Scanning	LIB.

Safety

RoHS

SPECIFICATION FOR APPROVAL

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

Model Name	Customer	Supplier
LGP32-13P	EAY62831101	PSEC-L221A

- **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.

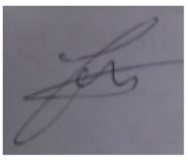
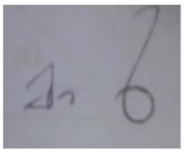
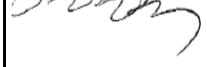
(Cd: 10ppm under, Pb/Hg/Cr+6/PBB/PBDE: 100 ppm under)

LG Innotek

LG Innotek Co., Ltd
Seoul Square 20F, Namdaemunno 5-ga
Jung-gu, Seoul, 100-714, Korea

Documentation For Approval

Model Name	Customer	Supplier
LGP32-13P	EAY62831101	PSEC-L221A

Written	Checked		Approved
			

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Revision History

Rev No.	Contents	Date of Approval	Checked	Remark
0.1	Apply to DV (PCB REV 0.1) PCB P/No. : EAX64907901(1.6) DV 1st Edition.	12.09.17		
0.2	Apply to PV (PCB REV 0.22) PCB P/No. : EAX64907901(2.1) PV 1st Edition.	12.10.25	J.J.Park	
0.21	Apply to PV (PCB REV 0.23) PCB P/No. : EAX64907901(2.2) 1. Improve Output short Protection Margin - Change Point : C201, C202 150uF/50V → 100uF/50V C217 100uF50V → 150uF/50V C205, C206 0.1uF/50V → 0.047uF/50V R235 620Ω → 220Ω 2. Change PCB Revision : 0.22 → 0.23 -PV 2nd Edition.	12.11.20	J.J.Park	
1.0	Apply to MP (PCB REV 1.0) PCB P/No. : EAX64907901(2.3) 1.Add UL Mark. 2.Improve Temperature Margin Add HS1 - MP 1st Edition.	12.12.14	J.J .Park	
1.1	Apply to MP (PCB REV 1.0) PCB P/No. : EAX64907901(2.3) 1.Delete the POLYESTER FILM TAPE company of Transformer : METAL LINE CO.,LTD - MP 2nd Edition	13.01.29	J.J.Park	
1.2	Apply to MP (PCB REV1.0) PCB P/No : EAX64907901(2.3) 1.Improve adhesive of Line Filter Gap Pad 2.4M Change Process 1) Responsibility of 4M change : LGE 2) Running Change : 즉시 적용 3) Goods of Stock : Re-Work - MP 3rd Edition.	13.03.05	J.J.Park	

Revision History

Rev No.	Contents	Date of Approval	Checked	Remark
1.3	Apply to MP (PCB REV 1.0) PCB P/No : EAX64907901(2.3) 1.Apply LGIT's Components - Up date Part list 2.4M Change Process 1) Responsibility of 4M change : LGE 2) Running Change : 즉시 적용 3) Goods of Stock : No Re-Work - MP 5th Edition.	13.03.29	J.J.PARK	
1.4	Apply to MP (PCB REV 1.0) PCB P/No : EAX64907901(2.3) 1.ST-BY (3.5V) 저온 기동 개선 (Location : C214) - Before : NXB25V220uF , SG25V220uF - After : NXH10V1000uF 2.Apply LGIT's Components - Up date Part list (TZAI YUAN Maker Delete) 3.4M Change Process 1) Responsibility of 4M change : LGE 2) Running Change : 즉시 적용 3) Goods of Stock : Re-Work - MP 5th Edition.	13.04.04	J.J.PARK	
2.0 (1.5)	Apply to MP (PCB REV 2.0) PCB P/No : EAX64907901(2.4) 1.ST-BY (3.5V) 저온 기동 개선 1) Location : C214 - Before : NXH10V1000uF - After : NXB25V220uF , SG25V220uF 2) Location : C223 - ADD Point : MLCC 0.1uF 추가 3.4M Change Process 1) Responsibility of 4M change : LGE 2) Running Change : 5/1일 양산 제품 적용 3) Goods of Stock : No Re-Work - MP 6th Edition.	13.04.22	J.J.PARK	
2.1	Apply to MP (PCB REV 2.0) PCB P/No : EAX64907901(2.4) 1.EMI CE Margin 개선 : 190㎒ 2.7㏈ → 5.6㏈ 1) Location : LF101 - Before : 25mH / Gap pad 3T - After : 30mH / Gap pad 4T 2.4M Change Process 1) Responsibility of 4M change : LGE 2) Running Change : 5/13일 양산 제품 적용 3) Goods of Stock : No Re-Work - MP 7th Edition.	13.05.02	J.J.PARK	

Rev No.	Contents	Date of Approval	Checked	Remark
2.2	**Apply to MP (PCB REV 2.0)** **PCB P/No : EAX64907901(2.4)** **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	J.J.PARK	

CTQ Management

No.	Contents	Page
1	2.1.1 Power Factor	8
2	2.2 Power Output Characteristics	9
3	2.2.1. Stand by Power Consumption	10

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 : EAY62831101

1.3 Product name

Product name : LGP32-13P

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 0.8Arms . (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 Set condition.
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

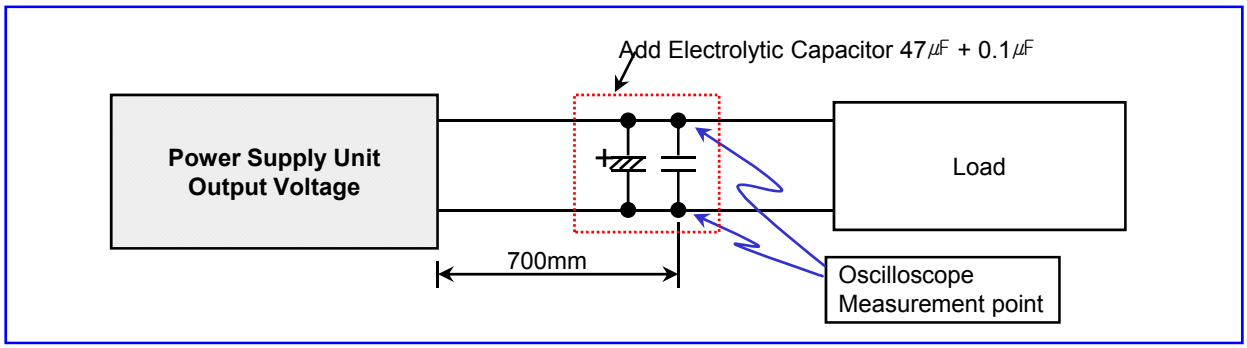
over than 0.4 at 90 – 264Vac & max load condition

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)	-	-
		1.0A (0.2~1.0A) (ON condition)	± 5%	250 mVp_p (Set condition)
12V	11.4V ~ 12.6V	1.2A (0.2~1.2A)	± 5%	350 mVp_p
24V	22.8V ~ 25.2V	1.8A (0.1~1.8A)	± 5%	500 mVp_p

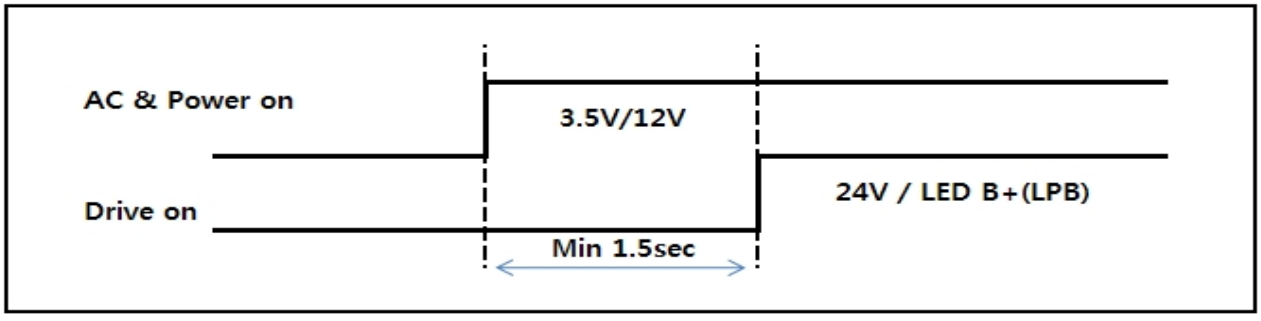
* On Condition : In a moment of Power_ON Signal activated, the current of 3.5V output should be limited within 40mA(Max) at LCD TV condition for stability.
Do not turn “Power_ON” Signal on at the load condition of 3.5V output, more than 40mA.
* Total regulation for each output circuit includes the results of input voltage variation, load variation, warm-up drift and temperature change.
* 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)

* Power turn on system (Only E/Load condition)
If Main Board is opened, that is electrical load condition,
drive on signal must be turn on after about 1.5s behind power on signal



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 %
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 2121V 1MIN 10mA(TEST SPEC) AC 1.8KV 1Sec 10mA(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 UL60065, UL60950, 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 300g
Unit Size	159(W) X 140(L) X 19.6(H)

2.9 Function of protection

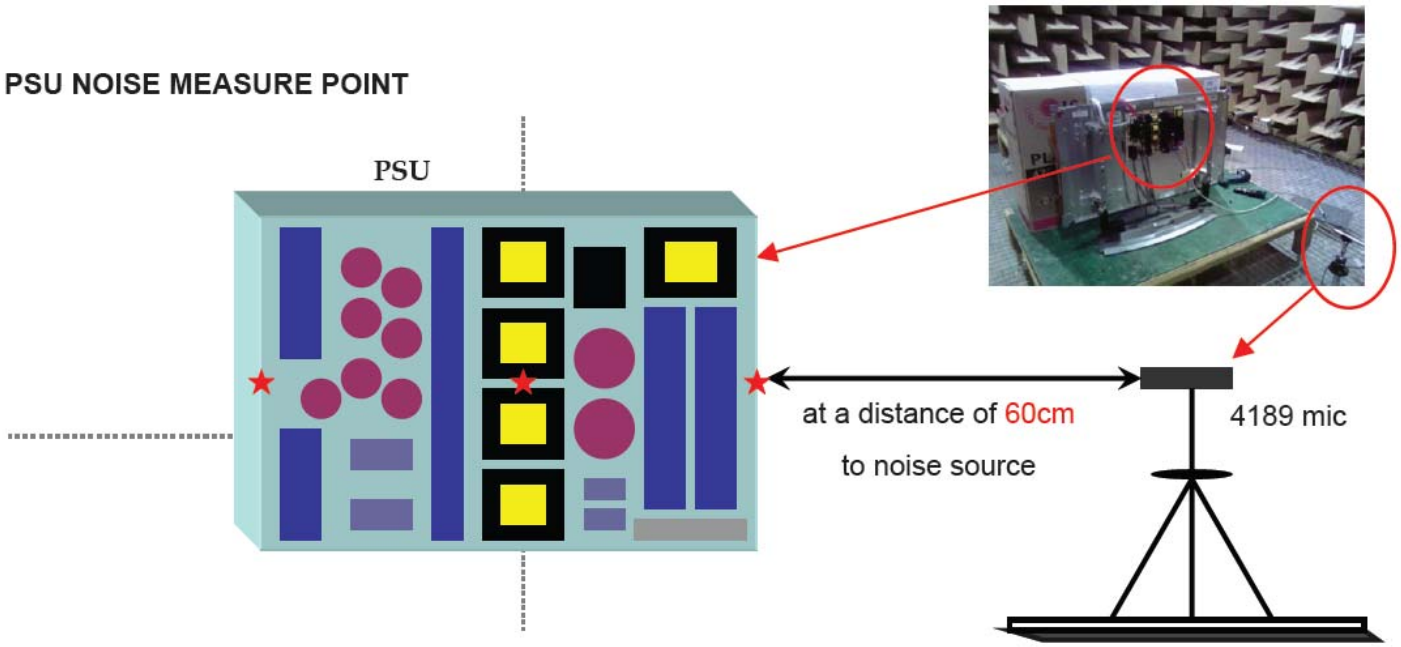
Protection	Output Circuit	Trip Point		Notes
		Min	Max	
Over Current	STBY 3.5V	2.0A	5A	Auto Re-start
	12V	2.5A	10A	Auto Re-start
	24V	2.4A	10A	Auto Re-start
Short Circuit	STBY 3.5V	-		Auto Re-start
	12V	-		Auto Re-start
	24V	-		Auto Re-start

