALL	RESISTOR,WIRE WOUND	SMART	
2.2	EAY62830901	LGIT	AI	1	EA	R822	WNPS 0.1Ω 2W J SMALL	RESISTOR,WIRE WOUND	ABCO	
2.2	EAY62830901	LGIT	AI	1	EA	R822	PRN 0.1Ω 2W J SMALL	RESISTOR,WIRE WOUND	SMART	
2.2	EAY62830901	LGIT	AI	1	EA	R804	WNPS 0.16Ω 2W J SMALL	RESISTOR,WIRE WOUND	ABCO	
2.2	EAY62830901	LGIT	AI	1	EA	R804	PRN 0.16Ω 2W J SMALL	RESISTOR,WIRE WOUND	SMART	
2.2	EAY62830901	LGIT	AI	2	EA	R251,R253	MORS 10Ω 1W J SMALL	RESISTOR, METAL OXIDE FILM	ABCO	
2.2	EAY62830901	LGIT	AI	2	EA	R251,R253	RSD01 10Ω 1W J SMALL	RESISTOR, METAL OXIDE FILM	SMART	
2.2	EAY62830901	LGIT	AI	2	EA	R251,R253	PR01 10Ω 1W J SMALL	RESISTOR, METAL OXIDE FILM	PILKOR	
2.2	EAY62830901	LGIT	AI	1	EA	R102	MORS 120KΩ 2W J SMALL R-FORMING	RESISTOR, METAL OXIDE FILM	ABCO	
2.2	EAY62830901	LGIT	AI	1	EA	R102	SML02 120KΩ 2W J SMALL R-FORMING	RESISTOR, METAL OXIDE FILM	SMART	
2.2	EAY62830901	LGIT	AI	1	EA	R102	PR02 120KΩ 2W J SMALL R-FORMING	RESISTOR, METAL OXIDE FILM	PILKOR	
2.2	EAY62830901	LGIT	AI	1	EA	R501	MORS 62KΩ 1W J SMALL R-FORMING	RESISTOR, METAL OXIDE FILM	ABCO	
2.2	EAY62830901	LGIT	AI	1	EA	R501	RSD01 62KΩ 1W J SMALL R-FORMING	RESISTOR, METAL OXIDE FILM	SMART	
2.2	EAY62830901	LGIT	AI	1	EA	R501	PR01 62KΩ 1W J SMALL R-FORMING	RESISTOR, METAL OXIDE FILM	PILKOR	
2.2	EAY62830901	LGIT	AI	3	EA	R254,R263,R264	MORS 2.2KΩ 2W J SMALL	RESISTOR, METAL OXIDE FILM	ABCO	
2.2	EAY62830901	LGIT	AI	3	EA	R254,R263,R264	RSD02 2.2KΩ 2W J SMALL	RESISTOR, METAL OXIDE FILM	SMART	
2.2	EAY62830901	LGIT	AI	3	EA	R254,R263,R264	PR02 2.2KΩ 2W J SMALL	RESISTOR, METAL OXIDE FILM	PILKOR	
2.2	EAY62830901	LGIT	AI	1	EA	PCB	LGP32-13PL2 (159X159X1.6) FR-1 KB,DS,L, 1oz CTI-600	PCB	SHANGHAI WANZHENG	
2.2	EAY62830901	LGIT	AI	1	EA	PCB	LGP32-13PL2 (159X159X1.6) FR-1 KB,DS,L, 1oz CTI-600	PCB	SHANGHAI WANZHENG(WYT)	
2.2	EAY62830901	LGIT	AI	1	EA	PCB	LGP32-13PL2 (159X159X1.6) FR-1 KB,DS,L, 1oz CTI-600	PCB	CHENG HO	

2.2	EAY62830901	LGIT	ETC				LGP32-13PL2 SUBSIDIARY MATERIALS			
2.2	EAY62830901	LGIT	ETC	1	EA		BARCODE LABEL (40*8)	BAR CODE	SERVEONE	
2.2	EAY62830901	LGIT	ETC	1	EA		BARCODE LABEL (40*8)	BAR CODE	Hansung Color	
2.2	EAY62830901	LGIT	ETC	3	GR		H-828W	BOND (RTV)	OKONG	
2.2	EAY62830901	LGIT	ETC	3	GR		EA-4100	BOND (RTV)	DOW CORNING	
2.2	EAY62830901	LGIT	ETC	3	GR		SR-9000	BOND (RTV)	DAEHEUNG CHEMICAL	
2.2	EAY62830901	LGIT	ETC	0.0333	EA		506 X 344 X 190 8t	BOX CARTON	TAILI PACKING	
2.2	EAY62830901	LGIT	ETC	0.0333	EA		506 X 344 X 190 8t	BOX CARTON	HUAXING PACK	
2.2	EAY62830901	LGIT	ETC	0.0333	EA		506 X 344 X 190 8t	BOX CARTON	Haier Fungchoi	
2.2	EAY62830901	LGIT	ETC	0.0667	EA		506 X 341 8t	BOX PAD	TAILI PACKING	
2.2	EAY62830901	LGIT	ETC	0.0667	EA		506 X 341 8t	BOX PAD	HUAXING PACK	
2.2	EAY62830901	LGIT	ETC	0.0667	EA		506 X 341 8t	BOX PAD	Haier Fungchoi	
2.2	EAY62830901	LGIT	ETC	0.3667	EA		341 X 166 8t	BOX PARTITION	TAILI PACKING	
2.2	EAY62830901	LGIT	ETC	0.3667	EA		341 X 166 8t	BOX PARTITION	HUAXING PACK	
2.2	EAY62830901	LGIT	ETC	0.3667	EA		341 X 166 8t	BOX PARTITION	Haier Fungchoi	
2.2	EAY62830901	LGIT	ETC	0.2000	EA		506 X 166 8t	BOX PARTITION	TAILI PACKING	
2.2	EAY62830901	LGIT	ETC	0.2000	EA		506 X 166 8t	BOX PARTITION	HUAXING PACK	
2.2	EAY62830901	LGIT	ETC	0.2000	EA		506 X 166 8t	BOX PARTITION	Haier Fungchoi	
2.2	EAY62830901	LGIT	ETC	1	EA		350 X 180	BUBBLE SHEET	SERVEONE	
2.2	EAY62830901	LGIT	ETC	1	EA		350 X 180	BUBBLE SHEET	KELIN	
2.2	EAY62830901	LGIT	ETC	25	GR		EF-9301(g)	FLUX	ALPHA	
2.2	EAY62830901	LGIT	ETC	25	GR		ILF-714(kg)	FLUX	ION ELEC	
2.2	EAY62830901	LGIT	ETC	25	GR		DF-234U	FLUX	DOOSUNG	
2.2	EAY62830901	LGIT	ETC	15	GR		HSE-11 B20 BAR (SN:99%,AG:0.3%,CU:0.7%)	SOLDER BAR	HEESUNG METAL	
2.2	EAY62830901	LGIT	ETC	15	GR		SN–CU–NI–P (HSE16(P)-B20)	SOLDER BAR	HEESUNG METAL	
2.2	EAY62830901	LGIT	ETC	15	GR		SN:99%, AG:0.3%, CU:0.7% BAR	SOLDER BAR	Alpha Metal	
2.2	EAY62830901	LGIT	ETC	5	GR		HSE-11 B20 BAR (SN:99%,AG:0.3%,CU:0.7%)	SOLDER WIRE	HEESUNG METAL	
2.2	EAY62830901	LGIT	ETC	5	GR		SN–CU–NI–P (HSE16(P)-B20)	SOLDER WIRE	HEESUNG METAL	
2.2	EAY62830901	LGIT	ETC	5	GR		SN:99%, AG:0.3%, CU:0.7% w ire	SOLDER WIRE	Alpha Metal	