* 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

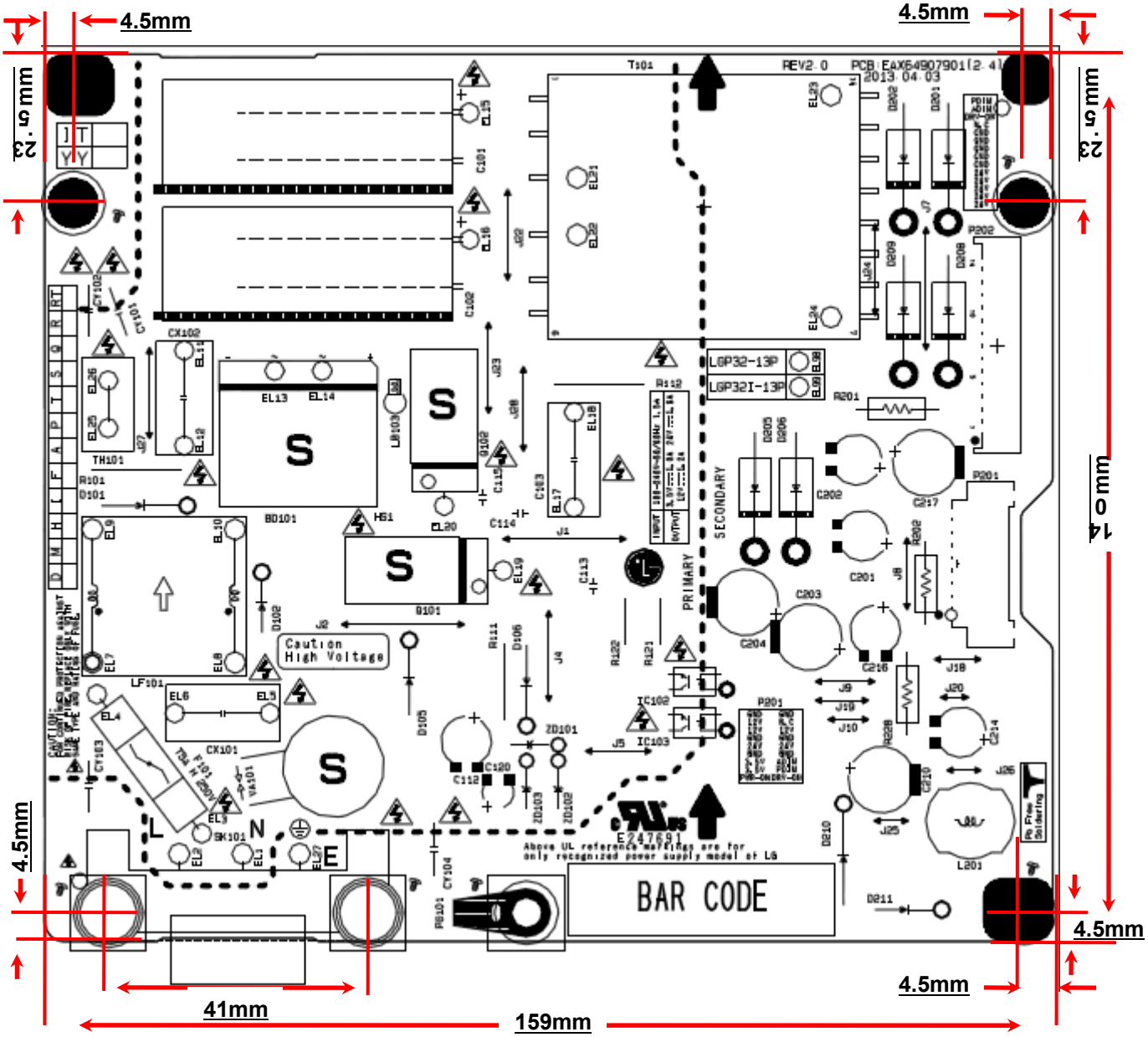
2.11.1 Connectors Usage

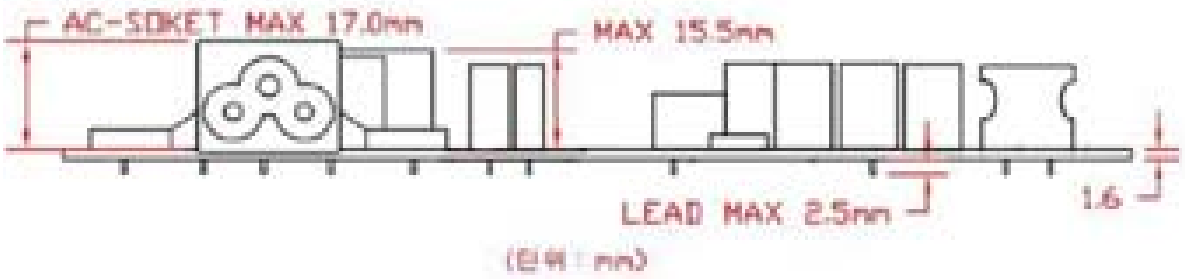
SK101	
Type : DAC-18C3M1 Maker : DONGIL TECH	
Pin No.	Signal
1	LIVE
2	EARTH
3	NEUTRAL

P202	
Type : 20022WR-H14BD2 Maker : YEON-HO	
Pin No.	Signal
1	24V
2	24V
3	24V
4	24V
5	24V
6	GND
7	GND
8	GND
9	GND
10	GND
11	N.C
12	DRV-ON
13	A-DIM
14	P-DIM

P201			
Type : SMAW200-H18S2 Maker : YEON-HO			
Pin No.	Signal	Pin No.	Signal
1	POWER-ON	2	DRV-ON
3	3.5V	4	P-DIM
5	3.5V	6	A-DIM
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.



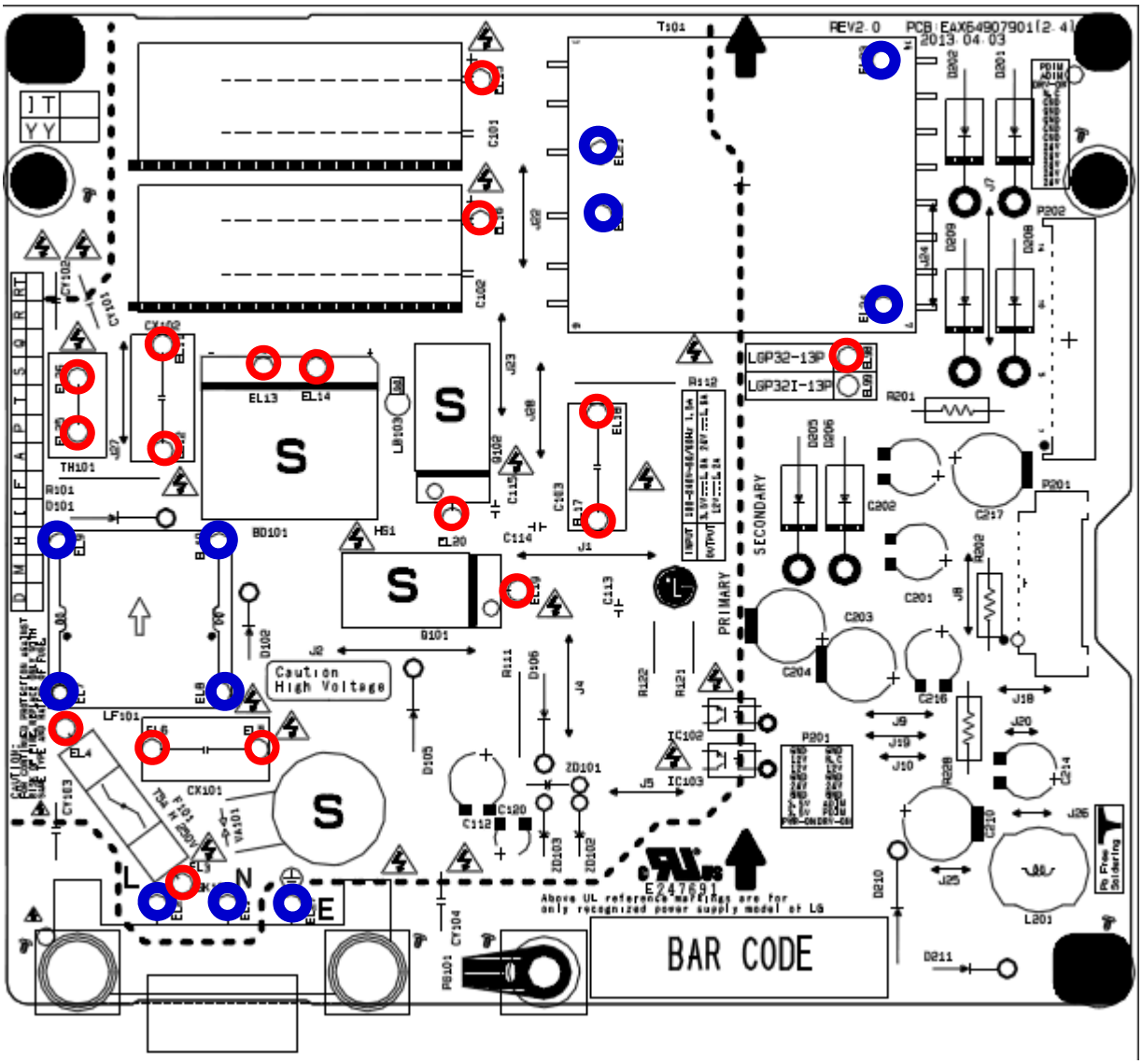


1) Power board PCB	: 159mm X 140mm X 1.6(T)mm
2) Component Height	: Max 15.5mm (except SK101 Max 17mm,LF101 Max 18mm)
3) Lead Cutting	: Max 2.5mm
4) PCB Material	: FR-1,KB,DS,L,1oz CTI-600

2.13 Apply to the Eyelet point. (LGP32-13P)

Apply to the Eyelet point 2.0Φ : EL1,EL2,EL7,EL8,EL9,EL10,EL21,EL22,EL23,EL24,EL27(11EA)

Apply to the small Eyelet point 1.6Φ : EL3,EL4,EL5,EL6,EL11,EL12,EL13,EL14,E15,EL16,EL17,
EL18,EL19,EL20,EL25,EL26,EL98(17EA)



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	C101,C102
LGP32-13P	82uF/450V KMF
LGP32I-13P	100uF/500V NZE

LGP32-13P	EL98
LGP32I-13P	EL99

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

REV 2.1

MODEL	LGP32-13P	DATE	'13.04.03
BLOCK	STBY\MULTI	SHEET	1 / 1

Block Diagram

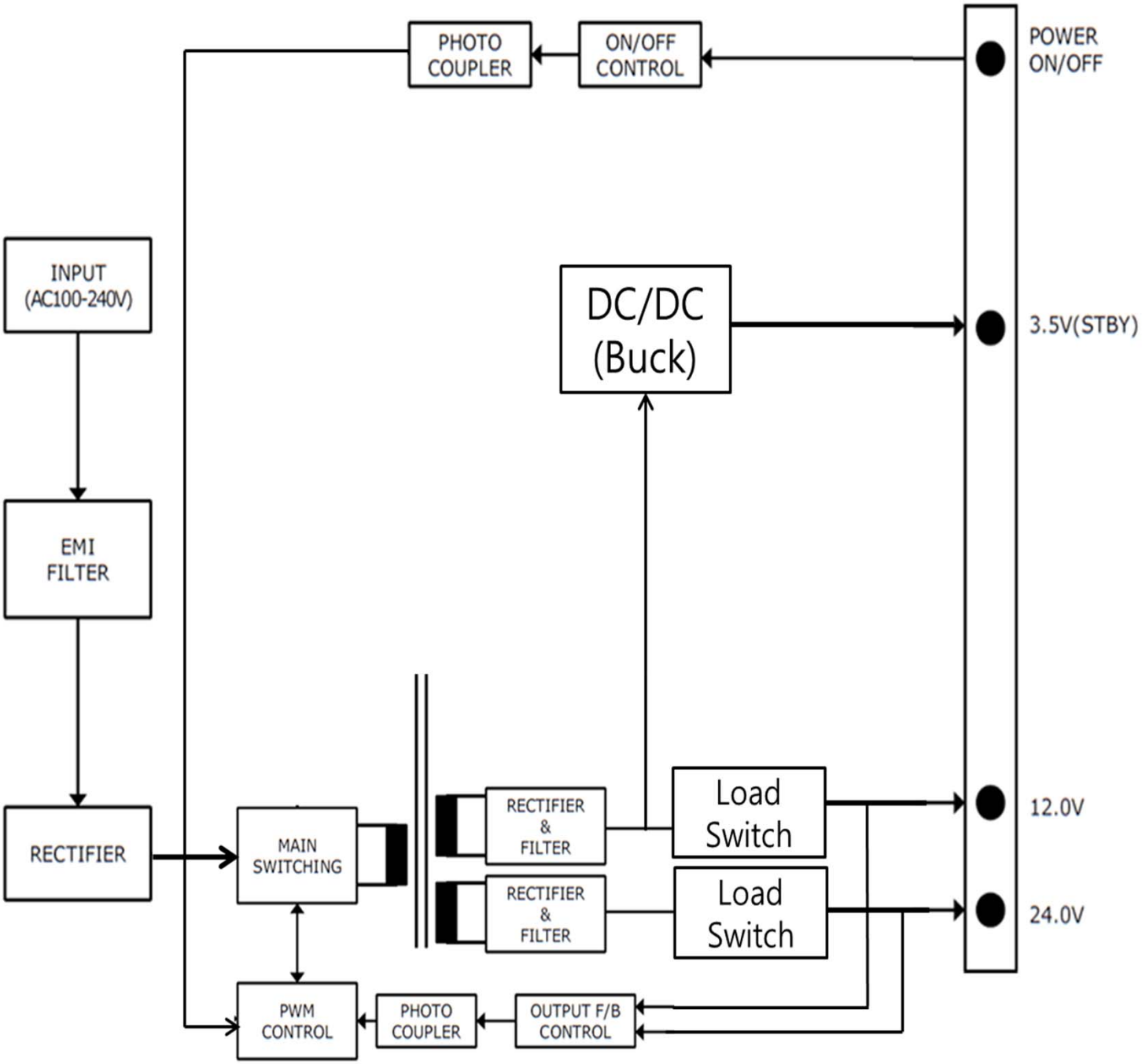


PHOTO COUPLER
ON/OFF CONTROL
POWER ON/OFF
INPUT (AC100-240V)
DC/DC (Buck)
3.5V(STBY)
EMI FILTER
RECTIFIER
MAIN SWITCHING
RECTIFIER & FILTER
RECTIFIER & FILTER
Load Switch
Load Switch
12.0V
24.0V
PWM CONTROL
PHOTO COUPLER
OUTPUT F/B CONTROL

Parts List

LGP32-13P (EAY62831101)

REV	P/N	Product Maker	L/V	Q'ty	UNIT	LOCATION	SPECIFICATION	DESCRIPTION	MAKER	New part history
2.2	EAY62831101	LGIT	MI				FET ASS'Y	HEAT SINK ASS'Y		
2.2	EAY62831101	LGIT	MI	1	EA	HS1	H/S 1 14.5L*24.4W*3.5H	HEAT SINK	YUWON NRT	
2.2	EAY62831101	LGIT	MI	1	EA	HS1	H/S 1 14.5L*24.4W*3.5H	HEAT SINK	HUAPENG	
2.2	EAY62831101	LGIT	MI	1	EA	HS1	H/S 1 14.5L*24.4W*3.5H	HEAT SINK	GUOTAI	
2.2	EAY62831101	LGIT	MI	1	EA	BD101	KBJ1006G 600V 10A	DIODE	LITEON	
2.2	EAY62831101	LGIT	MI	1	EA	BD101	D10XB60 600V 10A	DIODE	DACHANG	
2.2	EAY62831101	LGIT	MI	1	EA	BD101	D10XB60 600V 10A	DIODE	SHINDENGEN	
2.2	EAY62831101	LGIT	MI	1	EA	FOR Q101	BHM Screw, M3.0 * 6.0L, with Clamfix, Cr3+WH Plating	SCREW	SEOUL METAL	
2.2	EAY62831101	LGIT	MI	1	EA	FOR Q101	BHM Screw, M3.0 * 6.0L, with Clamfix, Cr3+WH Plating	SCREW	ASEA BOLT	
2.2	EAY62831101	LGIT	MI	1	EA	FOR Q101	BHM Screw, M3.0 * 6.0L, with Clamfix, Cr3+WH Plating	SCREW	SUNG HO METAL	
2.2	EAY62831101	LGIT	MI	0.01	GR	FOR Q101	HC300	SILICON GREASE	CHANG AMLS	
2.2	EAY62831101	LGIT	MI	0.01	GR	FOR Q101	DS-323	SILICON GREASE	DONGYANG SILICON	
2.2	EAY62831101	LGIT	MI				LGP32-13P MI COMPONENTS	MI ASSEMBLY		
2.2	EAY62831101	LGIT	MI	2	EA	C101,C102	KMF 82uF 450V M P7.5 Φ18X31.5	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62831101	LGIT	MI	2	EA	C101,C102	SK 82uF 450V M P7.5 Φ18X32	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62831101	LGIT	MI	2	EA	CY101,CY102	CD 470pF 250V K P10 105℃ ,Y1	CAPACITOR, CERAMIC	TDK	
2.2	EAY62831101	LGIT	MI	2	EA	CY101,CY102	CT81 470pF 250V K P10 105℃ ,Y1	CAPACITOR, CERAMIC	YINANDON	
2.2	EAY62831101	LGIT	MI	2	EA	CY101,CY102	SD 470pF 250V K P10 105℃ ,Y1	CAPACITOR, CERAMIC	SAMHWA	
2.2	EAY62831101	LGIT	MI	2	EA	CY101,CY102	DA 470pF 250V K P10 105℃ ,Y1	CAPACITOR, CERAMIC	DONGIL ELEC.	
2.2	EAY62831101	LGIT	MI	2	EA	CY103,CY104	CD 330pF 250V K P10 105℃ ,Y1	CAPACITOR, CERAMIC	TDK	
2.2	EAY62831101	LGIT	MI	2	EA	CY103,CY104	CT81 330pF 250V K P10 105℃ ,Y1	CAPACITOR, CERAMIC	YINANDON	
2.2	EAY62831101	LGIT	MI	2	EA	CY103,CY104	SD 330pF 250V K P10 105℃ ,Y1	CAPACITOR, CERAMIC	SAMHWA	
2.2	EAY62831101	LGIT	MI	2	EA	CY103,CY104	DA 330pF 250V K P10 105℃ ,Y1	CAPACITOR, CERAMIC	DONGIL ELEC.	
2.2	EAY62831101	LGIT	MI	1	EA	C103	PCMP 384 0.033uF 800V J P15	CAPACITOR, FILM	PILKOR	
2.2	EAY62831101	LGIT	MI	1	EA	C103	MPLB 0.033uF 1000V J P15	CAPACITOR, FILM	EUROPTRONIC	
2.2	EAY62831101	LGIT	MI	1	EA	CX102	PCX2 337 0.22uF 275V P15	CAPACITOR, FILM	PILKOR	
2.2	EAY62831101	LGIT	MI	1	EA	CX102	MPX 0.22uF 275V P15	CAPACITOR, FILM	EUROPTRONIC	
2.2	EAY62831101	LGIT	MI	1	EA	CX101	PCX2 337 0.47uF 275V P15	CAPACITOR, FILM	PILKOR	
2.2	EAY62831101	LGIT	MI	1	EA	CX101	MPX 0.47uF 275V P15	CAPACITOR, FILM	EUROPTRONIC	
2.2	EAY62831101	LGIT	MI	6	EA	D201,D202,D205,D206,D208,D209	SB5100 100V 5A P20	DIODE	DACHANG	
2.2	EAY62831101	LGIT	MI	6	EA	D201,D202,D205,D206,D208,D209	SB5100 100V 5A P20	DIODE	LITEON	
2.2	EAY62831101	LGIT	MI	6	EA	D201,D202,D205,D206,D208,D209	SR510-24 100V 5A P20	DIODE	TSC	
2.2	EAY62831101	LGIT	MI	1	EA	F101	T5A H 250V 215 RED(1-LINE)	FUSE, TIME LAG	LITTELFUSE	
2.2	EAY62831101	LGIT	MI	1	EA	F101	T5A H 250V 50CT RED(1-LINE)	FUSE, TIME LAG	Dainfuse	
2.2	EAY62831101	LGIT	MI	2	EA	Q101,Q102	FCPF260N60E 600V 11A	FET, TO-220	FAIRCHILD	2013Y
2.2	EAY62831101	LGIT	MI	2	EA	Q101,Q102	TK12A60W 600V 12A	FET, TO-220	TOSHIBA	2013Y
2.2	EAY62831101	LGIT	MI	2	EA	IC102,IC103	EL817M(DT)B	IC	EVERLIGHT	
2.2	EAY62831101	LGIT	MI	2	EA	IC102,IC103	LTV817M-BN	IC	LITEON	
2.2	EAY62831101	LGIT	MI	1	EA	LF101	CS920250S 25mH	LINE FILTER	TNC	
2.2	EAY62831101	LGIT	MI	1	EA	LF101	LH9B020250 25mH	LINE FILTER	DONGIL TECH	
2.2	EAY62831101	LGIT	MI	1	EA	LF101	LLF-121 25mH	LINE FILTER	SOOJUNG	
2.2	EAY62831101	LGIT	MI	1	EA	LF101	LLF-121 25mH	LINE FILTER	FEELUX	
2.2	EAY62831101	LGIT	MI	1	EA	L201	DR1210, 4.7uH	DC DC Choke Coil	FEELUX	2013Y
2.2	EAY62831101	LGIT	MI	1	EA	L201	DR1210, 4.7uH	DC DC Choke Coil	JIANGSU CHANNELON	2013Y
2.2	EAY62831101	LGIT	MI	1	EA	L201	DR1210, 4.7uH	DC DC Choke Coil	SOOJUNG	2013Y
2.2	EAY62831101	LGIT	MI	1	EA	TH101	ICL-5W 5R00MSMT	THERMISTOR NTC	SMART	
2.2	EAY62831101	LGIT	MI	1	EA	T101	13S-LM01 SRV4214W	TRANSFORMER	LG Innotek	2013Y
2.2	EAY62831101	LGIT	MI	1	EA	T101	13S-LM01 SRV4214W	TRANSFORMER	TDK	2013Y
2.2	EAY62831101	LGIT	MI	1	EA	T101	13S-LM01 SRV4214W	TRANSFORMER	FEELUX	2013Y
2.2	EAY62831101	LGIT	MI	1	EA	VA101	INR14D621K-CAP 620V Φ14 TUBE L-FORM	VARISTOR	AMOTECH	
2.2	EAY62831101	LGIT	MI	1	EA	VA101	SVC621D-14ATM7 620V Φ14 TUBE L-FORM	VARISTOR	SAMWHA	
2.2	EAY62831101	LGIT	MI	1	EA	PG101	Rug Ground SPCC 0.4t Cusn Plating	GND REINFORCE	LEZHI	
2.2	EAY62831101	LGIT	MI	1	EA	P202	20022WR-H14BD2	WAFER	YEONHO	
2.2	EAY62831101	LGIT	MI	1	EA	SK101	DAC-18C3M1 BLACK	WAFER	DONGIL TECH	2013Y
2.2	EAY62831101	LGIT	MI	1	EA	P201	SMAW200-H18S2 18PIN WHITE	WAFER	YEONHO	2013Y
2.2	EAY62831101	LGIT	SMT				LGP32-13P SMT COMPONENTS	SMT ASSEMBLY		
2.2	EAY62831101	LGIT	SMT	4	EA	C104,C117,C118,C119	1uF 16V(25V) K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	4	EA	C104,C117,C118,C119	1uF 16V(25V) K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	1	EA	C110	1uF 50V K 2012 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	1	EA	C110	1uF 50V K 2012 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	7	EA	C105,C106,C107,C116,C208,C209,C219	0.1uF 50V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	7	EA	C105,C106,C107,C116,C208,C209,C219	0.1uF 50V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	7	EA	C105,C106,C107,C116,C208,C209,C219	0.1uF 50V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	7	EA	C105,C106,C107,C116,C208,C209,C219	0.1uF 50V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	C205,C206	0.047uF 50V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	2	EA	C205,C206	0.047uF 50V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	2	EA	C205,C206	0.047uF 50V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	2	EA	C205,C206	0.047uF 50V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	C109	56pF 50V J 1608 COG	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	1	EA	C109	56pF 50V J 1608 COG	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	1	EA	C109	56pF 50V J 1608 COG	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	1	EA	C109	56pF 50V J 1608 COG	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	C111	100pF 50V J 1608 COG	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	1	EA	C111	100pF 50V J 1608 COG	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	1	EA	C111	100pF 50V J 1608 COG	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	1	EA	C111	100pF 50V J 1608 COG	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	C212	22pF 50V J 1608 COG	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	1	EA	C212	22pF 50V J 1608 COG	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	1	EA	C212	22pF 50V J 1608 COG	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	1	EA	C212	22pF 50V J 1608 COG	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	C108,C211	0.001uF 50V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	2	EA	C108,C211	0.001uF 50V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	2	EA	C108,C211	0.001uF 50V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	2	EA	C108,C211	0.001uF 50V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	C213	3.9nF 50V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	1	EA	C213	3.9nF 50V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	1	EA	C213	3.9nF 50V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	1	EA	C213	3.9nF 50V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	C215,C221	0.01uF 50V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	2	EA	C215,C221	0.01uF 50V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	2	EA	C215,C221	0.01uF 50V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	2	EA	C215,C221	0.01uF 50V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	C220	0.47uF 16V K 1608 X7R	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	1	EA	C220	0.47uF 16V K 1608 X7R	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	1	EA	C220	0.47uF 16V K 1608 X7R	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	1	EA	C220	0.47uF 16V K 1608 X7R	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	C222	220pF 50V J 1608 COG	CAPACITOR, CHIP	MURATA	
2.2	EAY62831101	LGIT	SMT	1	EA	C222	220pF 50V J 1608 COG	CAPACITOR, CHIP	SAMWHA	
2.2	EAY62831101	LGIT	SMT	1	EA	C222	220pF 50V J 1608 COG	CAPACITOR, CHIP	TDK	
2.2	EAY62831101	LGIT	SMT	1	EA	C222	220pF 50V J 1608 COG	CAPACITOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	8	EA	D103,D104,D107,D108,D203 D204,D207,D212,D213	1N4148W 100V 150mA SOD-123	DIODE	RECTRON	
2.2	EAY62831101	LGIT	SMT	8	EA	D103,D104,D107,D108,D203 D204,D207,D212,D213	1N4148W 100V 150mA SOD-123	DIODE	DIODES	
2.2	EAY62831101	LGIT	SMT	8	EA	D103,D104,D107,D108,D203 D204,D207,D212,D213	MMSD4148T1 100V 200mA SOD-123	DIODE	ONSEMI	
2.2	EAY62831101	LGIT	SMT	8	EA	D103,D104,D107,D108,D203 D204,D207,D212,D213	SDS4148G 100V 150mA SOD-123	DIODE	AUK	
2.2	EAY62831101	LGIT	SMT	1	EA	IC101	FA5760	IC	FUJI	2013Y
2.2	EAY62831101	LGIT	SMT	1	EA	IC202	NCP3170ADR2G	IC	ONSEMI	2013Y
2.2	EAY62831101	LGIT	SMT	1	EA	IC104	LM2903DR2G	IC	ONSEMI	2013Y
2.2	EAY62831101	LGIT	SMT	1	EA	IC201	SNF431BS 2.5V ±0.5% SOT-23	IC	AUK	
2.2	EAY62831101	LGIT	SMT	1	EA	IC201	AS431ANTR-E1 2.5V ±0.5% SOT-23	IC	BCD	
2.2	EAY62831101	LGIT	SMT	1	EA	IC201	KIA431BM 2.5V ±0.5% SOT-23	IC	KEC	
2.2	EAY62831101	LGIT	SMT	3	EA	J3,J12,J15	0Ω J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	3	EA	J3,J12,J15	0Ω J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	3	EA	J3,J12,J15	0Ω J 3216	RESISTOR, CHIP	YAGEO	