Process Marking

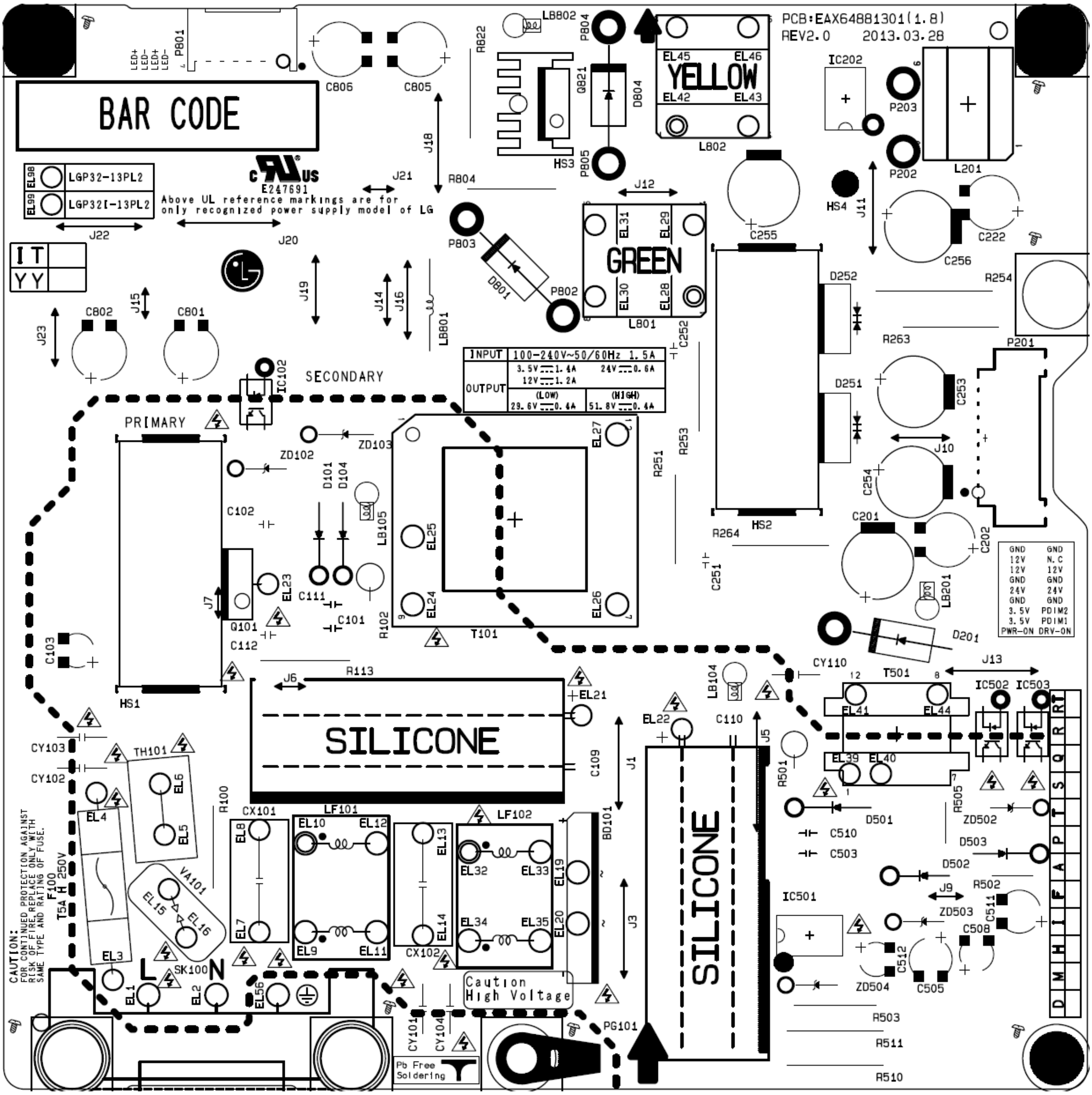
공정표시 **MARK (PCB SILK)**



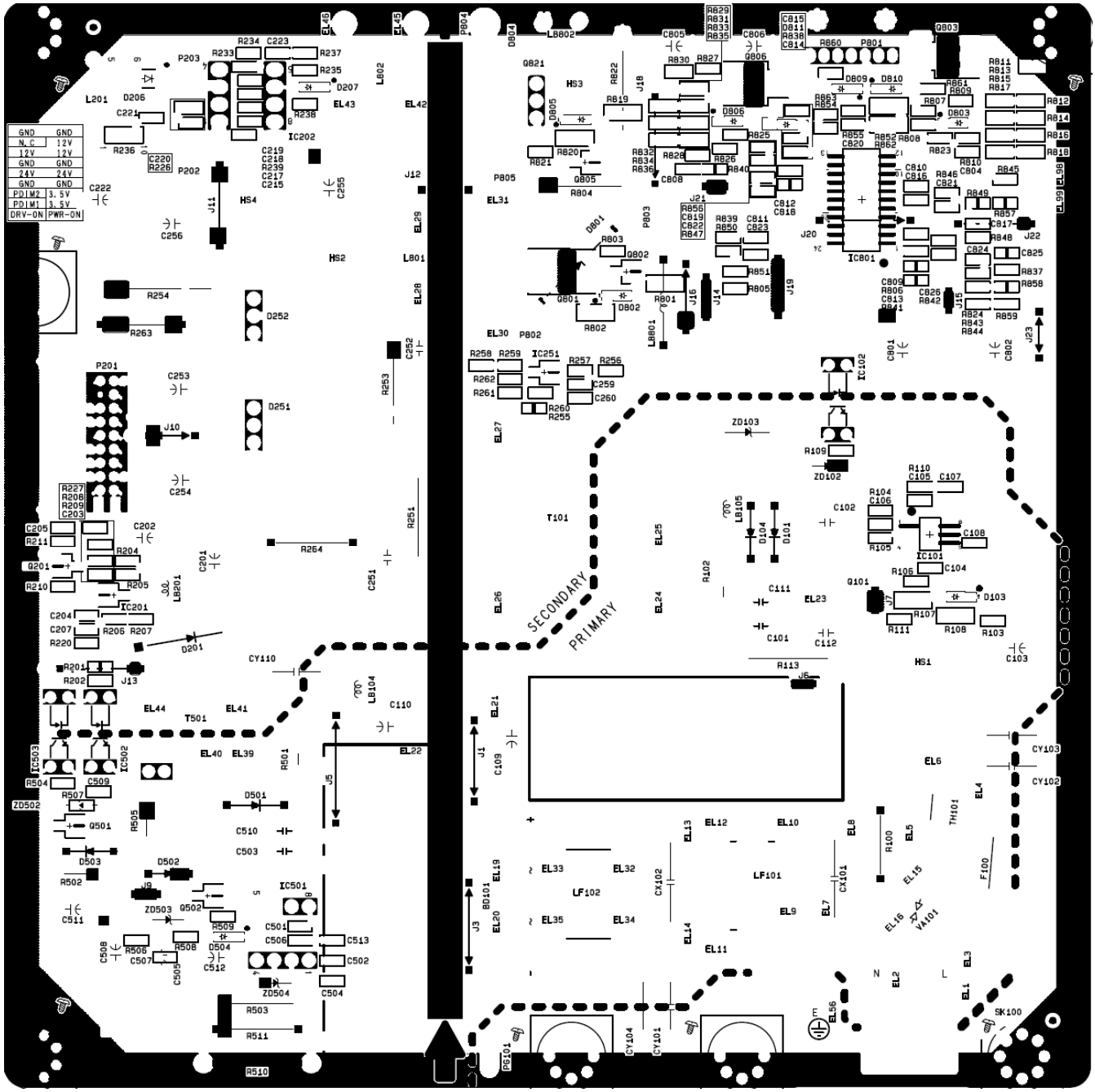
D : 자삽
M : SMD
H : 수삽 취출
I : ICT
F : 1차 성능
A : AGING
P : HI-POT
T : 취출 검사 (ATE)
S : SET 검사
Q : QC 검사
R : 불량 수리
RT : 양산 보증 시험

PCB Layout

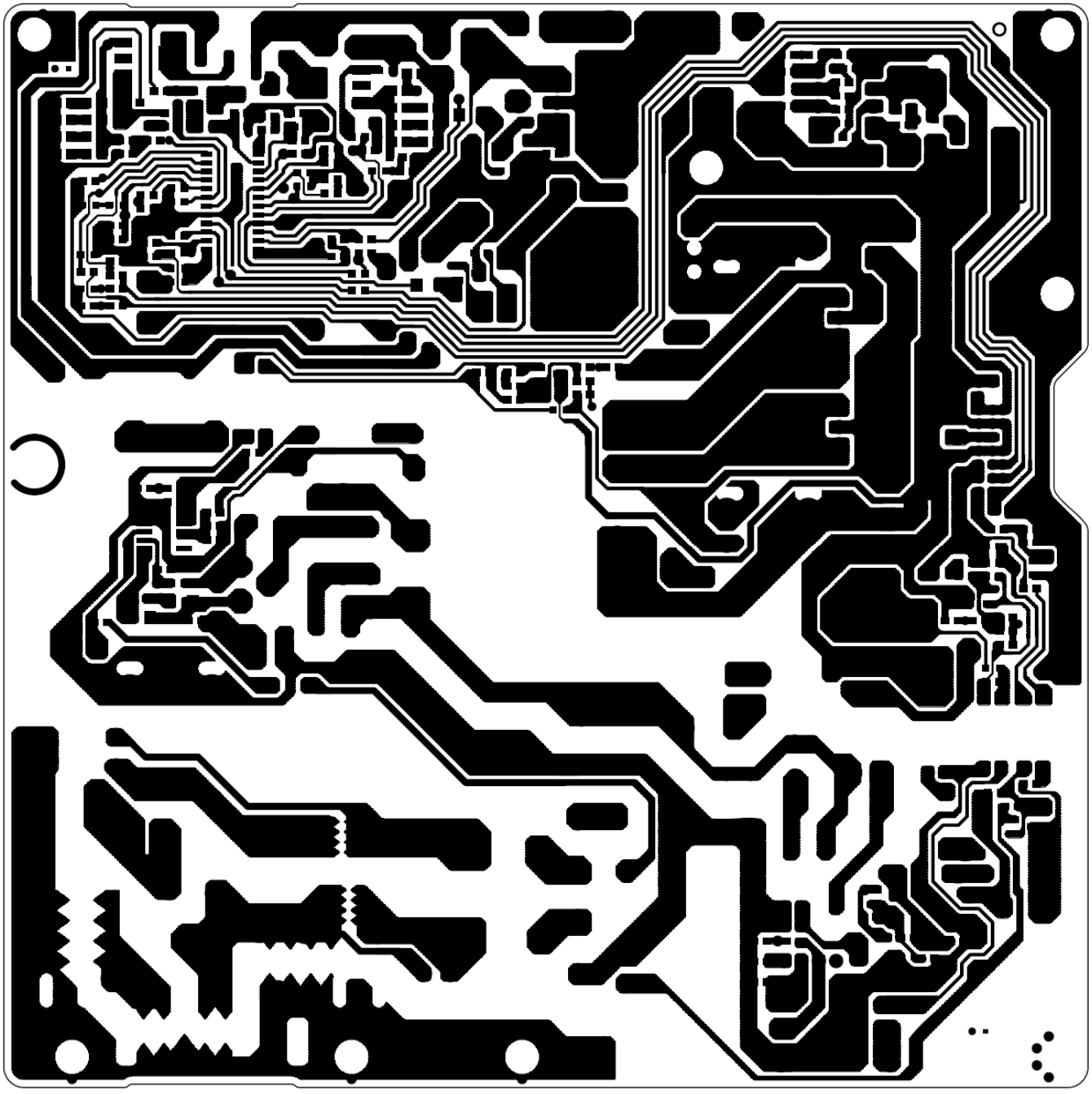
Top Silk


PCB:EAX64881301(1.8)
REV2.0 2013.03.28
BAR CODE
LGP32-13PL2
LGP32I-13PL2
E247691
Above UL reference markings are for only recognized power supply model of LG
YELLOW
GREEN
SECONDARY
PRIMARY
SILICONE
SILICONE
INPUT 100-240V~50/60Hz 1.5A
OUTPUT
3.5V 1.4A 24V 0.6A
12V 1.2A
(LOW) 29.6V 0.4A
(HIGH) 51.8V 0.4A
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.
F100 T5A H 250V
Caution High Voltage
Pb Free Soldering
GND GND
12V N.C
12V 12V
GND GND
24V 24V
GND GND
3.5V PDIM2
3.5V PDIM1
PWR-ON DRV-ON