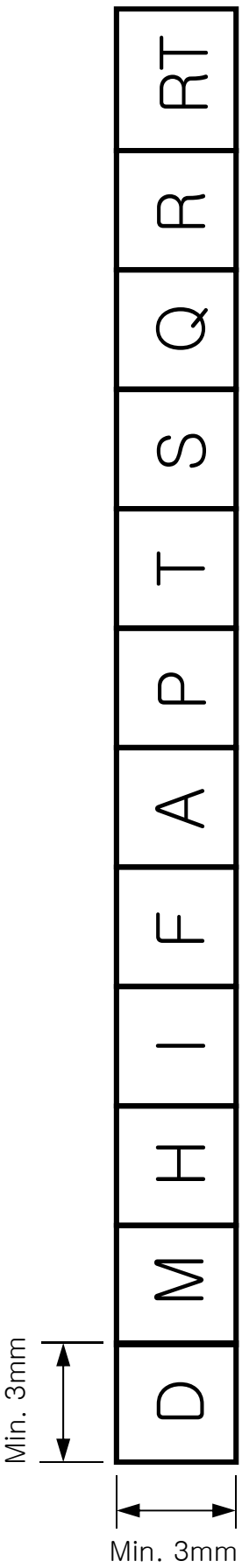
2.2	EAY62831101	LGIT	SMT	1	EA	R102	3.0KΩ J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R102	3.0KΩ J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R102	3.0KΩ J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	3	EA	R103,R104,R105	2.2KΩ J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	3	EA	R103,R104,R105	2.2KΩ J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	3	EA	R103,R104,R105	2.2KΩ J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R110	2.2Ω J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R110	2.2Ω J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R110	2.2Ω J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	3	EA	R135,R136,R137	4.7MΩ J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	3	EA	R135,R136,R137	4.7MΩ J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	3	EA	R135,R136,R137	4.7MΩ J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	R113,R115	100Ω J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	2	EA	R113,R115	100Ω J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	2	EA	R113,R115	100Ω J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	R114,R116	10Ω J 3216	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	2	EA	R114,R116	10Ω J 3216	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	2	EA	R114,R116	10Ω J 3216	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	R107,R108	22KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	2	EA	R107,R108	22KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	2	EA	R107,R108	22KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	5	EA	R106,R203,R205,R206 R225,R233	47KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	5	EA	R106,R203,R205,R206 R225,R233	47KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	5	EA	R106,R203,R205,R206 R225,R233	47KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R109	2.2kΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R109	2.2kΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R109	2.2kΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	3	EA	R221,R222,R232	2.2kΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	3	EA	R221,R222,R232	2.2kΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	3	EA	R221,R222,R232	2.2kΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	5	EA	R117,R118,R126,R209,R223	10KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	5	EA	R117,R118,R126,R209,R223	10KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	5	EA	R117,R118,R126,R209,R223	10KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R119	22Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R119	22Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R119	22Ω J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	3	EA	R123,R217,R231	20KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	3	EA	R123,R217,R231	20KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	3	EA	R123,R217,R231	20KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	R124,R125	1MΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	2	EA	R124,R125	1MΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	2	EA	R124,R125	1MΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R230	100KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R230	100KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R230	100KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R127	100KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R127	100KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R127	100KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R128	30KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R128	30KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R128	30KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R129	120KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R129	120KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R129	120KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R134	120KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R134	120KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R134	120KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R130	2.2MΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R130	2.2MΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R130	2.2MΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	R131,R226	1KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	2	EA	R131,R226	1KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	2	EA	R131,R226	1KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	3	EA	R211,R219,R237	1KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	3	EA	R211,R219,R237	1KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	3	EA	R211,R219,R237	1KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R132	18KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R132	18KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R132	18KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R133	12KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R133	12KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R133	12KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	R207,R208	4.7KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	2	EA	R207,R208	4.7KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	2	EA	R207,R208	4.7KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R220	4.7KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R220	4.7KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R220	4.7KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R210	24KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R210	24KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R210	24KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R212	270Ω F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R212	270Ω F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R212	270Ω F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R224	56KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R224	56KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R224	56KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R213	56KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R213	56KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R213	56KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R214	820Ω F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R214	820Ω F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R214	820Ω F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R215	3KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R215	3KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R215	3KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R204	12KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R204	12KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R204	12KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	1	EA	R218	15KΩ F 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	1	EA	R218	15KΩ F 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	1	EA	R218	15KΩ F 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	R229,R236	6.2KΩ J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	2	EA	R229,R236	6.2KΩ J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	2	EA	R229,R236	6.2KΩ J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	R234, R235	220Ω J 1608	RESISTOR, CHIP	KAMAYA	
2.2	EAY62831101	LGIT	SMT	2	EA	R234, R235	220Ω J 1608	RESISTOR, CHIP	PILKOR	
2.2	EAY62831101	LGIT	SMT	2	EA	R234, R235	220Ω J 1608	RESISTOR, CHIP	YAGEO	
2.2	EAY62831101	LGIT	SMT	2	EA	Q201,Q202	FDD4243 40V 14A	FET, SMD D-PAK	FAIRCHILD	2013Y
2.2	EAY62831101	LGIT	SMT	2	EA	Q201,Q202	AP9563GH 40V 26A	FET, SMD D-PAK	APEC	2013Y
2.2	EAY62831101	LGIT	SMT	2	EA	Q201,Q202	MDD3754 40V 24A	FET, SMD D-PAK	MAGNACHIP	2013Y
2.2	EAY62831101	LGIT	SMT	2	EA	Q203,Q205	MMBT2222A 40V 600mA SOT-23 NPN	TRANSISTOR	ONSEMI	
2.2	EAY62831101	LGIT	SMT	2	EA	Q203,Q205	KTN2222AS 40V 600mA SOT-23 NPN	TRANSISTOR	KEC	
2.2	EAY62831101	LGIT	SMT	2	EA	Q203,Q205	SBT2222A 40V 600mA SOT-23 NPN	TRANSISTOR	AUK	

2.2	EAY62831101	LGIT	SMT	2	EA	Q103,Q204	MMBT2907A -60V -600mA SOT-23 PNP	TRANSISTOR	ONSEMI	
2.2	EAY62831101	LGIT	SMT	2	EA	Q103,Q204	KTN2907AS -60V -600mA SOT-23 PNP	TRANSISTOR	KEC	
2.2	EAY62831101	LGIT	SMT	2	EA	Q103,Q204	SBT2907A -60V -600mA SOT-23 PNP	TRANSISTOR	AUK	
2.2	EAY62831101	LGIT	SMT	0.05	GR		HT-130A-106	BOND	HITECH KOREA	
2.2	EAY62831101	LGIT	SMT	0.05	GR		HT-130D-7	BOND	HITECH KOREA	
2.2	EAY62831101	LGIT	SMT	0.05	GR		TB-2217H	BOND	Three Bond	
2.2	EAY62831101	LGIT	AI				LGP32-13P AI COMPONENTS	AI ASSEMBLY		
2.2	EAY62831101	LGIT	AI	3	EA	C112,C201,C202	NXB 100uF 50V M P5 Φ8X11.5	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62831101	LGIT	AI	3	EA	C112,C201,C202	SG 100uF 50V M P5 Φ8X12	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62831101	LGIT	AI	1	EA	C120	NXB 4.7uF 50V M P5 Φ5X11	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62831101	LGIT	AI	1	EA	C120	SG 4.7uF 50V M P5 Φ5X11	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62831101	LGIT	AI	1	EA	C217	NXB 150uF 50V M P5 Φ10X12.5	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62831101	LGIT	AI	1	EA	C217	SG 150uF 50V M P5 Φ10X13	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62831101	LGIT	AI	5	EA	C203,C204,C210,C214,C216	NXB 220uF 25V M P5 Φ8X11.5	CAPACITOR, ALUMINUM	SAMYOUNG	
2.2	EAY62831101	LGIT	AI	5	EA	C203,C204,C210,C214,C216	SG 220uF 25V M P5 Φ8X12	CAPACITOR, ALUMINUM	SUSCON	
2.2	EAY62831101	LGIT	AI	1	EA	C113	CK 470pF 1KV K P5 125℃	CAPACITOR, CERAMIC	DONGIL ELEC	
2.2	EAY62831101	LGIT	AI	1	EA	C113	CK45 470pF 1KV K P5 125℃	CAPACITOR, CERAMIC	TDK	
2.2	EAY62831101	LGIT	AI	1	EA	C113	EKR 470pF 1KV K P5 125℃	CAPACITOR, CERAMIC	SAMHWA	
2.2	EAY62831101	LGIT	AI	1	EA	C113	CT81 470pF 1KV K P5 125℃	CAPACITOR, CERAMIC	YINANDON	
2.2	EAY62831101	LGIT	AI	2	EA	C114,C115	CK 220pF 1KV K P5 125℃	CAPACITOR, CERAMIC	DONGIL ELEC	
2.2	EAY62831101	LGIT	AI	2	EA	C114,C115	CK45 220pF 1KV K P5 125℃	CAPACITOR, CERAMIC	TDK	
2.2	EAY62831101	LGIT	AI	2	EA	C114,C115	EKR 220pF 1KV K P5 125℃	CAPACITOR, CERAMIC	SAMHWA	
2.2	EAY62831101	LGIT	AI	2	EA	C114,C115	CT81 220pF 1KV K P5 125℃	CAPACITOR, CERAMIC	YINANDON	
2.2	EAY62831101	LGIT	AI	2	EA	D101,D102	1N4007 1KV 1A DO-41	DIODE	DIODES	
2.2	EAY62831101	LGIT	AI	2	EA	D101,D102	1N4007 1KV 1A DO-41	DIODE	DACHANG	
2.2	EAY62831101	LGIT	AI	2	EA	D101,D102	1N4007 1KV 1A DO-41	DIODE	TSC	
2.2	EAY62831101	LGIT	AI	2	EA	D101,D102	1N4007 1KV 1A DO-41	DIODE	RECTRON	
2.2	EAY62831101	LGIT	AI	2	EA	D101,D102	1N4007 1KV 1A DO-41	DIODE	FAIRCHILD	
2.2	EAY62831101	LGIT	AI	4	EA	D105,D106,D210,D211	UF1007 1KV 1A DO-41	DIODE	DIODES	
2.2	EAY62831101	LGIT	AI	4	EA	D105,D106,D210,D211	UF4007 1KV 1A DO-41	DIODE	DACHANG	
2.2	EAY62831101	LGIT	AI	4	EA	D105,D106,D210,D211	HER108G 1KV 1A DO-41	DIODE	RECTRON	
2.2	EAY62831101	LGIT	AI	4	EA	D105,D106,D210,D211	UF4007 1KV 1A DO-41	DIODE	TSC	
2.2	EAY62831101	LGIT	AI	2	EA	ZD101,ZD102	1N5228B 3.9V DO-35	DIODE, ZENER	RECTRON	
2.2	EAY62831101	LGIT	AI	2	EA	ZD101,ZD102	1N5228B 3.9V DO-35	DIODE, ZENER	VISHAY	
2.2	EAY62831101	LGIT	AI	2	EA	ZD101,ZD102	1N5228B 3.9V DO-35	DIODE, ZENER	TSC	
2.2	EAY62831101	LGIT	AI	1	EA	ZD103	1N5252B 24V DO-35	DIODE, ZENER	RECTRON	
2.2	EAY62831101	LGIT	AI	1	EA	ZD103	1N5252B 24V DO-35	DIODE, ZENER	VISHAY	
2.2	EAY62831101	LGIT	AI	1	EA	ZD103	1N5252B 24V DO-35	DIODE, ZENER	TSC	
2.2	EAY62831101	LGIT	AI	17	EA	EL3,EL4,EL5,EL6,EL11, EL12,EL13,EL14,EL15,EL16, EL17,EL18,EL19,EL20,EL25, EL26,EL98	1.6X3.0	EYELET	LEZHI	
2.2	EAY62831101	LGIT	AI	11	EA	EL1,EL2,EL7,EL8,EL9,EL10, EL21,EL22,EL23,EL24,EL27	2.0X3.0	EYELET	LEZHI	
2.2	EAY62831101	LGIT	AI	1	EA	LB103	BFS3550R2F SINGLE RADIAL	INDUCTOR, BEAD FILTER LEAD	SAMWHA	
2.2	EAY62831101	LGIT	AI	1	EA	LB103	HBR S 3550P SINGLE RADIAL	INDUCTOR, BEAD FILTER LEAD	HANBACK	
2.2	EAY62831101	LGIT	AI	18	EA	J1,J2,J4,J5,J7, J8,J9,J10,J18,J19, J20,J22,J23,J24,J25, J26,J27,J28	Φ0.6	JUMPER WIRE	TPI	
2.2	EAY62831101	LGIT	AI	18	EA	J1,J2,J4,J5,J7, J8,J9,J10,J18,J19, J20,J22,J23,J24,J25, J26,J27,J28	Φ0.6	JUMPER WIRE	ILKWANG	
2.2	EAY62831101	LGIT	AI	18	EA	J1,J2,J4,J5,J7, J8,J9,J10,J18,J19, J20,J22,J23,J24,J25, J26,J27,J28	Φ0.6	JUMPER WIRE	SeungWon	
2.2	EAY62831101	LGIT	AI	18	EA	J1,J2,J4,J5,J7, J8,J9,J10,J18,J19, J20,J22,J23,J24,J25, J26,J27,J28	Φ0.6	JUMPER WIRE	Lean Tech	
2.2	EAY62831101	LGIT	AI	1	EA	R101	MSR37 1.2MΩ 1/2W J SURGE	RESISTOR, FIXED CARBON COMPOSITION	PILKOR	
2.2	EAY62831101	LGIT	AI	1	EA	R101	PRC92 1.2MΩ 1/2W J SURGE	RESISTOR, FIXED CARBON COMPOSITION	SMART	
2.2	EAY62831101	LGIT	AI	1	EA	R111	CRS 1KΩ 1/4W J SMALL	RESISTOR, CARBON FILM	ABCO	
2.2	EAY62831101	LGIT	AI	1	EA	R111	RDM94 1KΩ 1/4W J SMALL	RESISTOR, CARBON FILM	SMART	
2.2	EAY62831101	LGIT	AI	1	EA	R111	SFR25 1KΩ 1/4W J SMALL	RESISTOR, CARBON FILM	PILKOR	
2.2	EAY62831101	LGIT	AI	1	EA	R112	MSR37 1.5MΩ 1/2W J SURGE	RESISTOR, FIXED CARBON COMPOSITION	PILKOR	
2.2	EAY62831101	LGIT	AI	1	EA	R112	PRC92 1.5MΩ 1/2W J SURGE	RESISTOR, FIXED CARBON COMPOSITION	SMART	
2.2	EAY62831101	LGIT	AI	1	EA	R122	CRS 62Ω 1/4W J SMALL	RESISTOR, CARBON FILM	ABCO	
2.2	EAY62831101	LGIT	AI	1	EA	R122	RDM94 62Ω 1/4W J SMALL	RESISTOR, CARBON FILM	SMART	
2.2	EAY62831101	LGIT	AI	1	EA	R122	SFR25 62Ω 1/4W J SMALL	RESISTOR, CARBON FILM	PILKOR	
2.2	EAY62831101	LGIT	AI	1	EA	R121	CRS 2.2Ω 1/4W J SMALL	RESISTOR, CARBON FILM	ABCO	
2.2	EAY62831101	LGIT	AI	1	EA	R121	RDM94 2.2Ω 1/4W J SMALL	RESISTOR, CARBON FILM	SMART	
2.2	EAY62831101	LGIT	AI	1	EA	R121	SFR25 2.2Ω 1/4W J SMALL	RESISTOR, CARBON FILM	PILKOR	
2.2	EAY62831101	LGIT	AI	1	EA	R202.R228	MORS 2.2KΩ 2W J SMALL	RESISTOR, CARBON FILM	ABCO	
2.2	EAY62831101	LGIT	AI	1	EA	R202.R228	RSD02 2.2KΩ 2W J SMALL	RESISTOR, CARBON FILM	SMART	
2.2	EAY62831101	LGIT	AI	1	EA	R202.R228	PR02 2.2KΩ 2W J SMALL	RESISTOR, CARBON FILM	PILKOR	
2.2	EAY62831101	LGIT	AI	1	EA	PCB	LGP32-13P (159*140*1.6T) FR-1 KB,DS,L,1oz CTI-600	PCB	SHANGHAI WANZHENG	
2.2	EAY62831101	LGIT	AI	1	EA	PCB	LGP32-13P (159*140*1.6T) FR-1 KB,DS,L,1oz CTI-600	PCB	SHANGHAI WANZHENG(WYT)	
2.2	EAY62831101	LGIT	AI	1	EA	PCB	LGP32-13P (159*140*1.6T) FR-1 KB,DS,L,1oz CTI-600	PCB	CHENG HO	
2.2	EAY62831101	LGIT	AI	1	EA	PCB	LGP32-13P (159*140*1.6T) FR-1 KB,DS,L,1oz CTI-600	PCB	NEW TRIUNION	
2.2	EAY62831101	LGIT	ETC				LGP32-13P SUBSIDIARY MATERIALS			
2.2	EAY62831101	LGIT	ETC	0.063	EA		Box Corrugated Paper(159W*146.7L*22H), Double Wall	BOX CARTON	TAILI PACKING	
2.2	EAY62831101	LGIT	ETC	0.063	EA		Box Corrugated Paper(159W*146.7L*22H), Double Wall	BOX CARTON	HUAXING PACK	
2.2	EAY62831101	LGIT	ETC	0.063	EA		Box Corrugated Paper(159W*146.7L*22H), Double Wall	BOX CARTON	Haier Fungchoi	
2.2	EAY62831101	LGIT	ETC	0.1	EA		Cross Board A(341*163)	BOX PARTITION	TAILI PACKING	
2.2	EAY62831101	LGIT	ETC	0.1	EA		Cross Board A(341*163)	BOX PARTITION	HUAXING PACK	
2.2	EAY62831101	LGIT	ETC	0.1	EA		Cross Board A(341*163)	BOX PARTITION	Haier Fungchoi	
2.2	EAY62831101	LGIT	ETC	0.053	EA		Cross Board B(506*163)	BOX PARTITION	TAILI PACKING	
2.2	EAY62831101	LGIT	ETC	0.053	EA		Cross Board B(506*163)	BOX PARTITION	HUAXING PACK	
2.2	EAY62831101	LGIT	ETC	0.053	EA		Cross Board B(506*163)	BOX PARTITION	Haier Fungchoi	
2.2	EAY62831101	LGIT	ETC	0.033	EA		Tray Board B(506*341)	BOX PAD	TAILI PACKING	
2.2	EAY62831101	LGIT	ETC	0.033	EA		Tray Board B(506*341)	BOX PAD	HUAXING PACK	
2.2	EAY62831101	LGIT	ETC	0.033	EA		Tray Board B(506*341)	BOX PAD	Haier Fungchoi	
2.2	EAY62831101	LGIT	ETC	1	EA		Air Vinyl 350L*180W, 4t, LDPE(material), PINK Color	BUBBLE SHEET	SERVEONE	
2.2	EAY62831101	LGIT	ETC	1	EA		Air Vinyl 350L*180W, 4t, LDPE(material), PINK Color	BUBBLE SHEET	KELIN	
2.2	EAY62831101	LGIT	ETC	0.003	KG		EF-9301(g)	FLUX	ALPHA	
2.2	EAY62831101	LGIT	ETC	0.003	KG		ILF-714(kg)	FLUX	ION ELEC	
2.2	EAY62831101	LGIT	ETC	0.003	KG		DF-234U	FLUX	DOOSUNG	
2.2	EAY62831101	LGIT	ETC	0.002	KG		40X8 NY WHITE 93CODE 19DIGIT	BAR CODE	SERVEONE	
2.2	EAY62831101	LGIT	ETC	0.002	KG		40X8 NY WHITE 93CODE 19DIGIT	BAR CODE	Hansung Color	