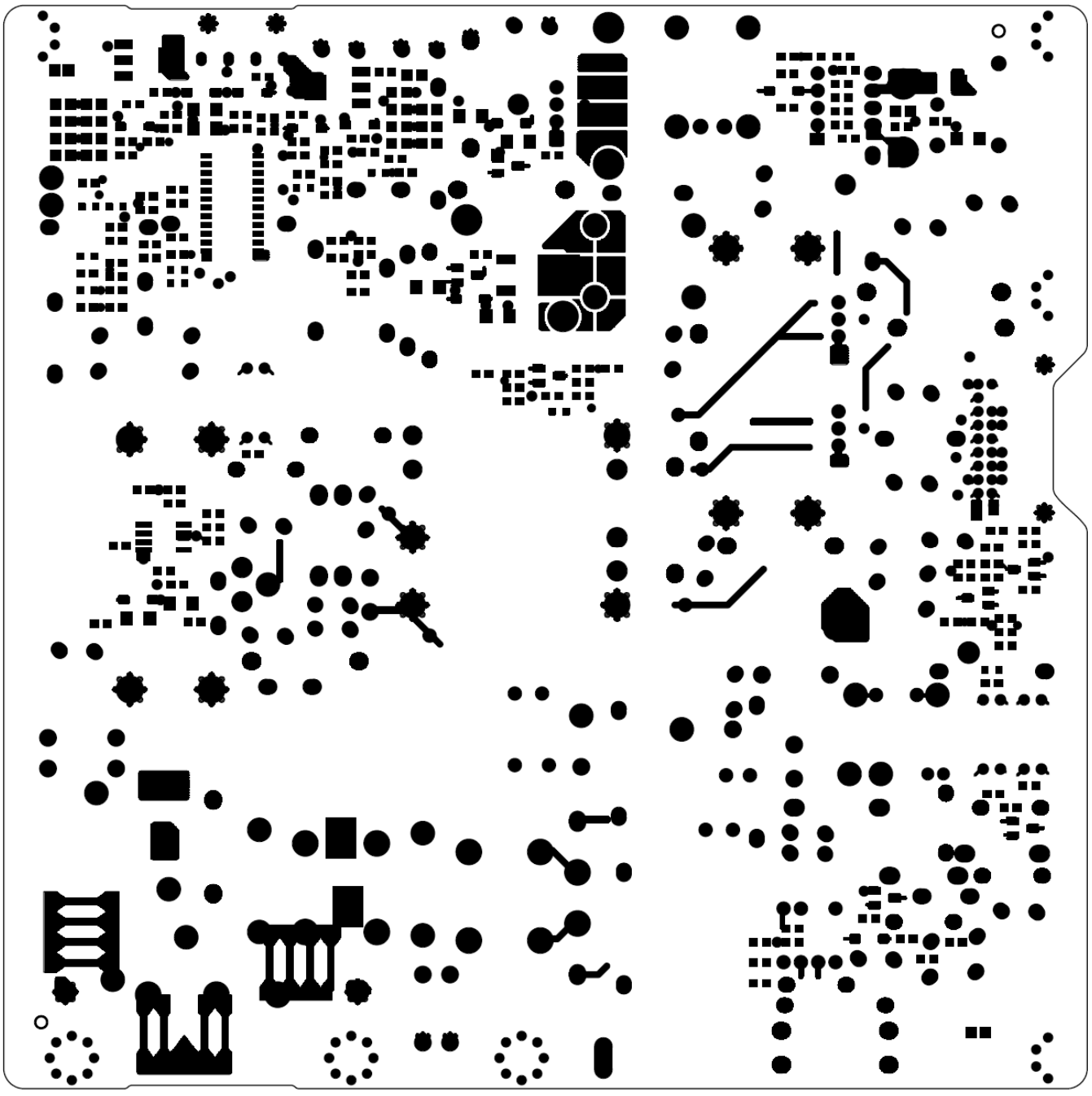
Bottom Silk



Bottom Pattern



Bottom Solder mask



Safety Parts

Object/part No.	Manufacturer / Trademark	Type / Model	Value / Rating	Parts Marking (實物)	standard	mark(s) of conformity1)
AC input connector, (SK100)	Dongil Tech	DAC-18C3M1	250V / 2.5A	DAC-18C3M1	IEC 60320-1	
Alt	Dongil Tech	DAC-18C3M1C	250V / 2.5A	DAC-18C3M1	IEC 60320-1	
Fuse, (F100)	Littelfuse Inc.	215 Series	T5A H / 250V	LF.T5AH250VP	IEC 60127-2	
	WALTER FUSE	TSC		TSC5A250V(P)	IEC 60127	
	BUSSMANN	S505		T5AH250V	IEC 60127-2	
	Dainfuse	50CT		T5AH 250V	IEC 60127	
	CONQURE	UDA-A		UDA-A T5A H 250V	IEC 60127-3-5	
Line Filter,(LF101,LF102)	TNC	CV620280SH(HF)	Rated 130℃	620280 S3	IEC 60065	Test in appliance
	Dongil Tech	LSD020280		020280		
	FEELUX	LLF-124		LLF-124		
	ZHONGTAI					
	JIANGSU CHANNELON ELECTRONIC GROUP					
	SOOJUNG					
	DONG YANG TELECOM CO., LTD					
Base material of Linefilter (LF101,LF102)	MOMENTIVE SPECIALTY CHEMICALS GMBH	PF 2736	V-0, 150℃		UL, E61040	UL
Alt	Chang Chun Plastics Co., Ltd	T375HF,T375J	V-0, 150℃		UL, E59481	UL
Alt	LG CHEMICAL LTD	LUPOX GP-2306F	V-0, 140℃		UL, E67171	UL
Alt	NAN YA PLASTICS CORP PLASTICS 4TH DIV	1403G3, 1403G6	V-0, 130℃		UL, E130155	UL
Alt	SAMYANG CORPORATION	1500GN-30	V-0 130℃		UL, E121254	UL
Alt	Rhodia Enginnering plastics	A 50H1	V-0, 130℃		UL, E44716	UL
Alt	Sabic Innovative Plastics japan LLC	420SE0	V-0, 130℃		UL, E45587	UL
Alt	TORAY INDUSTRIES INC	A604 E604	V-0, 130℃		UL, E41797	UL
Alt	POLY PLASTICS CO., LTD	1140A66	V-0, 130℃		UL, E109088	UL
Alt	SK CHEMICALS CO., LTD	Ecotran 1040G	V-0, 130℃		UL, E215991	UL
Varistor, (VA101)	Samwha	SVC621D-14A	Climatic category: 40/085/21 Maximum continuous voltage:385Va.c. Current pulse rating: 6 kV/3 kA	SVC 621-14	CECC 42000 CECC 42200 CECC 42201 IEC 60065 Clause 14.12 and IEC 60950-1 Annex Q	
	Amotech Co., Ltd.	INR 14D621K	Climatic category: 40/085/56 Maximum continuous voltage: 385Va.c. Current pulse rating: 6 kV/3 Ka	INR 14D621	CECC42000/A1 CECC42200/A1 CECC 42201-001 IEC 61051-1 IEC 61051-2 IEC 61051-2-2 IEC 60065 Clause 14.12 and IEC 60950-1 Annex Q	
	Xiamen Wanming Electronics Co.,Ltd	WMR14D621K	Climatic category: 40/85/56 Maximum continuous voltage: 750Va.c. Current pulse rating: 6 kV/3 kA	WMR 14D621K	IEC 61051-1 IEC 61051-2 IEC 61051-2-2 IEC 60950-1 Annex Q	
	Guangxi New Future Information Industry Co.,Ltd	NFC 14D621K	Climatic category: 40/085/21 Maximum continuous voltage:385Va.c. Current pulse rating: 6 kV/3 kA	NFC 14D621K	IEC 61051-1 IEC 61051-2 IEC 61051-2-2 IEC 60950-1 Annex Q	
Bridge Diode, (BD101)	Lite-on	KBJ1006G	Min 600V / 10A	KBJ1006G		Test in appliance
	DACHANG	D10XB60		D10XB60		
	TSC	TS10K60		TS10K60	E96005	
	GULF	G10XB60		G10XB60		
	RECTRON	RS1007M		RS1007M		
	SHINDENGEN	D10XB60		D10XB60	E142422	
X-cap.(CX101,CX102)	Pilkor	PCX2 337	Min 275V~ / (CX101= Max 0.33uF, CX102= Max 0.33uF)	PCX2 337 MKP	IEC 60384-14 UL1414	
	Okaya	LE		LE	IEC 60384-14 UL1414	
	EUROPTRONIC	MPX		MPX	E199061/ E311052 IEC 60384-14-3'nd edition	
	CHENGTUNG	CTX		CTX	IEC 60384-14 UL1414	
Thermistor.(TH101)	DSC	DSC 5D-15	5ohm at 25 °C	DSC 5D-15	IEC 60065	
	Xiamen Wanming Electronics Co.,Ltd	WTR15D050M		WTR15D050		
	JIANGSU XINGSHUN ELECTRONICS CO., LTD	5D2-15		5D2-15		
	Smart	ICL-5W		ICL-05 5R00MSMT		
	NANJING SHIHENG ELECTRONICS CO., LTD	MF72-5D15		MF72 5D15		
Elec.Cap.(C109,C110)	SAMYOUNG	KMF	450V / Max 68uF / 105℃	KMF450V68uF	IEC 60950-1	Test in appliance
	SUSCON	SK		SK450V68uF		
	SAMYOUNG	NZE	500V / Max 100uF / 105℃	NZE500V100uF	IEC 60950-1	Test in appliance
	SUSCON	SK		SK500V100uF		
Switching TR,(Q101)	MAGNACHIP	MDF11N65B	Min. 650V / Min 7A	MDF11N65B	IEC 60950-1	Test in appliance
	TOSHIBA	TK8A65D		K8A65D		
Flyback IC, (IC501)	INFINEON	ICE3BR4765JZ	Min. 650 V / Min 1.67A	3BR4765JZ	IEC 60950-1	Test in appliance
Y Cap. (CY101,CY102)	Kunshan Wansheng	Y1 / CT7	Min 250V / (CY101= Max 100pF, CY102= Max 100pF)	CT7 101K	IEC 60384-14	
	Apex intec	Y1 / NK		NK101K		
	DONG IL	Y1 / DA		DA101K		
	YINANDON	Y1 / CT81		CT81 101K		
	SAMWHA	Y1 / SD		SD101K		
	JYA-NAY	Y1 / JN		JN101K		
	GUANGDONG SOUTH HONGMING	Y1 / F		F101K		
	TDK	Y1 / CD		CD101K		

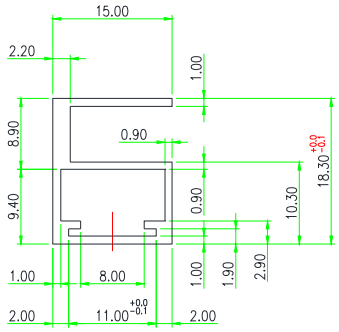
Y Cap. (CY103,CY104)	Kunshan Wansheng	Y1 / CT7	Min 250V / (CY103 = Max 470pF, CY104 = Max 470pF)	CT7 471K	IEC 60384-14	
	Apex intec	Y1 / NK		NK471K		
	DONG IL	Y1 / DA		DA471K		
	YINANDON	Y1 / CT81		CT81 471K		
	SAMWHA	Y1 / SD		SD471K		
	JYA-NAY	Y1 / JN		JN471K		
	GUANGDONG SOUTH HONGMING	Y1 / F		F471K		
	TDK	Y1 / CD		CD471K		
Bridging Cap.(CY110)	Kunshan Wansheng	Y1 / CT7	Min 250V / Max 1000pF	CT7 102M	IEC 60384-14	
	Apex intec	Y1 / NK		NK102M		
	DONG IL	Y1 / DA		DA102M		
	YINANDON	Y1 / CT81		CT81 102M		
	SAMWHA	Y1 / SD		SD102M		
	JYA-NAY	Y1 / JN		JN102M		
	GUANGDONG SOUTH HONGMING	Y1 / F		F102M		
	TDK	Y1 / CD		CD102M		
Switching Transformer, (T101)	FEELUX JIANGSU CHANNELON ELECTRONIC GROUP SOOJUNG	13S-LPM02	Class B, 130℃	13S-LPM02	IEC 60950-1	Test in appliance
Bobbin material of transformer (T101)	SUMITOMO BAKELITE CO LTD	PM-9820	V-0, 150℃		UL, E41429	UL
Insulating Tape of transformer (T101)	DUCK SUNG HITECH CO LTD	DTS-204	130℃		UL, E105147	UL
Alt	METAL LINE CO., LTD	800(a)	130℃		UL, E162848	UL
Alt	JINGJIANG YAHUA PRESSURE SENSITIVE	CT/PZ	130℃		UL, E165111	UL
Switching Transformer, (T501)	FEELUX JIANGSU CHANNELON ELECTRONIC GROUP SOOJUNG ZHONGTAI DONG YANG TELECOM CO., LTD	LS-110	Class B, 130℃	LS-110	IEC 60065	Test in appliance
Bobbin material of transformer (T501)	SUMITOMO BAKELITE CO LTD	PM-9820/PM-9630	V-0, 150℃		UL, E41429	UL
Alt	MOMENTIVE SPECIALTY CHEMICALS GMBH	PF 2736	V-0, 150℃		UL, E61040	UL
Alt	Chang Chun Plastics Co., Ltd	T375HF/T375J	V-0, 150℃		UL, E59481	UL
Insulating Tape of transformer (T501)	DUCK SUNG HITECH CO LTD	DTS-204/DTS-204K	130℃		UL, E105147	UL
Alt	METAL LINE CO LTD	800(a)	130℃		UL, E162848	UL
Alt	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE FTY	CT, PZ	130℃		UL, E165111	UL
Alt	3M Company	No.1350 Series	130℃		UL, E17385	UL
Reinforced insulation wire of transformer (T501)	COSMOLINK CO LTD	TIW-M	Class B, 130℃		UL, E213764	UL
Alt	FURUKAWA ELECTRIC CO., LTD	TEX-E	Class B, 130℃		UL, E206440	UL
Opto-coupler, (IC102,IC502,IC503)	Everlight	EL817	External cr: 7.7 mm, Internal cr: 6.0 mm DTI: 0.5 mm / 6000 Vrms	EL817	IEC 60065 UL 1577	
	Lite-on	LTV817...	External cr: 7.8 mm, Internal cr: 5.2 mm DTI: 0.8 mm / 6000 Vrms	817BN		
Discharge Resistor, (R100)	Smart	PRC	1/2W, 1.2Mohm, 5%		IEC 60065	
	UNIROYAL ELECTRONICS INDUSTRY CO., LTD	MGR0W2J****A10			IEC 60065	
	Pilkor	SR37,MSR37			IEC 60065	
PCB, FR-1	SHANGHAI WANZHENG	SWZ-2	94V-0			
	SHANGHAI WANZHENG (WYT)	SWZ-2	94V-0			
	CHENG HO POWER CORP	4B-5 4B-1, 4B-2, 4D	94V-0			
	SAMHAN	SH7	94V-0			

1) an asterisk indicates a mark which assures the agreed level of surveillance
Remarks: *) Large volume capacitors exceeding volume 1750㎣

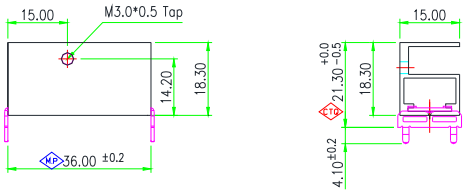
Mechanical Drawing

Extruding Drawing

(Scale 2:1)

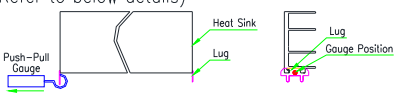


Ass'y Drawing



NOTE

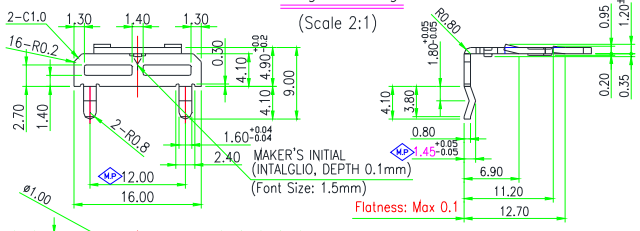
1. Unspecified tolerance is ±0.15
2. Flatness and warpage should be less than 0.15
3. The electric connection must be secured between heat sink and lugs. (Electric resistance between lugs in end of H/S: under 0.5 Ohm)
4. Cutting planes shouldn't be remained any sharp burrs could injure worker.
5. Any metallic particles, contaminations, scratches, dents and marks in surface of it couldn't be allowed
6. Lug shouldn't be taken out by specific pulling force is less than 3kgf. (Refer to below details)



7. Surface treatment: Anodizing 2~12um
8. CTQ : CTQ(critical to quality point)
9. MP : Critical point to control the dimension
10. All parts don't have to contain prohibited substances including RoHS hazardous substances(Pb,Cd,Hg,Cr+6,PBB,PBDE) and for more details refer to LGIT's Eco-SCM standard, LGIT(30)-K-029.

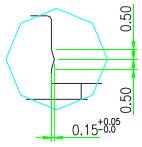
Lug Drawing

(Scale 2:1)



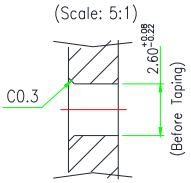
Detail "a"

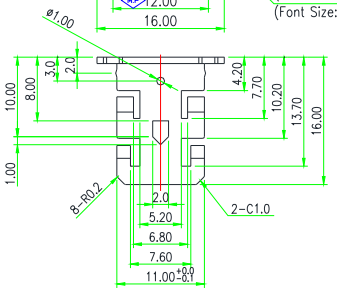
(Scale 1:5)



Hole Detail

(Scale: 5:1)





Part No.	Name	Raw Material	Specification	Plating/Finish
———	Lug	SPCC, 0.8t	16(L)x16(W)x8.5(H)	Tin Plating (Cu:1~6um,Sn:2~8um)
———	Heat Sink	Al6063, Purity: more than 98%	36(L)x15(W)x18.3(H)	Anodizing 2~12um

ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD

APPD.	CHKD.	DSGD.	DRAW.
2012.12.07 Kim Chang Sung	2012.12.07 Gwak Hyo Yong		2012.12.07 Jeon Sung Ho

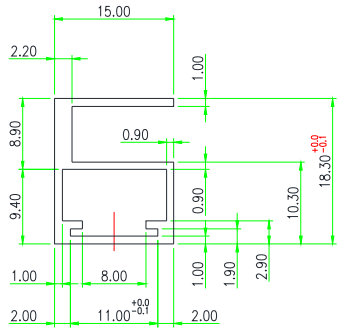
UNIT: mm | SCALE: 1 : 1

TITLE: Pola LPB 32" 2CH (13Y) — Heat Sink-1 (3HEAZA0363A-R)

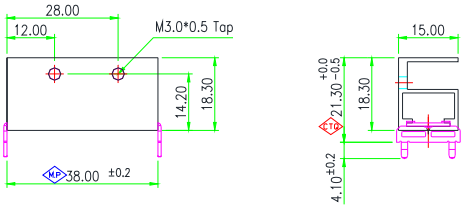
DOCUMENT NO. (1/2)

Extruding Drawing

(Scale 2:1)



Ass'y Drawing



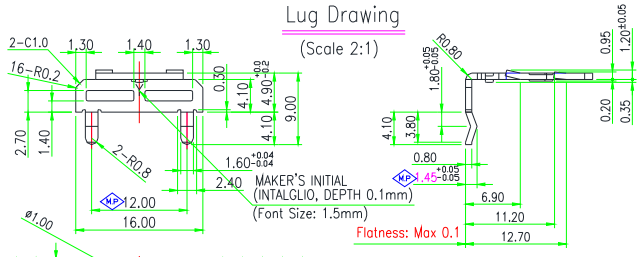
NOTE

1. Unspecified tolerance is ±0.15
2. Flatness and warpage should be less than 0.15
3. The electric connection must be secured between heat sink and lugs. (Electric resistance between lugs in end of H/S: under 0.5 Ohm)
4. Cutting planes shouldn't be remained any sharp burrs could injure worker.
5. Any metallic particles, contaminations, scratches, dents and marks in surface of it couldn't be allowed
6. Lug shouldn't be taken out by specific pulling force is less than 3kgf. (Refer to below details)

7. Surface treatment: Anodizing 2~12um
8. CTQ : CTQ(critical to quality point)
9. MP : Critical point to control the dimension
10. All parts don't have to contain prohibited substances including RoHS hazardous substances(Pb,Cd,Hg,Cr+6,PBB,PBDE) and for more details refer to LGIT's Eco-SCM standard, LGIT(30)-K-029.