2.2	EAY62831101	LGIT	ETC	5	GR		H-828W	BOND (RTV)	OKONG	
2.2	EAY62831101	LGIT	ETC	5	GR		EA-4100	BOND (RTV)	DOW CORNING	
2.2	EAY62831101	LGIT	ETC	5	GR		DS818	BOND (RTV)	동양실리콘	
2.2	EAY62831101	LGIT	ETC	5	GR		SR-9000	BOND (RTV)	DAEHEUNG CHEMICAL	
2.2	EAY62831101	LGIT	ETC	0.0000385	BUK		Ribbon Black R300,60mm*300M(FOR WHITE POLY)	Ribbon	Serve One	
2.2	EAY62831101	LGIT	ETC	0.0000215	BUK		Ribbon Black Wax 110mmx300m, K104 (For paper label)	Ribbon	Serve One	
2.2	EAY62831101	LGIT	ETC	0.043	PAC		TAPE OPP 50*50K	TAPE OPP	Chiyoda	
2.2	EAY62831101	LGIT	ETC	0.043	PAC		TAPE OPP 50*50K	TAPE OPP	Kelin	
2.2	EAY62831101	LGIT	ETC	0.043	PAC		TAPE OPP 50*50K	TAPE OPP	Serveone	
2.2	EAY62831101	LGIT	ETC	0.043	PAC		TAPE OPP 50*50K	TAPE OPP	Ducksung	
2.2	EAY62831101	LGIT	ETC	0.043	PAC		TAPE OPP 50*50K	TAPE OPP	XIN CHANG CHENG	
2.2	EAY62831101	LGIT	ETC	0.015	KG		HSE-11 B20 BAR (SN:99%,AG:0.3%,CU:0.7%)	SOLDER BAR	HEESUNG METAL	
2.2	EAY62831101	LGIT	ETC	0.015	KG		SN–CU–NI–P (HSE16(P)-B20)	SOLDER BAR	HEESUNG METAL	
2.2	EAY62831101	LGIT	ETC	0.015	KG		SN:99%, AG:0.3%, CU:0.7% BAR	SOLDER BAR	Alpha Metal	
2.2	EAY62831101	LGIT	ETC	0.002	KG		HSE-11 B20 BAR (SN:99%,AG:0.3%,CU:0.7%)	SOLDER WIRE	HEESUNG METAL	
2.2	EAY62831101	LGIT	ETC	0.002	KG		SN–CU–NI–P (HSE16(P)-B20)	SOLDER WIRE	HEESUNG METAL	
2.2	EAY62831101	LGIT	ETC	0.002	KG		SN:99%, AG:0.3%, CU:0.7% wire	SOLDER WIRE	Alpha Metal	

Process Marking

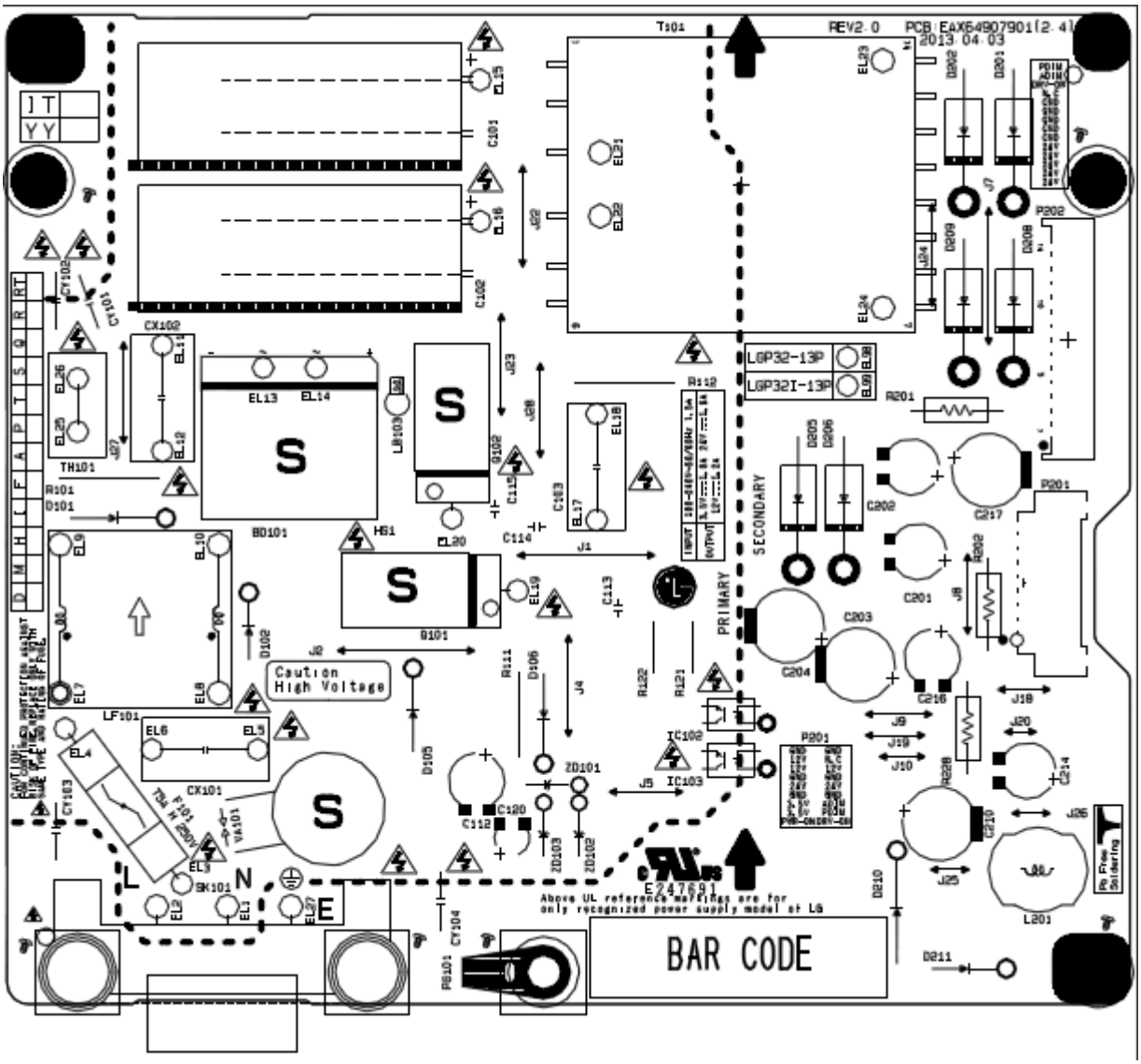
공정표시 MARK (PCB SILK)



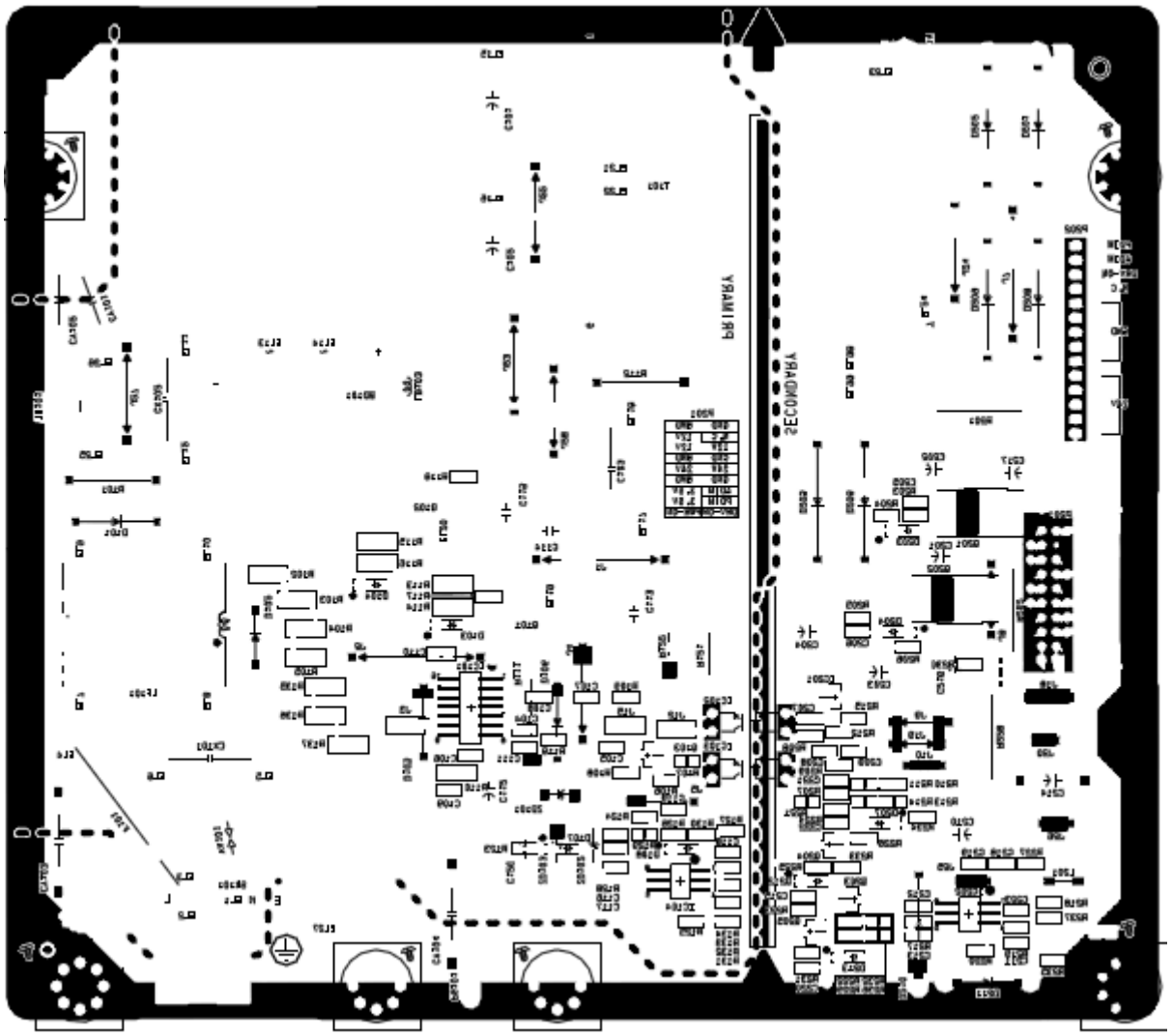
D : 자삽
M : SMD
H : 수삽 취출
I : ICT
F : 1차 성능
A : AGING
P : HI-POT
T : 취출 검사 (ATE)
S : SET 검사
Q : QC 검사
R : 불량 수리
RT : 양산 모듈 시험

PCB Layout

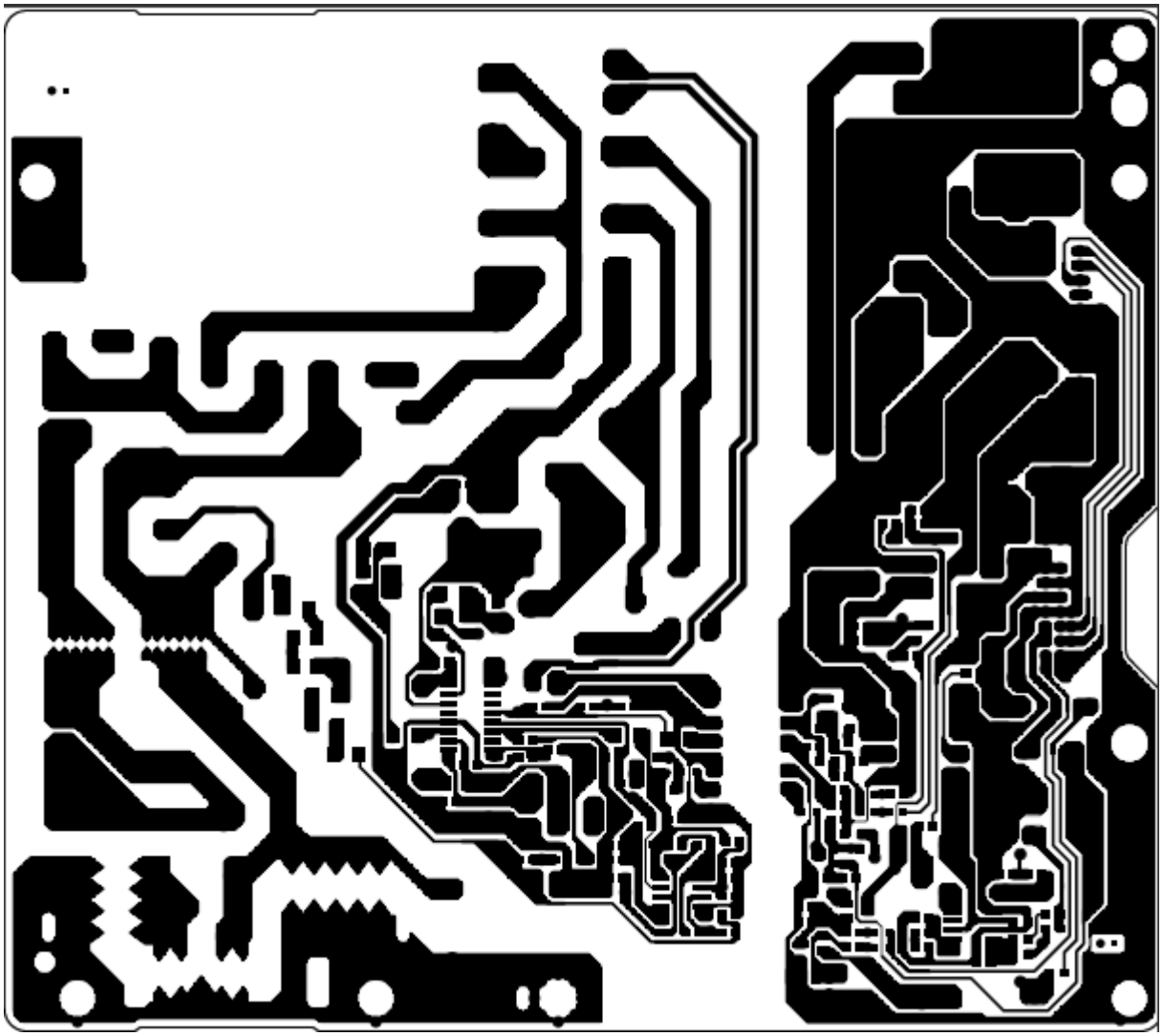
Top Silk


REV2.0
PCB:EAX64907901(2.4)
2013.04.03
LGP32-13P
LGP32I-13P
SECONDARY
PRIMARY
Caution
High Voltage
BAR CODE
E247691