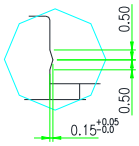
Lug Drawing

(Scale 2:1)



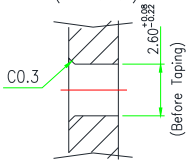
Detail "a"

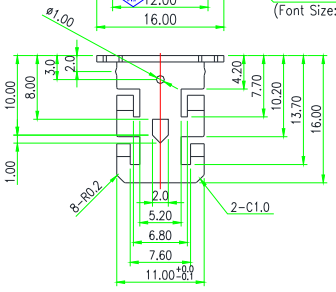
(Scale 1:5)



Hole Detail

(Scale: 5:1)





———	Lug	SPCC, 0.8t	16(L)x16(W)x8.5(H)	Tin Plating (Cu:1~6um,Sn:2~8um)
———	Heat Sink	Al6063, Purity: more than 98%	38(L)x15(W)x18.3(H)	Anodizing 2~12um
Part No.	Name	Raw Material	Specification	Plating/Finish

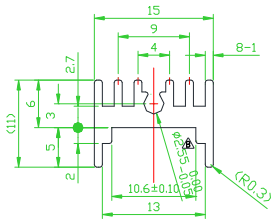
ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD

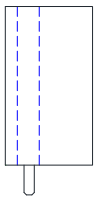
APPD.	CHKD.	DSGD.	DRAW.	UNIT	SCALE
2012.12.07 Kim Chang Sung	2012.12.07 Gwak Hyo Yong		2012.12.07 Jeon Sung Ho	mm	1 : 1

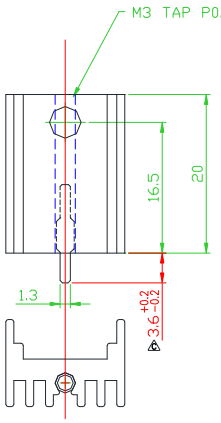
Pola LPB 32" 2CH (13Y)

TITLE Heat Sink-2 (3HEAZA0363B-R)

DOCUMENT NO. (2/2)



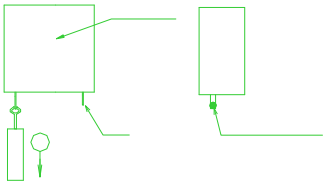




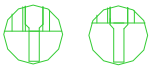
NOTE

1.Material
- Body : Al 6063 (Purity more than 98%)
- Lug : Brass (Cu1~6um,Sn2~8um)

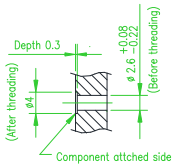
2.The general tolerance : ±0.3.
3.Flatness should be less than 0.3.
4.Heatsink-body and rugs are secured for electric connection.
(Electric resistance between Lugs : under 0.5 Ohm)
5.Cutting planes should be clean, free from burrs or sharp edges.
6.Lugs should not be seperated by pulling force which is less than 3kgf. (Refer drawing)

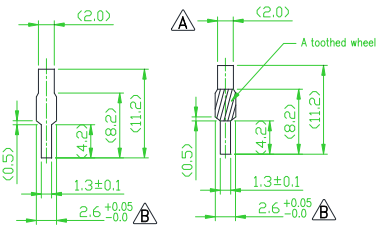


7.Lugs should not be jut out over Heat sink Body boundary



8."**" important & attention point.
9. All parts must not contain prohibited substances including RoHS Hazardous substances(Pb, Cd, Hg, Cr+6, PBB, PBDE) and for more details refer to LGIT's Eco-SCM standard, LGIT(30)-K-029.





NO.	PART NO.	PART NAME	MATERIAL	SPEC.	FINISH	Q'TY	REMARK

ZONE	SYMB.	DATE OR NO.	DRAW.	CHKD.	APPR.
C	X1	'12.10.25 Change dimension And tolerance	JSH		KCS
B	X3	'10.02.02 Change dimension And tolerance	PBJ	GHS	KCS
A	X1	'09.05.18 Add Lug(Pin)	PBJ	GHS	KCS

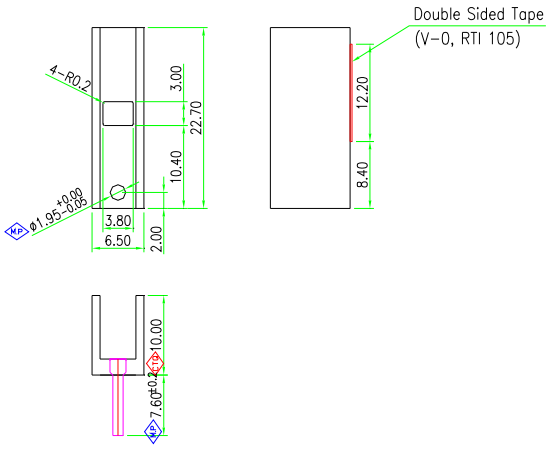
PART NO. 3110KT0334A-F			DRAW.	CHKD.	APPR.	TITLE HEAT SINK(11 X 15 X 20)
PROJECTION	UNIT	SCALE	'08.04.22 Byungjun Park	'08.04.22 Hyunsung Guk	'08.04.22 Changsung Kim	MODEL NO.
						DRAW NO.

(30)-0054

LG Innotek Co., Ltd.

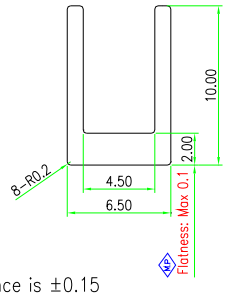
Ass'y Drawing

(Scale 2:1)



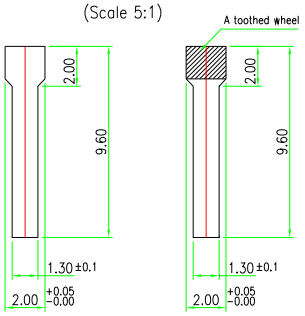
Extruding Drawing

(Scale 4:1)



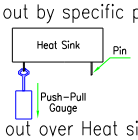
Pin Drawing

(Scale 5:1)

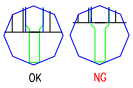


NOTE

1. Unspecified tolerance is ±0.15
2. Flatness and warpage should be less than 0.15
3. The electric connection must be secured between heat sink and lugs. (Electric resistance between lugs in end of H/S: under 0.5 Ohm)
4. Cutting planes shouldn't be remained any sharp burrs could injure worker.
5. Any metallic particles, contaminations, scratches, dents and marks in surface of it couldn't be allowed
6. Pin shouldn't be taken out by specific pulling force is less than 3kgf. (Refer to below details)



7. Lugs should not be jut out over Heat sink Body boundary



8. CTQ : CTQ(critical to quality point)
9. M.P : Critical point to control the dimension
10. All parts don't have to contain prohibited substances including RoHS hazardous substances(Pb,Cd,Hg,Cr+6,PBB,PBDE) and for more details refer to LGIT's Eco-SCM standard, LGIT(30)-K-029.

Part No.	Name	Raw Material	Specification	Plating/Finish
———	Lug	SWCH10A, ø 1.3	9.6(L)x2.0(D)	Tin Plating (Cu:1~6um,Sn:2~8um)
———	Heat Sink	Al6063, Purity: more than 98%	22.7(L)x6.5(W)x10.0(H)	Anodizing 2~12um

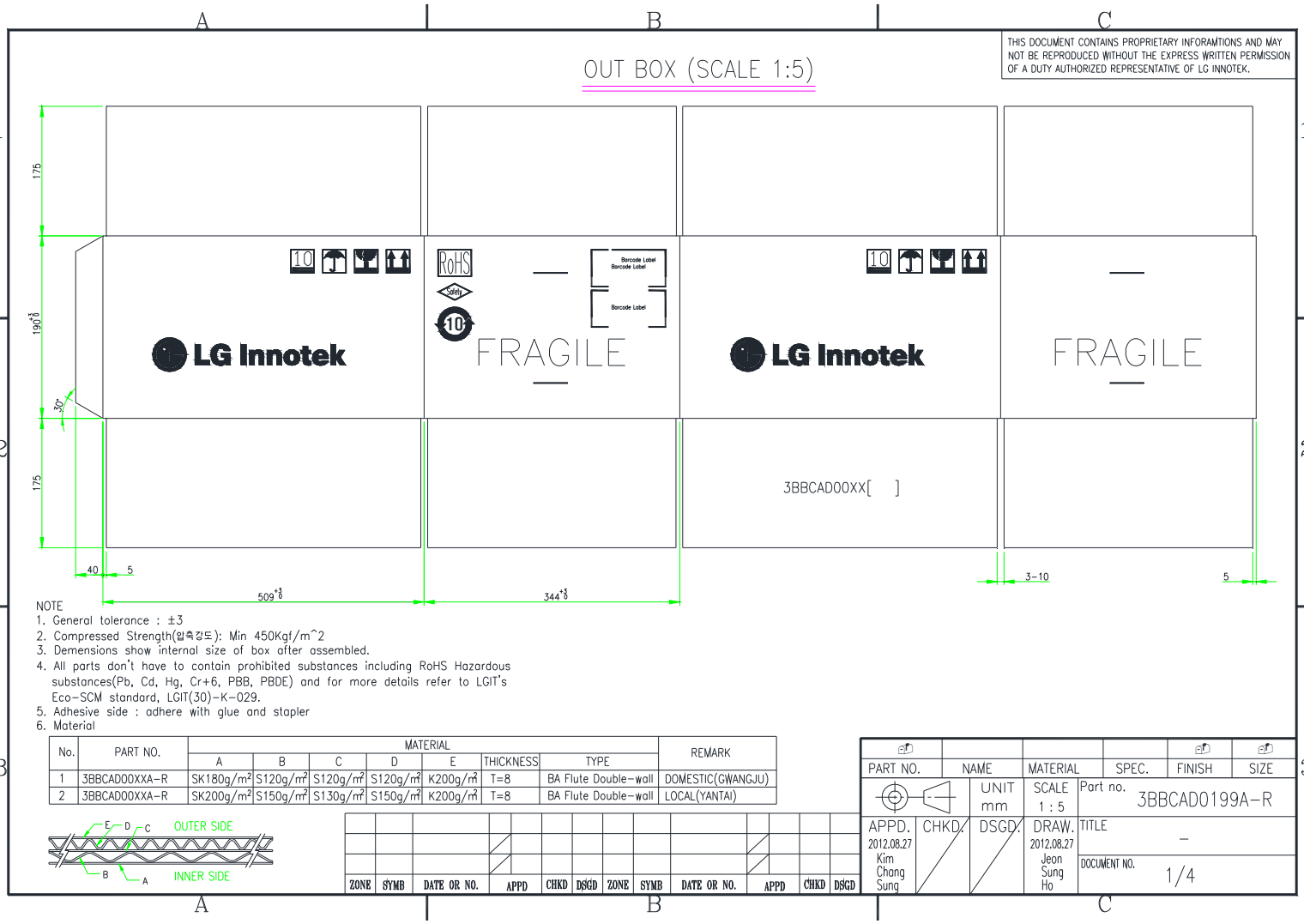
ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD

APPD.	CHKD.	DSGD.	DRAW.	UNIT	SCALE
2013.01.07 Kim Chang Sung	2013.01.07 Gwak Hyo Yong		2013.01.07 Jeon Sung Ho	mm	1 : 1

TITLE: Pola LPB 32" 2CH (13Y) — Heat Sink-3 (3HEAZA0363C-R)

DOCUMENT NO. (3/3)

Packing Drawing



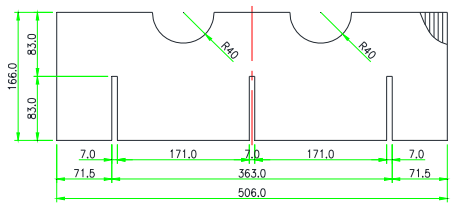
NOTE
1. General tolerance : ±3
2. Compressed Strength(압축강도): Min 450Kgf/m^2
3. Demensions show internal size of box after assembled.
4. All parts don't have to contain prohibited substances including RoHS Hazardous substances(Pb, Cd, Hg, Cr+6, PBB, PBDE) and for more details refer to LGIT's Eco-SCM standard, LGIT(30)-K-029.
5. Adhesive side : adhere with glue and stapler
6. Material

No.	PART NO.	MATERIAL					THICKNESS	TYPE	REMARK
		A	B	C	D	E			
1	3BBCAD00XXA-R	SK180g/m²	S120g/m²	S120g/m²	S120g/m²	K200g/m²	T=8	BA Flute Double-wall	DOMESTIC(GWANGJU)
2	3BBCAD00XXA-R	SK200g/m²	S150g/m²	S130g/m²	S150g/m²	K200g/m²	T=8	BA Flute Double-wall	LOCAL(YANTAI)

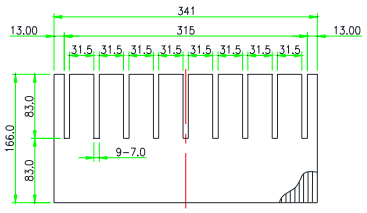
ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD	ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD

PART NO.	NAME	MATERIAL	SPEC.	FINISH	SIZE
	UNIT mm	SCALE 1 : 5	Part no. 3BBCAD0199A-R		
APPD. 2012.08.27 Kim Chang Sung	CHKD.	DSGD.	DRAW. 2012.08.27 Jeon Sung Ho	TITLE -	
				DOCUMENT NO. 1/4	

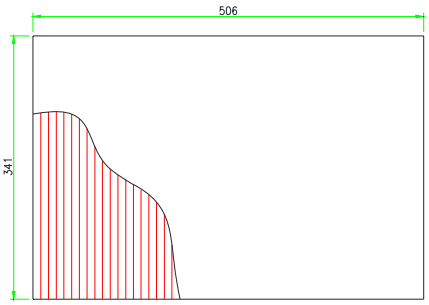
Cross Board A (506*166)



Cross Board B (341*166)

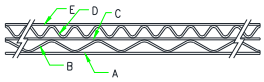


Tray Board (506*341)



NOTE
1. General tolerance : ±2
2. Demensions show internal size of box after assembled.
3. All parts must not contain prohibited substances including RoHS Hazardous substances(Pb, Cd, Hg, Cr+6, PBB, PBDE) and for more details refer to LGIT's Eco-SCM standard, LGIT(30)-K-029.
4. MATERIAL

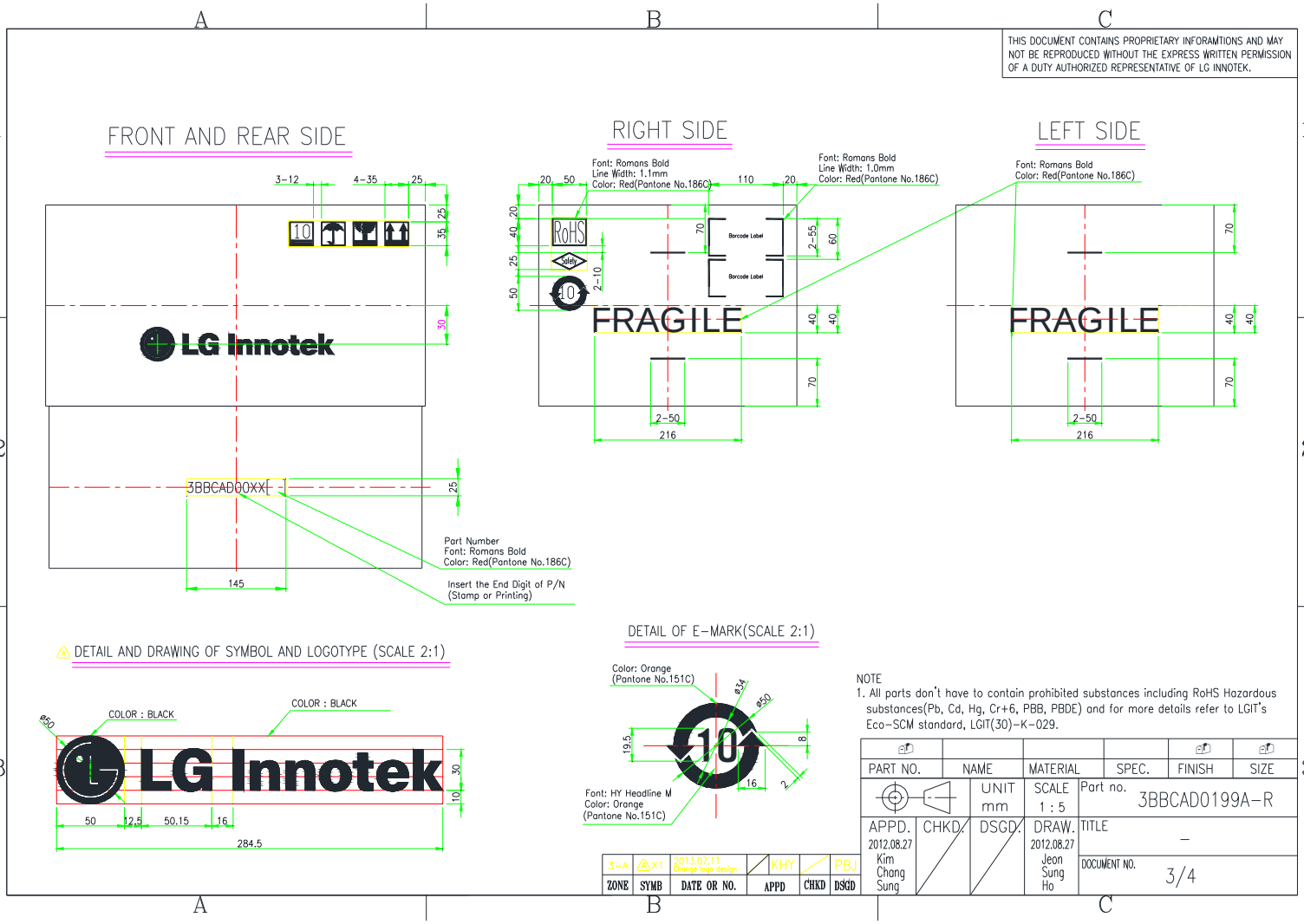
No.	PART NO.	MATERIAL							REMARK
		A	B	C	D	E	THICKNESS	TYPE	
1	XXXXXXX	SK180g/m²	S120g/m²	S120g/m²	S120g/m²	K200g/m²	T=8	BA Flute Double-wall	DOMESTIC(GWANGJU)
2	XXXXXXX	SK150g/m²	S150g/m²	S130g/m²	S130g/m²	K150g/m²	T=8	BA Flute Double-wall	LOCAL(YANTAI)



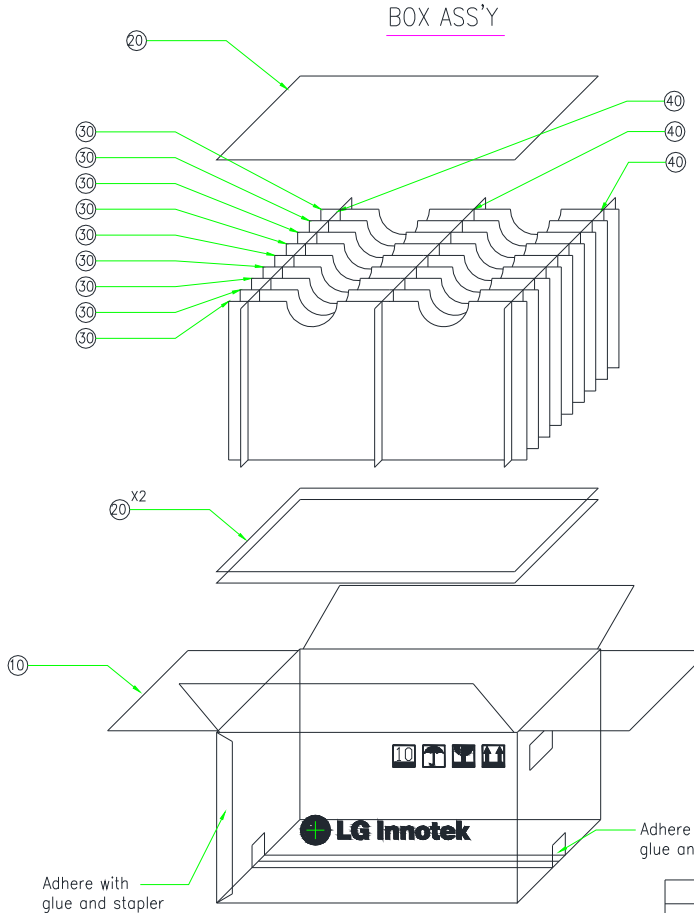
ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD

PART NO.	NAME	MATERIAL	SPEC.	FINISH	SIZE

UNIT mm	SCALE 1 : 5	Part no. 3BBCAD0199A-R		
APPD. 2012.08.27 Kim Chang Sung	CHKD.	DSGD.	DRAW. 2012.08.27 Jeon Sung Ho	TITLE –
				DOCUMENT NO. 2/4


THIS DOCUMENT CONTAINS PROPRIETARY INFORAMTIONS AND MAY NOT BE REPRODUCED WITHOUT THE EXPRESS WRITTEN PERMISSION OF A DUTY AUTHORIZED REPRESENTATIVE OF LG INNOTEK.
FRONT AND REAR SIDE
RIGHT SIDE
LEFT SIDE
LG Innotek
FRAGILE
3BBCAD00XX[
Part Number
Font: Romans Bold
Color: Red(Pantone No.186C)
Insert the End Digit of P/N
(Stamp or Printing)
Font: Romans Bold
Line Width: 1.1mm
Line Width: 1.0mm
Barcode Label
DETAIL AND DRAWING OF SYMBOL AND LOGOTYPE (SCALE 2:1)
COLOR : BLACK
DETAIL OF E-MARK(SCALE 2:1)
Color: Orange
(Pantone No.151C)
Font: HY Headline M
NOTE
1. All parts don't have to contain prohibited substances including RoHS Hazardous substances(Pb, Cd, Hg, Cr+6, PBB, PBDE) and for more details refer to LGIT's Eco-SCM standard, LGIT(30)-K-029.
PART NO.
NAME
MATERIAL
SPEC.
FINISH
SIZE
UNIT mm
SCALE 1 : 5
Part no. 3BBCAD0199A-R
APPD. 2012.08.27 Kim Chang Sung
CHKD.
DSGD.
DRAW. 2012.08.27 Jeon Sung Ho
TITLE –
DOCUMENT NO. 3/4
ZONE SYMB DATE OR NO. APPD CHKD DSGD
3-A X1 2013.07.11 Orange logo design KHY PBJ

BOX ASS'Y

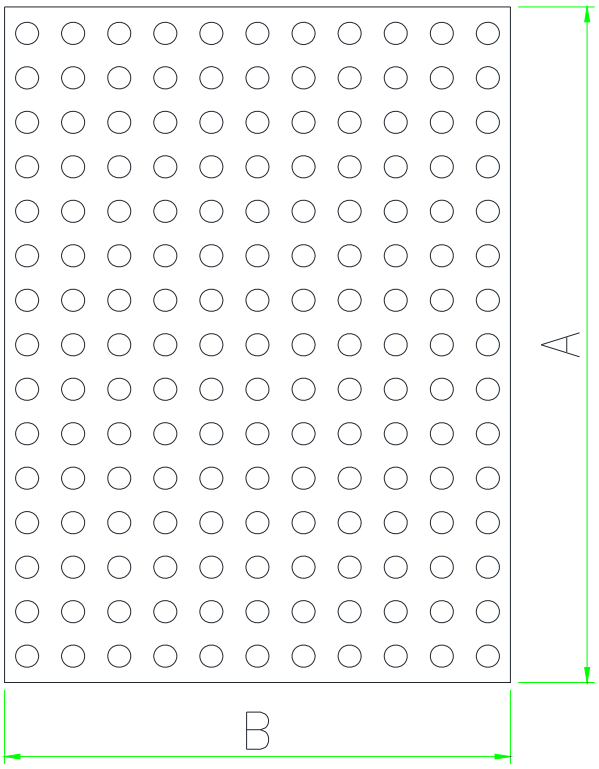


PART LIST

No.	PART NAME	QUANTITY	REMARK
10	OUT BOX	1	
20	Tray Board (506*341)	3	
30	Cross Board A (506*166)	9	
40	Cross Board B (341*166)	3	

ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD

PART NO.	NAME	MATERIAL	SPEC.	FINISH	SIZE
	UNIT mm	SCALE N/S	Part no. 3BBCAD0199A-R		
APPD. 2012.08.27 Kim Chang Sung	CHKD.	DSGD.	DRAW. 2012.08.27 Jeon Sung Ho	TITLE –	
				DOCUMENT NO. 4/4	



NOTE
1. Material : LDPE
2. General tolerance :
3. COLOR : PINK
4. Antistatic finishing $^{+5}_{-5}$
5. Surface Resistance : 10^{6}~10^{11} Ohm/SQ
   All parts must not contain prohibited substances including RoHS azardous substances (Pb, Cd, Hg,Cr+6, PBB, PBDE) and for more details refer to LGIT's Eco-SCM standard,
6. LGIT (30)-K-029.

Part NO.	Thickness	"A"	"B"	Application Model	LGIT PCB Part Number
A	4 ±1.5	350	180	Pola 32", EPSU 32"39"42"	3EBECA0003A-R
B	4 ±1.5	350	220	Pola 37"39"42"	3EBECB0003A-R
C	4 ±1.5	350	280	Pola 47"50"55", LPB, EPSU47"55"	3EBECB0004A-R

PART NO.	NAME	MATERIAL	SPEC.	FINISH	SIZE

ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD

UNIT mm | SCALE NS

APPD. 12.08.27 Kim Chang Sung | CHKD. | DSGD. | DRAW. 12.08.27 Jeon Sung Ho

TITLE: Air Vinyl for 13Y

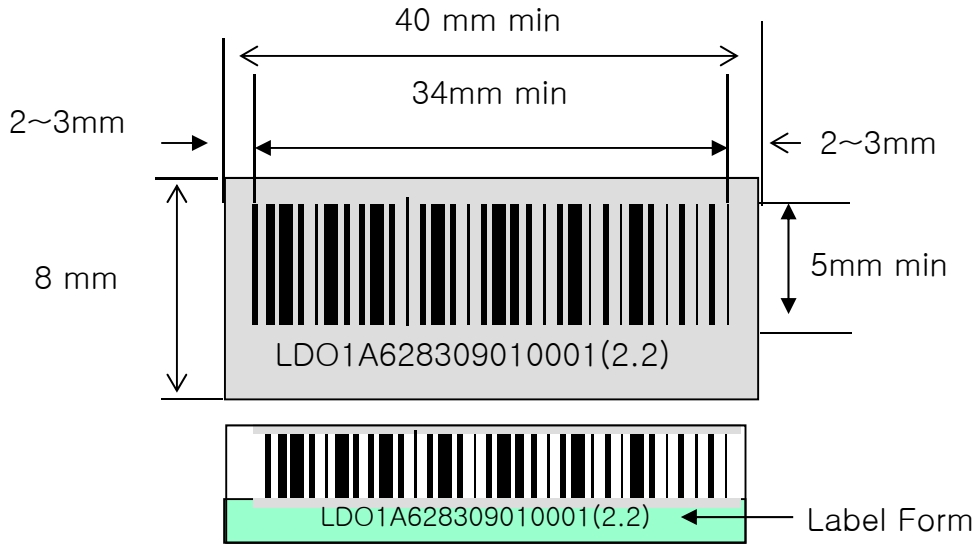
DOCUMENT NO.

LG Innotek Co., Ltd.

Bar-Code
Label Drawing

1. BARCODE Specification

1.1 Power Board Barcode specification



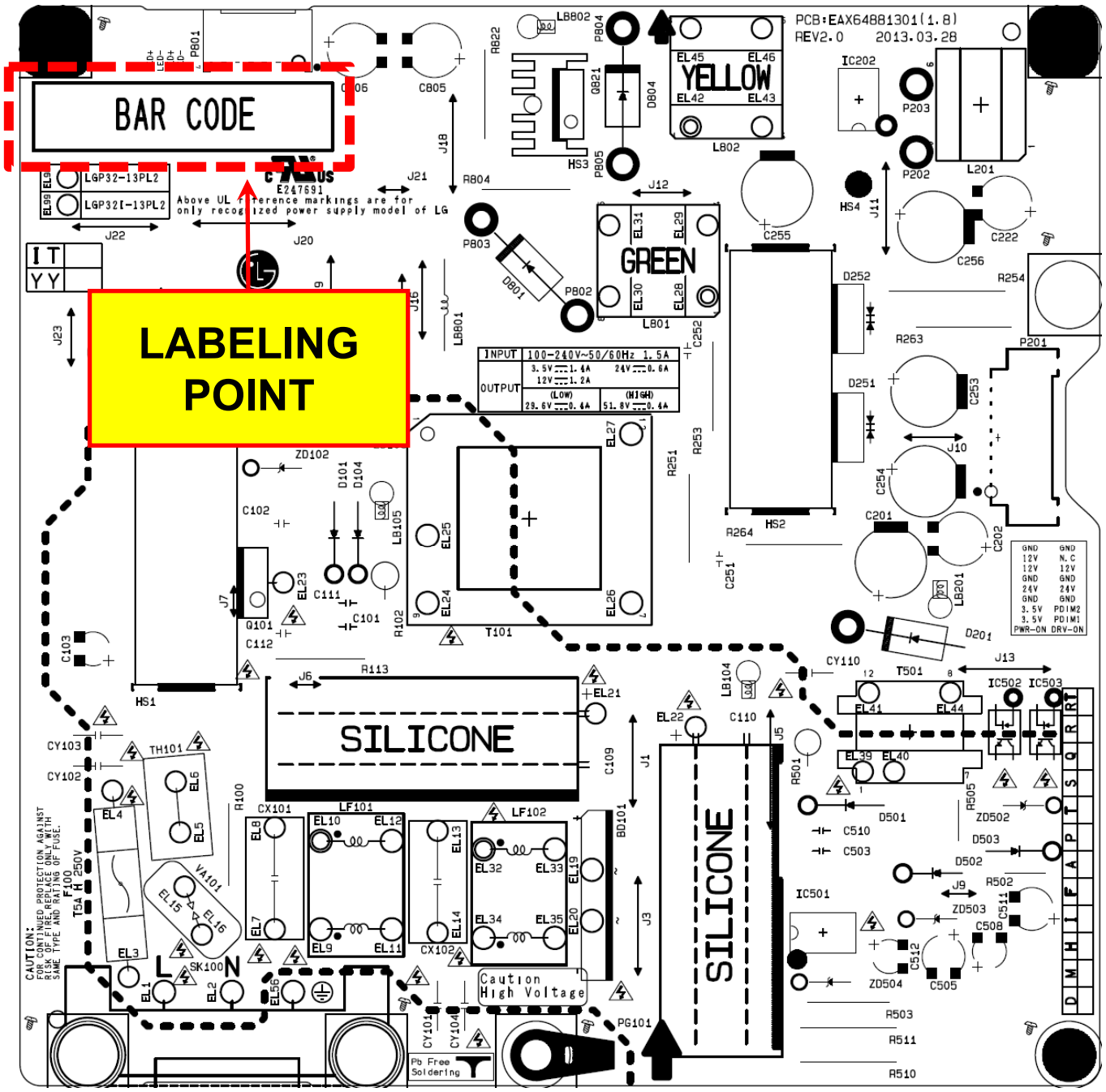
※ Bar Code Size는 그림의 size가 최소size이며, 업체 기준 및 PCB공간에 따라 변경 할 수 있으나, 그림의 size보다 줄일 수 는 없음.

Code	Barcode Specification	Remark
Manufacturing code	L (L : LGIT)	
Manufacturing Year	D (D : 2013)	
Manufacturing Month	O (1,2,3,... 10:O, 11:N, 12:D)	
Manufacturing Date	1 (1~9,... A:10, B:11, C:12, ...X) * Don't USE : "I" ,"O" Character	
Manufacturing Line	A~D : Gwangju , E~N / 0~9 : Yantai , O~V : Indonesia , X~Z : Poland	
LG Part No.	62830901 (EAY62830901)	
Serial. No.	0001 (10Digit, 0001~9999)	
Rev. No	Approval Sheet Revision Number	
Barcode type : 93 code Barcode length : 17 digit Label size : 8 X 36 mm (minimize)		

※ BARCODE PRINTING : DO NOT ERASE, WHEN RUB BY HAND.

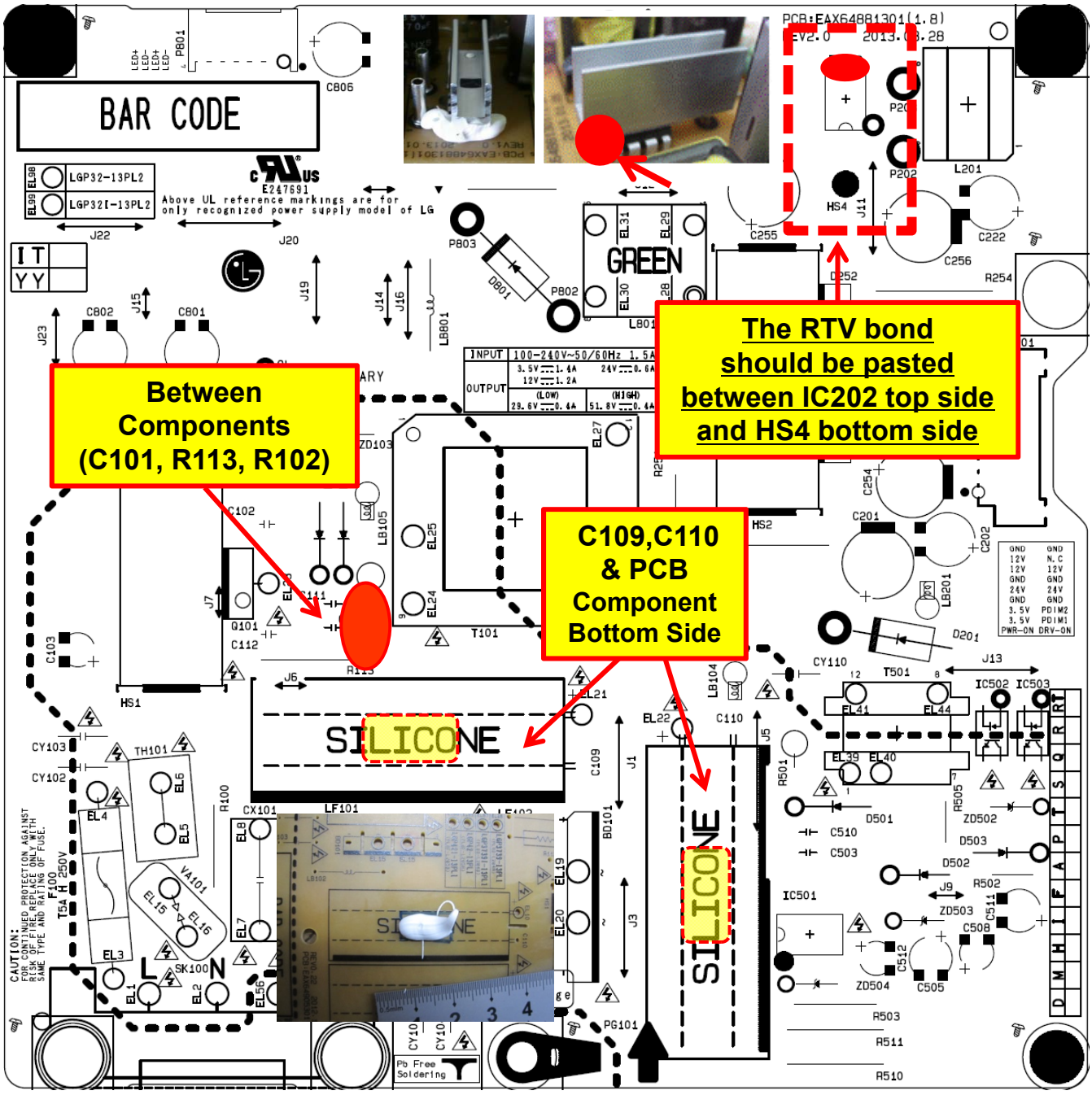
※ Label P/N : 3320KE0008B
Ribbon Black R300 P/N : 5250KR0011A

Labeling Point


BAR CODE
LABELING POINT
SILICONE
SILICONE
YELLOW
GREEN
LGP32-13PL2
LGP32I-13PL2
PCB:EAX64881301(1.8)
REV2.0 2013.03.28
Caution High Voltage
Pb Free Soldering

Workmanship Point

Top Side RTV Bonding (Component Bottom : , Component Side :)



Manufacturing Process

제/개정	일자	개정사유	개정No.
	11.08.24	최초제정	0

4M QC 공정도

작 성	검 토	승 인
/	/	/

관리 No. :
모델명 : PLDC-L203A, PLDC-L203B, PLDC-L231A, PLDC-L231B, PLDD-L204A, PLDF-L205A, PLDF-L205B
PLDF-L232A, PLDF-L233A, PLDH-L206A, PLDK-L208A, PLDF-L211A, PLDK-L212A

품목 :

제조사 : LGIT
작성자

작성일 : 12.04.24

공정번호		공정 흐름도	공정명	작업내용	4M				
					MAN (사람)	Machine (장비)	Material (재료)	Method (방법)	
자삽공정	1	▽	Incoming matrial]	[자재 준비] 해당 모델의 부품 부번과 수량을 확인하고 Box 해제 후 Tray에 적치		작업대, 이동대차, 라벨 프린터, 스캐너	부품	수량, 포장상태, 부번, Lot 상태, 일자	제조 정규 요청 리스트 월별 입출고 관리 리스트
	2	○	[Eyelet]	PCB에 Eyelet, GT Pin을 삽입		Eyelet M/C	Eyelet	Program명, 모델명 확인, 삽입 좌표 조정 에어압력: 5.0Kgf/㎠ ~ 이상	일상점검표 기종전환 Sheet 초품검사일지 수리일표
	3	○	[Jump Wire]	PCB에 Jump Wire를 삽입 후 클린칭		Jump Wire M/C 비전 검사(AOI) 버니어 캘리퍼스 각도 측정 지그	Jump Wire	Clinching 길이:1.5±0.3mm Clinching 각도:15~35° 중복 삽입, 미삽 없을 것	일상점검표 수리일보
	4	○	[Sequence]	Axial 자재를 순서와 극성에 맞게 Tape로 연결		Sequence M/C 버니어캘리퍼스	Axial 부품	테이핑 치수 : 54.5~55mm 부품 치우침 : 0.3mm 이하 부품 간격: 5mm	일상점검표 초품검사일지
	5	○	[Axial]	PCB에 Axial 부품을 삽입 후 클린칭		Axial M/C 비전 검사(AOI) 각도 측정 지그 버니어 캘리퍼스	부품 Seqence	Clinching 길이:1.2~1.5mm Clinching 각도:15~35° 탈삽, 미삽 발생하지 않을 것	일상점검표 초품검사일지 기종전환 Sheet 수리일보
	6	○	[이형 자삽]	PCB에 이형 부품을 삽입 후 클린칭		M10 M/C 버니어 캘리퍼스	이형 부품	Clinching 길이:1.2~1.5mm Clinching 각도:15~35° 부품 거리 : 6~6.5mm 탈삽, 미삽 발생하지 않을 것	일상점검표 초품검사일지 기종전환 Sheet 수리일보
	7	○	[Radial]	PCB에 Radial 부품을 삽입 후 클린칭		Radial M/C 버니어 캘리퍼스 비전 검사(AOI)	Radial 부품	투입 부품 부번, 용량, 방향, 위치 확인 Clinching 길이:1.2~1.5mm Clinching 각도:35° PCB와 극성 일치 탈삽, 미삽 발생하지 않을 것	BOM 일상점검표 기종전환 Sheet 수리일보

* Process Symbols : ▽(Incoming), ○ (Working Flow Chart), ◇ (Inspection), □ (Packing), ▷(Delivery)

제/개정	일자	개정사유	개정No.
	11.08.24	최초제정	0

4M QC 공정도

작 성	검 토	승 인
/	/	/

관리 No. :
모델명 : PLDC-L203A, PLDC-L203B, PLDC-L231A, PLDC-L231B, PLDD-L204A, PLDF-L205A, PLDF-L205B, PLDF-L232A, PLDF-L233A, PLDH-L206A, PLDK-L208A, PLDF-L211A, PLDK-L212A
품목 :
제조사 : LGIT
작성자
작성일 : 12.04.24

공정번호		공정 흐름도	공정명	작업내용	4M				
					MAN (사람)	Machine (장비)	Material (재료)	Method (방법)	
SMT	1	▽	[자재준비]	[자재 준비] 해당 모델의 부품 부번과 수량을 확인하고 Box 해제 후 Tray에 적치		입고도장 제습함 부품보관대/이동대차 바코드 스캔	부품	수량, 포장상태, 부번, Lot 상태, 일자 LGIT P/N Label 확인 BOM/MSD Level	제조 정규 요청 리스트 월별 입출고 관리 리스트
	2	○	[Solder Cream]	Solder Cream 보관 및 사용		냉장고 Thermometer	Almit (LFM-48W TM-HP(L)) :Sn-Ag3.0-Cu0.5	온도 관리 한계 : 1~10℃ -(미개봉시) 생산일시 6개월가지 사용가능 상온방치 2시간이상 교반시간 60초 ~120초	냉장 온도 관리 Sheet 관리라벨 사용 이력 관리
	3	○	[Chip Bond]	Chip bond 보관 및 사용		냉장고 Thermometer	Chip Bond	온도 관리 한계 : 1~10℃ 상온방치 2시간이상	일상점검표 수리일보
	4	○	[본드 인쇄]	Stencil Mask를 Printer에 장착하고 그위에 Bond를 투입한 후 PCB를 Loader로부터 공급 받아 Squeegee로 칩접착제를 정위치에 인쇄		Mask Bond 인쇄기 Squeegee	Chip Bond	마스크 번호 Mask 두께: 3.0T 2012 홀 사이즈 : 0.8mm 3216 홀 사이즈 : 1.2mm	마스크 입고시 확인
								접합착제 모델명 : PT-130DL 초도 생산시 투입량 : 300g 2Hr마다 양 체크 후 보충 : 100g~250g	투입 Check Sheet
								스퀴즈의 압력과 속도 조정 (조건표) 인쇄 상태 확인 Squeegee No. (조건표) 마스크 세척	모델별 조건표 교대/기종전환 Check Sheet Manual 세척 이력 관리 Sheet
	5	○	[Chip Mount]	칩 본딩된 PCB 위에 Chip 장착		Chip Mounter	부품	BOM, 도면 확인 자재 교환 Check Mounting 상태 확인 Pick-up 상태 확인	초품검사일지 MES PDA 교대/기종전환 Check Sheet 부품 Loss율 기록표 일상점검표
	6	○	[이형 Mount]	칩 본딩된 PCB 위에 이형 부품 장착 PCB에 장착된 부품 삽입 상태 검사(AOI)		Multi Mounter AOI	부품	BOM, 도면 확인 자재 교환 Check Mounting 상태 확인 Pick-up 상태 확인 OK, NG Sample로 장비 검증	초품검사일지 MES PDA 교대/기종전환 Check Sheet 부품 Loss율 기록표 AOI 검사 불량 관리 Sheet 일상점검표
	6	○	[Reflow]	PCB에 부착된 부품을 고정하기 위해 접착제를 경화		Reflow M/C Profile Jig Push/Pull Gage		생산 모델과 프로그램을 일치 할 것. 프로파일 온도 조건표와 프로파일을 확인한다. 최고 온도 : 140도 이하 / 120Overtime:70~100초	작업지도서 온도 프로파일 일상점검표 교대/기종전환 Check Sheet
								Chip 접합 강도 1608 : 1.0kgf 이상 2012 : 1.3kgf 이상 3216 : 1.5kgf 이상	접합 강도 측정 Sheet

* Process Symbols : ▽(Incoming), ○ (Working Flow Chart), ◇ (Inspection), □ (Packing), ▷(Delivery)

제/개정	일자	개정사유	개정No.
	11.08.24	최초제정	0

4M QC 공정도

작 성	검 토	승 인
/	/	/

관리 No. :

모델명 : PLDC-L203A, PLDC-L203B, PLDC-L231A, PLDC-L231B, PLDD-L204A, PLDF-L205A, PLDF-L205B, PLDF-L232A, PLDF-L233A, PLDH-L206A, PLDK-L208A, PLDF-L211A, PLDK-L212A

품목 :

제조사 : LGIT

작성자

작성일 : 12.04.24

공정번호		공정 흐름도	공정명	작업내용	4M				
					MAN (사람)	Machine (장비)	Material (재료)	Method (방법)	
수삽 / 포장	1	▽	[자재준비]	[자재 준비] 해당 모델의 부품 부번과 수량을 확인하고 Box 해제 후 Tray에 적치		업고도장 제습함 부품보관대 이동대차	부품	수량,포장상태, 부번, Lot 상태, 일자 LGIT P/N Label 확인	제조 정규 요청 리스트 릴별 입출고 관리 리스트
	2	○	[Manual Insertion]	바코드 라벨 발행		PC Barcode 라벨 프린터 스캐너	라벨	라벨 검증	MES 작업지도서
	3	○	[수삽공정]	PCB에 부품 삽입		수삽 컨베이어 납땜지그 부품적치대/부품대차 매거진 PC/스캐너	부품 실리콘	납땜 지그 화살표와 PCB 진행 화살표 일치 PCB 부번 확인 부품 삽입 상태 확인 라벨 실크 Box 내 삽입 실리콘 규격 도포 실시	작업지도서 외관 검사 기준서 일상점검표 표준샘플 초품검사일지
	4	○	[Flux공정]	PCB 하단에 Flux 분사		Flux M/C 비중계	Flux	Flux 비중: 0.823±0.005 Flux 분포 및 노즐 상태 확인	일상점검표
	5	○	[WaveSoldering 공정]	Soldering		Wave Soldering M/C Solder 자동 공급기 Wave Checker	Solder	Preheater온도: 110±10℃ Pot 1차: 257±3℃ Pot 2차: 257±3℃ 납조 성분 Check -Cu: 12,000 ppm -Pb : 800ppm 이내 DPU 관리	Soldering 일상 점검 일지 작업지도서 ICP 성분 Data 납조 변경 이력 관리대장 Solder 투입 관리표
	5	○	[납땜 검사 및 수정 공정]	Soldering 된 제품 납 땜 상태 검사 및 수정		인두기 인두 온도 측정기 수정 컨베이어	제품	외관검사 기준을 참고 하여 전면 검사 실시 인두기 온도: 330±20℃ 인두기 누설전압: 10mV 이하	외관 검사 기준서 인두 일상 점검표 작업지도서
	6	◇	[ICT 공정]	PCB에 장착된 부품 상태 검사		ICT M/C (AT-01) Fixture PC	제품	모델명, 프로그램 확인 부품 규격 확인	일상점검표 작업지도서 BOM
	7	◇	[동작검사]	제품 동작 검사		Fixture 계측기 Inline 설비, PC Barcode Scanner	제품	모델명, 공정 확인 Program Version 확인 Check Sum값 확인 (Check sum:0xBEA5C) 제품 전기적 특성 측정 표준 샘플로 OK/NG 확인	MES Program 자동 확인 승인원(전기적 특성 Spec) 일상점검표
	8	◇	[내압검사]	제품 내압 검사		Fixture 내압기 Inline 설비	제품	표준 샘플로 OK/NG 확인 내압 검사 실시	승인원(내압 Spec) 일상점검표
	9	○	[실리콘도포]	실리콘 도포		Dispenser	실리콘	제품별 도포위치	작업지도서 일상점검표
	10	◇	[Aging공정]	제품 Aging 검사		Aging M/C Select Card 유사부하 Cable	제품	온도, 시간 확인 합격 기준 확인	MES 작업지도서 일상점검표
	11	◇	[최종외관검사]	제품 외관 검사			제품	외관검사 기준을 참고 하여 검사	외관 검사 기준서 작업지도서
	12	◇	[특성검사]	제품 특성 검사		Fixture 계측기 Inline 설비, PC Barcode Scanner	제품	모델명, 공정 확인 Program Version 확인 제품 전기적 특성 측정 표준 샘플로 OK/NG 확인	MES Program 자동 확인 승인원(전기적 특성 Spec) 일상점검표
	13	□	[포장]	제품 포장		Barcode Scanner PC	제품 Box 에어비닐	모델명, Barcode 확인	MES 작업지도서

* Process Symbols : ▽(Incoming), ○ (Working Flow Chart), ◇ (Inspection), □ (Packing), ▷(Delivery)

Appendix List

No.	Contents	Total Page number
1	Power Check list	9 Page
2	Warranty letter	2 page

Appendix 1.

POWER CHECK LIST

	Revision History	Rev	DATE	REMARK
1	기존 PCB Check Sheet Ver1.9 에서 신규 Power Check Sheet Ver1.0 으로 개정 함	1.0	2011.06.02	
2	1. 필수 Marking사항 - 14번 항목 추가 2심일 경우 PSU 2심 기기 규격마크 체크항목 추가 2. Component - 13번 항목 추가 누운 type의 choke coil일 경우 유동에 따른 lead 설삽 발생 방지를 위해 중점 검사 항목 지정 관리함	1.1	2012.05.23	
3	1. PCB pattern 간격 - 9번 항목 추가 IT / TV PCB 공용을 위해 GND pattern 두께 8.5mm or Jump wire 삽입 내용 추가	1.2	2012.10.30	

Details Check Item		RESULT		REMARK
▶ 부품 LOCATION NO.		OK	NG	
1	Power 1차측 회로 Location No.가 100번대 일 것 (Multi 1차측 포함)	OK		
2	Power 2차측 회로 Location No.가 200번대 일 것 (Stand by 2차측,Multi 2차 포함)	OK		
3	Inverter 1차측 회로 Location No.가 300번대 일 것	OK		
4	Inverter 2차측 회로(F/B,OVP회로부 포함) Location No.가 400번대 일 것	OK		
5	Stand by 1차측은 Location No.가 500번대 일 것	OK		
6	PFC단은 Location No.가 600번대 일 것	OK		
7	MICOM 주위는 Location No.가 700번대 일 것	OK		
8	LCD : LED Driver 단은 Location No.가 800번대 일 것	OK		LCD 에만 적용함
9	PDP : STBY 1,2차단은 Location No.가 300번대 일 것	OK		PDP 에만 적용함
10	PDP : Va 2차단은 Location No.가 500번대 일 것	OK		PDP 에만 적용함
11	PDP : Vs 2차단은 Location No.가 900번대 일 것	OK		PDP 에만 적용함
12	PDP : Vs,Va 1차단은 Location No.가 800번대 일 것	OK		PDP 에만 적용함
13	CTV : Power Block은 Location No. 800번대 일 것	OK		CTV 에만 적용함
14	Resistor의 회로Location No.는 R***로 시작할 것	OK		
15	Capacitor의 회로Location No.는 C***로 시작할 것	OK		
16	Diode의 회로Location No.는 D***로 시작할 것	OK		
17	Zener Diode의 회로Location No는 ZD***로 시작할 것	OK		
18	Coil의 회로Location No.는 L***로 시작할 것 (PFC 포함)	OK		
19	Transformer의 회로Location No.는 T***로 시작할 것(Drive Trans 포함)	OK		
20	Bead의 회로Location No.는 LB***로 시작할 것	OK		
21	Fuse의 회로Location No.는 F***로 시작할 것	OK		
22	TR/FET/Thyristor의 회로Location No.는 Q***로 시작할 것	OK		
23	Varistor의 회로Location No.는 VA***로 시작할 것	OK		
24	Volume Resistor의 회로Location No.는 VR***로 시작할 것	OK		
25	Jumper의 회로Location No.는 J***로 시작할 것	OK		
26	H/S의 회로Location No.는 HS***로 시작할 것	OK		
27	IC의 회로Location No.는 IC***로 시작할 것	OK		2007.04.16 DDC 표준

Details Check Item		RESULT		REMARK
▶ 부품 LOCATION NO.		OK	NG	
28	Connector wafer / Ass`y (Board in type)의 회로 Location No.는 P***로 시작할 것	OK		
29	Eyelet의 회로Location No.는 EL***로 시작할 것	OK		
30	Gripper의 회로Location No.는 G***로 시작할 것	OK		
31	Holder의 회로Location No.는 HD***로 시작할 것	OK		
32	Thermistor의 회로Location No는 TH***로 시작할 것	OK		
33	Metal Ground의 회로Location No.는 PG***로 시작할 것	OK		
34	Line Filter의 회로Location No.는 LF***로 시작할 것	OK		
35	AC Socket(Inlet)의 회로 Location No.는 SK***로 시작할 것 **(AC전원 Docking용 Wafer 포함)**	OK		2007.04.16 DDC 표준
36	Photo Coupler의 회로Location No는 IC***로 시작할 것	OK		2007.04.16 DDC 표준
37	Relay의 회로 Location No.는 RL***로 시작할 것	OK		
38	Y-Capacitor의 회로Location No는 CY***로 시작할 것	OK		
39	X-Capacitor의 회로Location No는 CX***로 시작할 것	OK		
40	Fuseble Resistor의 회로Location No는 R***로 시작할 것	OK		
▶ PCB Pattern 간격		OK	NG	
1	Primary ⇔ Secondary(GND,Y-Cap,Photo Coupler) 간격이 **Creepage 기준을 만족할 것.(규격Gr. 안전규격 Check List 참조.Note 0)** (단, Working Voltage가 350V이상일 때 규격 요청 거리에 따른다.)	OK		첨부화일 참조. (Creepage) NOTE 0 Creepage
2	Primary(L,N) ⇔ Safety GND 간격이 **3mm**이상일 것 **(단, 2심일 경우 6mm 이상 일 것)**	OK		
3	Live ⇔ Neutral 간격이 **3mm** 이상일 것	OK		
4	Primary ⇔ Secondary 부품간 공간 거리는 **6mm**이상일 것 (6mm 이하일 경우에는 insulation sheet 추가)	OK		
5	1차측 Main Current loop는 Pattern 두께 3mm 이상일 것 **(BD ↔ 1차 평활 Cap까지 중점 Check)**	OK		
6	PFC Coil 밑으로 소신호 Line이 지나가지 말 것. DC는 문제 없음	OK		
7	주 GND(AC 평활 Cap. GND) 에서 IC GND 연결 시 Pattern Impedance 를 고려하여 pattern을 분리 할 것.	OK		
8	DIP Type St-By IC 일 경우 고압Pin과 근접Pin 간의 이격거리 확보 할 것. - Drain pin과 인접된 pin은 N.A나 공 pin 일 것.	OK		
9	FG GND 접지 연속성(40A/2분) test 만족 시킬것. →TV PSU 설계 단계에서 IT Safety 기준으로 설계. (GND pattern 두께 8.5mm 설계 or Jump wire 삽입, **EMI 문제 발생시 Skip 할수 있음**)	OK		

	Details Check Item	RESULT		REMARK
▶ Component		OK	NG	
1	Surge Test 시 1~2차간 간격이 **6.0mm㎜** 이상일 것 (safety GND와 2차 GND의 구별 주의 (절연 Y-Cap사용) 공간확보 주의, 절연Sheet)	OK		(주) 3심:3.0mm 이상 (내압 test 必) 2심:6.0mm 이상 (Y-cap 포함)
2	전해 Cap(전수) 부품 주위 **발열 부품**과 **3mm**이상 이격 시킬 것 **(공간거리)**	OK		
3	1차 평활 전해 Cap 부품 upper 영역은 1mm이상 Bottom 영역은 5mm 이상 이격 시킬 것 (Vertical type Capacitor에 한함) (Note 1)	OK		PSU가 수직 장착 모델에 한함.
4	1차 평활 Cap 3mm 영역 내 아래로 Pattern이 지나가지는 않을 것 (양면 PCB 상측 Pattern에 한함)	OK		
5	높이가 낮은 코어를 사용할 경우 절연 tape를 사용할 것 (PCB와의 이격거리 확보)	OK		1,2차 절연형 Trans 에 한함
6	Trans의 경우 300V 기준으로 Barrier 8mm이상 사용하고 있을 것 (Note 0) (Barrier를 줄이기 위해 Wire에 Tube 사용가능, **규격 GR. 필 확인 사항)**	OK		첨부화일 참조. (Creepage)
7	AC Inlet의 경우 Yellow – Green wire의 Screw 3.5Φ 이상일 것. * Y/G wire를 사용하지 않을 경우, PCB Pattern으로만 대응 시엔 200A Test통과할 것 * Safety GND는 독립적으로 GND역할만 하도록 할 것. UL Test의뢰 *** Pattern 대응 시엔 반드시 규격 확인을 할 것**	OK		
8	부품에 힘을 가했을 때 1~2차 부품간 6mm 공간 거리 확보할 것. Core에 절대로 부품이 접촉되면 안됨	OK		
9	Box type Capacitor 사용 시 Forming type이 적용할 것. RTV Bond가 되어 있을 것 (X-capacitor 포함.) **단, PDP Sony 모델에 한함**	OK		
10	CORE(Trans류 All 포함) 주위에는 2mm 이상 전 부품을 이격 시킨다. * 유기전압 1kV (peak to peak) 이상 시엔 4mm 이상 (1000:1 Probe 기준)	OK		
11	Inverter Trans와 Metal Frame(shield)과 4mm 이상 이격을 시킨다. (적용이 어려울 경우, 반드시 Insulation sheet 추가한다.)	OK		
12	2차 측 출력 Wafer 는 고정 PIN 추가 TYPE 적용 할 것 (단, LPB 일 경우 Micom Deberging 용 Wafer 는 제외)	OK		
13	누운 type의 choke coil일 경우 유동에 따른 lead 설삽 발생 방지를 위해 중점 검사 항목 지정관리를 한다.	OK		첨부화일 참조. (choke coil)

NOTE 0  Creepage

NOTE 1  CAPACITOR

NOTE 2  Choke coil

Details Check Item		RESULT		REMARK
▶ 필수 Marking 사항		OK	NG	
1	AC Socket, AC입력용 Wafer에 L/N표시는 되어 있을 것. (Docking Type도 L/N 표시(QA 요청), 상,하측 모두 표시) 특히, Socket B/D-in type의 경우, AC socket 자체에 L/N 표기가 되어 있으므로, 반드시 PCB L/N 마킹과 동일한지 확인한다. (Note 3-2)	OK		Fuse 는 Live 단에 위치 할 것
2	Safety GND는 Chassis로 부터 분리될 때 작업자가 확인 가능한 위치일 것. (Note 2) * **추후, PCB 상,하면에 모두 표기, 상세한 내용은 하단의 유첨 파일 참조 요망, 그리고, 반드시 규격에 최종 확인 받을 것.**	OK		2심은 제외함
3	Fuse rating(전압,T,전류,H), caution(규격 문구), UL Mark는 입력되어 있을 것 Ex) T5A H 250V 형식으로 표시함 *** caution: UL에 등록되어있는 문구가 그대로** 입력되어야 함 **(For ~ , Replace ~)**	OK		
4	Fuse가 보이는 곳에 위치할 것 (Fuse Marking도 보이는 곳에.)	OK		
5	High Voltage warning mark가 입력되어 있을 것. - Inverter 출력부 : LIPS에 한함 Inverter 출력부 영역 표시하고 Warning mark 추가. - Primary측 Metal.(H/Sink), High Voltage가 open된 곳.(Fuse) : 공통	OK		
6	입력/출력 전압, 전류 Spec표기는 되어 있을 것 (Note 3)	OK		
7	1차측과 2차측 구분하는 Marking 표시할 것. (상측면 / 하측면)	OK		
8	각 부품의 회로No.가 부품에 가려지지 않을 것	OK		
9	Solder pattern에 하측 회로No./부품 형상 등 겹쳐지지 말 것	OK		
10	기구 Dead Space가 고려되어 PCB Marking할 것. PCB 고정용 Metal 영역 표시할 것.	OK		
11	PCB 사양서에 CTI Spec 이 있는지 확인하고, PCB 에 마킹 되었는지 확인 할 것. - 표기 값 : 600V 이상 (CTI 600)	OK		
12	Critical Component List 기준으로 회로도에 Caution 마크 넣을 것 ⚠	OK		
13	PCB 에 Screw 마크 넣을 것	OK		
14	PCB 에 2심 기기 규격 마크 넣을 것	OK		단, 2심 일 경우에만 적용함

NOTE 2 Safety GND 규정

NOTE 3 Input/Output

NOTE 3-2 B/D-in socket

	Details Check Item	RESULT		REMARK
▶	EMI	OK	NG	
1	Lightning Surge가 L/N Test 시 Varistor를 14Φ 620V 이상 사용할 것	OK		
2	Lightning Surge가 L/G, G/N간 : 3KV이상 시 Y-Cap. Y1급 사용할 것	OK		
3	Lightning Surge 로 인해 Fuse Dead시만 OK. (대책 : arcing을 방지,Varistor는 Fuse와 가까운 곳에 위치할 것)	OK		
4	GND Arcing pattern Slit은 1.2mm일 것 Arcing Pattern 양단 거리는 safety규정은 **최소 3.0mm 이상** 일 것 (L/N 사이)	OK		
5	Conducted Emission 측정조건 : 110Vac/220Vac & 50Hz/60Hz TV Model : GND 有/無, Vivid/Standard, HDMI/Antenna	OK		
▶	INVERTER (LIPS에 한함)	OK	NG	
1	Ballaster capacitor 사용할 것			
2	Inverter Trans로 부터 주변 4mm 이내에 소신호 AC pattern이 지나갈 시에는 OVP/OLP 등 Worst 상태를 반드시 확인하여 이상이 없을 것 (Feed Back Line 포함) [AC입력으로 부터 Inverter에 간섭 되는 noise 를 줄이기 위해 POWER FET의 Heat Sink 를 형상 변경하여 AC 입력부와 Inverter Trans 간 Shield로 사용. (CE 규제사항) - Design 상 고려되어야 함.]	-		
3	Inverter 출력부에 적용한 고압 Capacitor의 Lead는 인위적 힘을 가하여도 주변 부품과 Touch 되지 않도록 절연 거리 확보 or Bodning 적용할 것. (특히, 다른 고압 Capacitor의 body와 touch 되지 않도록 할 것)	-		
4	Inverter Trans Gripper 및 Eyelet 부위 Size 확인할 것. - Pin 동박 Size : 5.5mm - Pattern Size 확대 : 6mm (단, 32인치 이상 LIPS 에만 적용함)	-		
5	고압 Inverter wafer 는 수평 Type 일 것.	-		

Details Check Item		RESULT		REMARK
▶ 기타		OK	NG	
1	Fuse 깡통(CAN)Type 을 사용하지 말 것.	OK		
2	Main Board/Power Board(LIPS 포함) 연결 Connector의 Housing과 Wafer의 Maker가 일치할 것. *일치가 안될 경우, Spec.확인 및 QA 인증 시험이 요구됨.(특히,Board in connector는 Terminal도 확인)	OK		
3	Litz Wire 사용하지 말 것.	OK		USTC
4	PFC Bypass Diode가 적용되어 있을 것. (Note 4)	OK		첨부화일 참조(Bypass)
5	Inrush 제어용 Relay 적용 모델인 경우, Fusing Resistor 적용 확인할 것.(Note 5) (단, Fusing Resister 미적용 시 Relay Open Test 확인 하여, PL 조건 만족할 것)	OK		첨부화일 참조(Relay)
6	1차 Control IC의 IC Vcc 정류Cap.은 High Ripple, Low Impedance Cap. 사용할 것.	OK		
7	RN Type (Metal Film Type) Resistor는 100kohm이상 사용하지 말 것.	OK		08년 6월 26"MNT ND 분 양산 문제 발생. (여러 차례 재발됨)
8	TO-220, TO-3P type FET, Diode, IC 적용 시, Forming type 을 적용했을 때 forming 후 cutting을 하기 때문에 길이가 짧아진다. 따라서 반드시 Heatsink 와 PDM 등록 승인원, 부품 현물을 3자 확인 후 lead 길이, pitch 확인할 것. (LGEAZ, LGEND 관련하여 사전 협의 필요 LGEND 에서는 forming type 을 전수 원함)	OK		08년 3월 LGEAZ CKD 분 PQ 이전 문제 발생하여 지급 조처 한 이력 있음.
9	PCB하측 lead 길이 special 관리 모델의 경우 (예를 들어 2.0mm 관리 품) H/Sink, wafer, 각종 부품 도면 받아서 lead 길이 check 할 것	OK		
10	Critical Component List 의 부품인 경우 실물에서 형명 마킹 제대로 되어 있는지 확인 할 것	OK		
11	일본향 모델에 사용되는 방전저항은 규격 인증된 Dip Type 저항만 사용 할 것. (단, 일본향 모델에 한 함)	OK		

NOTE 4 
Bypass-Diode

NOTE 5 
Relay

Details Check Item		RESULT		REMARK
▶ Attachment		OK	NG	
1	PL check List  안정성 CL_LGP32-13PL2(EAY62830901)_MP_R	OK		

Appendix 2.

WARRANTY LETTER

비사용 증명서

구분	☐ 승인용 ☑ 양산용	제출일자	2013 . 01 . 09

협력회사				
회사명	LG 이노텍	결재	담당자	부서장
연락처	Tel 062-950-0232	성명	김 인 재	김 형 성
e-mail	ijkim@lginnotek.com	서명		

부품정보			
LG전자 P/No.	EAY62830901	부품제조일자	
Maker P/No.	PLDC-L231A	생산 공장	LGIT Yantai, Poland
부품명(품명)	LGP32-13PL2		

당사가 납품하는 납입품 및 당사 제조 공정상 사용되는 물질이 아래 Check 항목에 대해 만족함을 증명합니다.

———— 아 래 ————

☑ ROHS 규제 6대 물질(Pb, Cd, Cr^{6+}, Hg, PBBs, PBDEs)이 LG전자 Display 사업부 기준을 만족함

※ 아래 항목은 PCB(Printed Circuit Board)에 장착되는 부품일 경우 기록 요망

Soldering Type : ☑ Flow ☐ Reflow

최대 내열성 온도 : 260 ℃ 최대 내열성 시간 : 10 sec.

☑ Pb-Free Soldering (Solder Cream, Bar, Wire 모두 포함) 적용이 가능함

Note.

1. 본 자료 상의 모든 기재 내용은 사실에 근거하여 작성하여야 하며, LG전자가 근거 자료를 요구 시, 관련 Data를 제출하여야 한다.
2. 본 자료가 승인용으로 사용될 경우 Sample과 함께 제출하고, 양산용으로 사용될 경우 초품 입고시 제출하여야 한다.
3. LG 전자 Display 사업부에 공급되는 PCB 장착 부품의 내열 기준은 다음과 같음.
   Flow 부품 : 260℃/10 sec , Reflow 부품 : 250℃/10 sec

LG Electronics