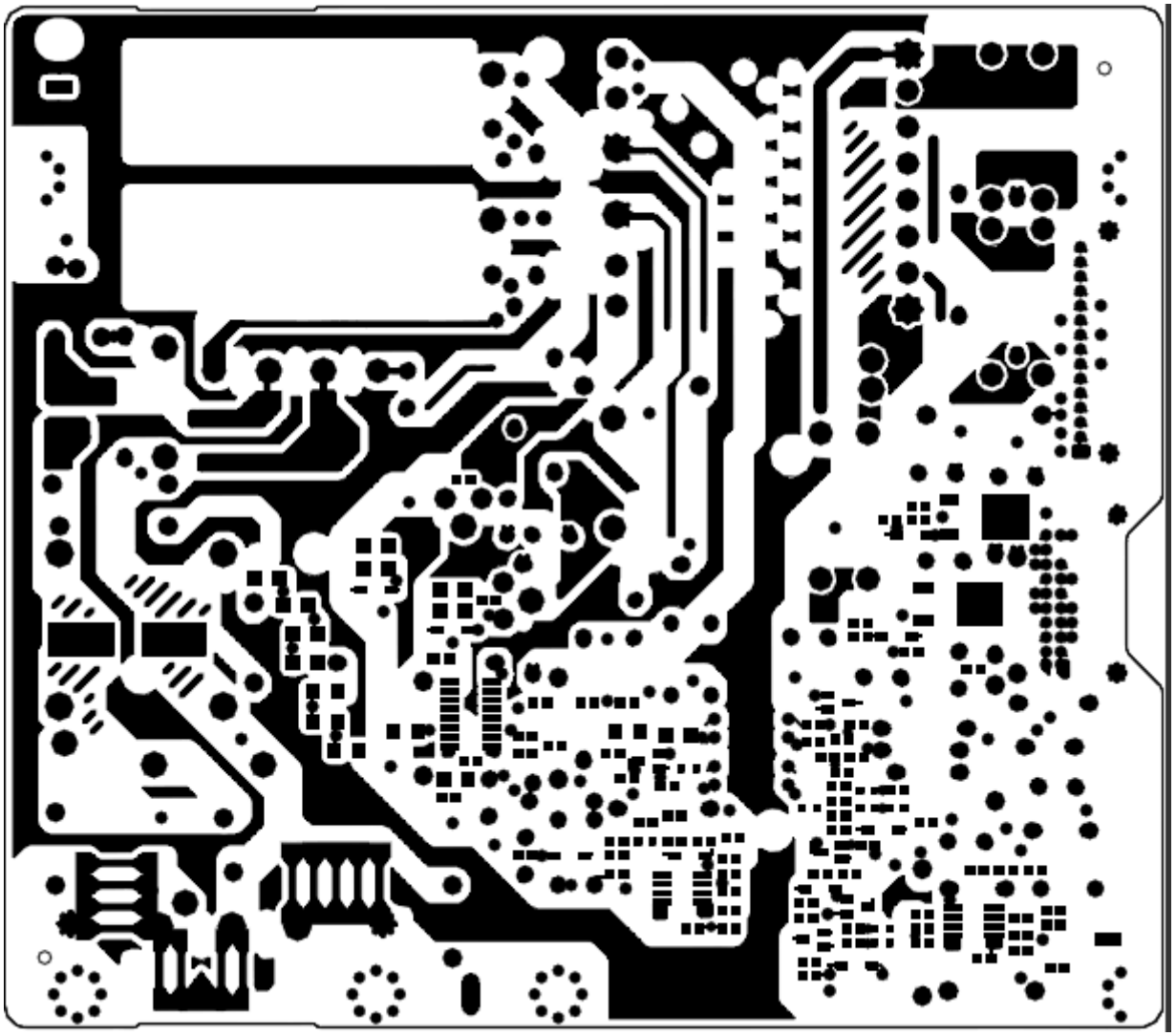
Bottom Silk



Bottom Pattern



Bottom Solder mask



Safety Parts

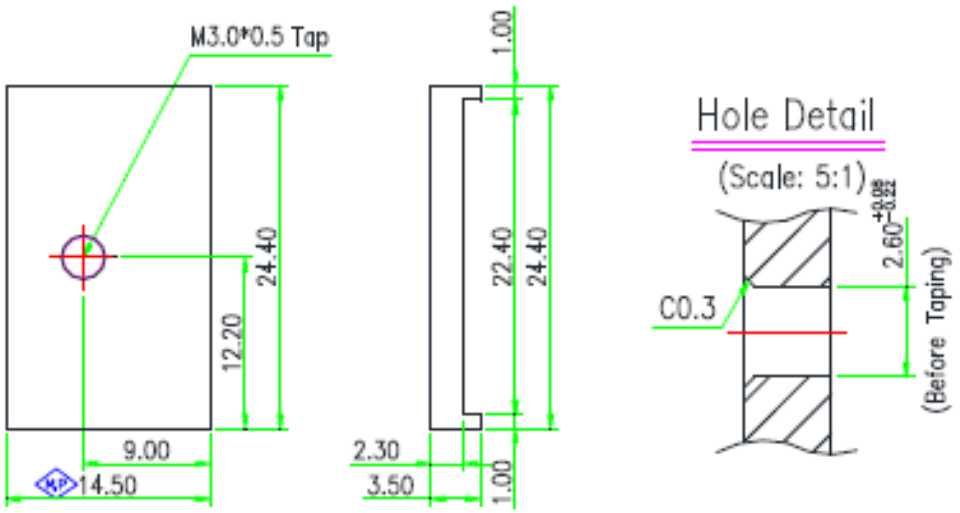
Object/part No.	Manufacturer / Trademark	Type / Model	Value / Rating	Parts Marking (實物)	standard	mark(s) of conformity1)
AC input connector, (SK101)	Dongil Tech	DAC-18C3M1	250V / 2.5A	DAC-18C3M1	IEC 60320 1	
Fuse, (F101)	Littelfuse Inc.	215 Series	T5A H / 250V	LF.T5AH250VP	IEC 60127 1	
	WALTER FUSE	TSC		TSC5A250V(P)	IEC 60127	
	BUSSMANN	S505		T5AH250V	IEC 60127	
	Dainfuse	5OCT		T5AH250V	IEC	
	CONQURE	UDA / UDA-A		UDA T5A H 250V	IEC 60127-3-5	
Line Filter, (LF101)	TNC	CS920300SBB	Rated 130℃	920300S	IEC 60065	Test in appliance
	FEELUX	LLF-135R		LLF-135		
Base material of Linefilter (LF101)	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	SUMITOMO BAKELITE CO LTD	PM-9820	V-0, 150℃		UL, E41429	UL
Varistor, (VA101)	Samwha	SVC621D-14	Climatic category: 40/085/21 Maximum continuous voltage:385Va.c. Current pulse rating: 6 kV/3 kA	SVC621-14	CECC 42000 CECC 42200 CECC 42201 IEC 60065 Clause 14.12 and IEC 60950-1	
	Amotech Co., Ltd.	INR 14D621	Climatic category: 40/085/56 Maximum continuous voltage: 385Va.c. Current pulse rating: 6 kV/3 Ka	INR 14D621	CECC42000/A1 CECC42200/A1 CECC 4220 IEC 61051 IEC 61051-2-2 IEC 60065 Clause 14.12 and IEC 60950-1 An	
	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 Inforamion Indstry 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	E14242	
X-cap. (CX101)	Pilkor	PCX2 337	275V (CX101= Max 0.47uF)	PCX2 337	IEC 60384-14 UL1414	
	Okaya	LE		LE	IEC 6 UL141	
	EUROPTRONIC	MPX		MPX	E199 IEC 6 edition	
	CHENGTUNG	CTX		CTX	IEC 60 UL1414	
X-cap. (CX102)	Pilkor	PCX2 337	275V (CX102= Max 0.22uF)	PCX2 337	IEC 60384-14 UL1414	
	Okaya	LE		LE	IEC 60384-14 UL1414	
	EUROPTRONIC	MPX		MPX	E199061/ E311052 IEC 60384-14-2'nd edition	
	CHENGTUNG	CTX		CTX	IEC 60384-14 UL1414	
Capacitor (C103)	Pilkor	PCMP 384(Box)	0.033uF / 800V	33nJ 800V 384 MMKP	IEC60384-1	
	LUMEN	NP (Film)	0.033uF / 800V	M 333J NP 800V		
	EUROPTRONIC	MPLB (Box)	0.033uF / 1000V	MPLB 333 J 1000		
Thermistor, (TH101)	DSC	DSC 5D-15	5ohm at 25 ° C	DSC 5D-15	IEC 60065	
	Xiamen Wanming Electronics Co.,Ltd	WTR 15D050		WTR 15D050		
	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., (C101,C102)	SAMYOUNG	KMF	450V / Max 82uF / 105℃	KMF450V82uF	IEC 6	Test in appliance
	SUSCON	SK		SK450V82uF		
	SAMYOUNG	NZE	500V / Max 100uF / 105℃	NZE500V100uF	IEC 6	Test in appliance
	SUSCON	SK		SK500V100uF		

Switching TR, (Q101,Q102)	FAIRCHILD	FCPF260N60E	Min. 600V / Min 10A	FCPF260N60E	IEC 6	Test in appliance
	TOSHIBA	TK12A60W		TK12A60W		
Y Cap., (CY101,CY102)	Kunshan Wansheng	Y1 / CT7	Min 250V / (CY101 : Max 470pF, CY102 : 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		
Y Cap., (CY103,CY104)	Kunshan Wansheng	Y1 / CT7	Min 250V / (CY103 : Max 330pF, CY104 : Max 330pF)	CT7 331K	IEC 6	
	Apex intec	Y1 / NK		NK331K		
	DONG IL	Y1 / DA		DA331K		
	YINANDON	Y1 / CT81		CT81 331K		
	SAMWHA	Y1 / SD		SD331K		
	JYA-NAY	Y1 / JN		JN331K		
	GUANGDONG SOUTH HONGMING	Y1 / F		F331K		
	TDK	Y1 / CD		CD331K		
Switching Transformer, (T101)	LG Innotek	13S-LM01	Class	13S-LM01	IEC 60065	Test in appliance
	JIANGSU CHANNELON ELECTRONIC GROUP					
	TDK					
	FEELUX					
	SOOJUNG					
Bobbin material of transformer (T101)	SUMITOMO BAKELITE CO LTD	PM-9820	V-0,		UL, E41429	UL
	E I DUPONT DE NEMOURS & CO INC	FR530	V-0,		UL, E41938	UL
Reinforced insulation wire of transformer (T101)	COSMOLINK CO LTD	TIW-M	Class		UL, E213764	UL
Alt	FURUKAWA ELECTRIC CO., LTD	TEX-E, TEX-BS	Class		UL, E206440	UL
Opto-coupler, (IC102,IC103)	Everlight	EL817	Exter Internal cr: 6.0 mm DTI:	EL817	IEC 60065 UL 1577	
	Lite-on	LTV817...	External cr: 7.8 mm Inter DTI: 0.8 mm / 6000 Vrms	817BN		
Discharge Resistor, (R101)	Smart	PRC	1/2W, 1.2Mohm, 5%		IEC 60065	
	UNIROYAL ELECTRONICS INDUSTRY CO., LTD	MGROW2J****A10			IEC 60065	
	Pilkor	SR37,MSR37			IEC 60065	
FR-1	DONGMYUNG CIR.	DM5-V-0	94V-0			
	SHANGHAI WANZHENG	SWZ-2	94V-0			
	WVT (SHANGHAI WANZHENG)	SWZ-2	94V-0			
	SHANGHAI AREX	02V0	94V-0			
	NEW TRIUNION	TU-3	94V-0			
	HUIHO (CHENG HO POWER CORP)	4B-5 4B-1, 4B-2, 4D	94V-0			
	HSIANG KUO	07V0	94V-0			
	SAMHAN	SH7	94V-0			
	HT CIRCUIT(QINGDAO)	1794V0	94V-0			
	WONKYUNG	WK-1	94V-0			
	TIAN FENG	TU-1	94V-0			
	Duck sung	DS8-V-0	94V-0			
	TIS KOREA	TIS-3	94V-0			
	kyosha	2294V-0	94V-0			
	kyosha	S4594V-0	94V-0			
	Wellbest	MTV0-01	94V-0			
	Cosmotech	GS2-V-0-1 CJ2-V-0-1	94V-0			
	CHANGZHOU HAIHONG	CCE-V0	94V-0			

1) an asterisk indicates a mark which assures the agreed level of surveillance

Mechanical Drawing

THIS DOCUMENT CONTAINS PROPRIETARY INFORAMTIONS AND MAY NOT BE REPRODUCED WITHOUT THE EXPRESS WRITTEN PERMISSION OF A DUTY AUTHORIZED REPRESENTATIVE OF LG INNOTEK.



NOTE

1. Unspecified tolerance is ±0.15.
2. Flatness and warpage should be less than 0.1.
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. Surface treatment: Anodizing 2~12um
7. CTQ : CTQ(critical to quality point)
8. KP : Critical point to control the dimension
9. 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.

————	Heat Sink	Al6063, Purity: more than 98%	14.5(L)x24.4(W)x3.5(H)	Anodizing 2~12um
PART NO.	NAME	MATERIAL	SPEC.	FINISH

ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD	APPD.	CHKD.	DSGD.	DRAW.	UNIT	SCALE
						2012.12.16 Kim Chang Sung			2012.12.16 Jeon Sung Ho	mm	1:2

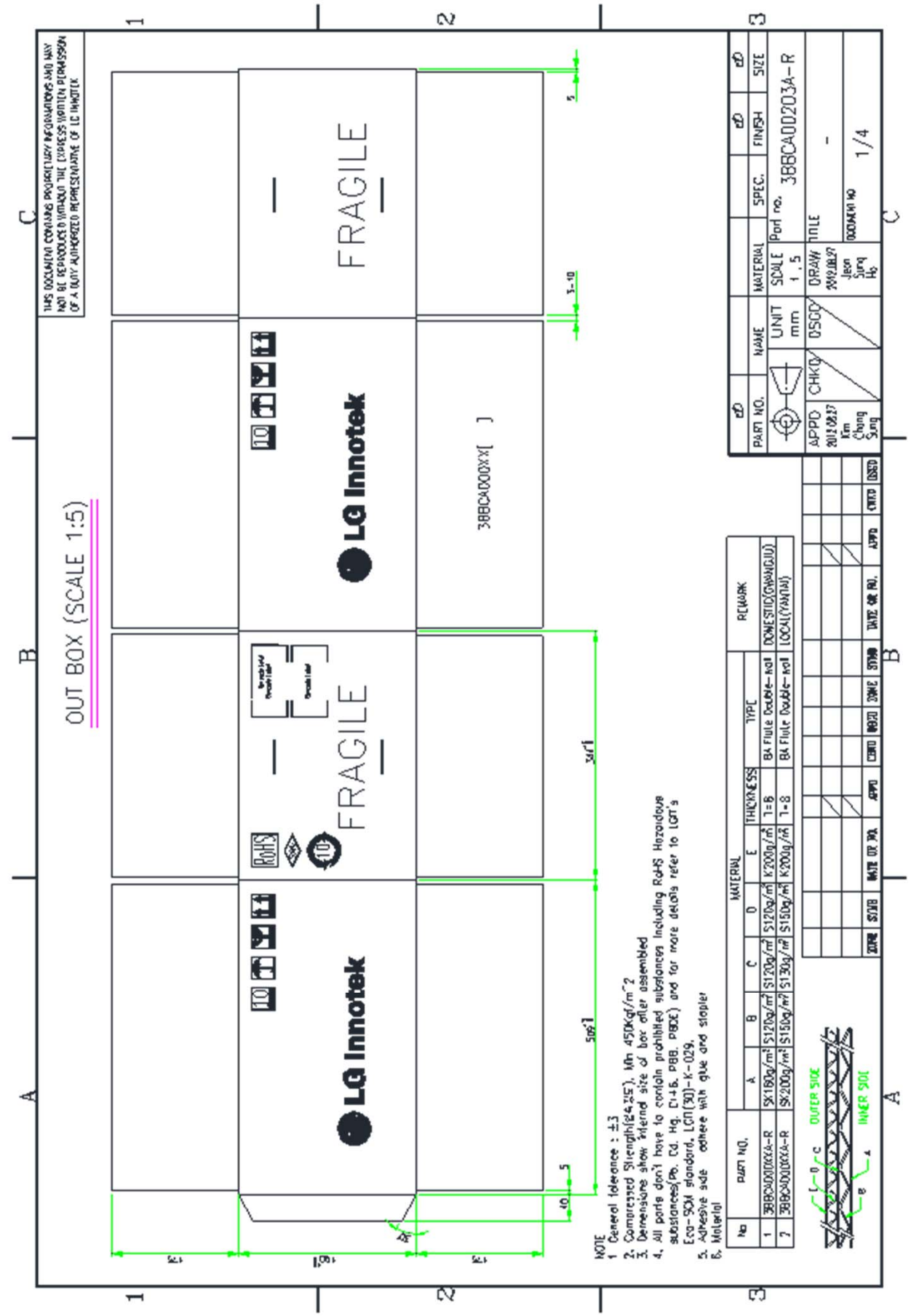
13Y EPSU 32"

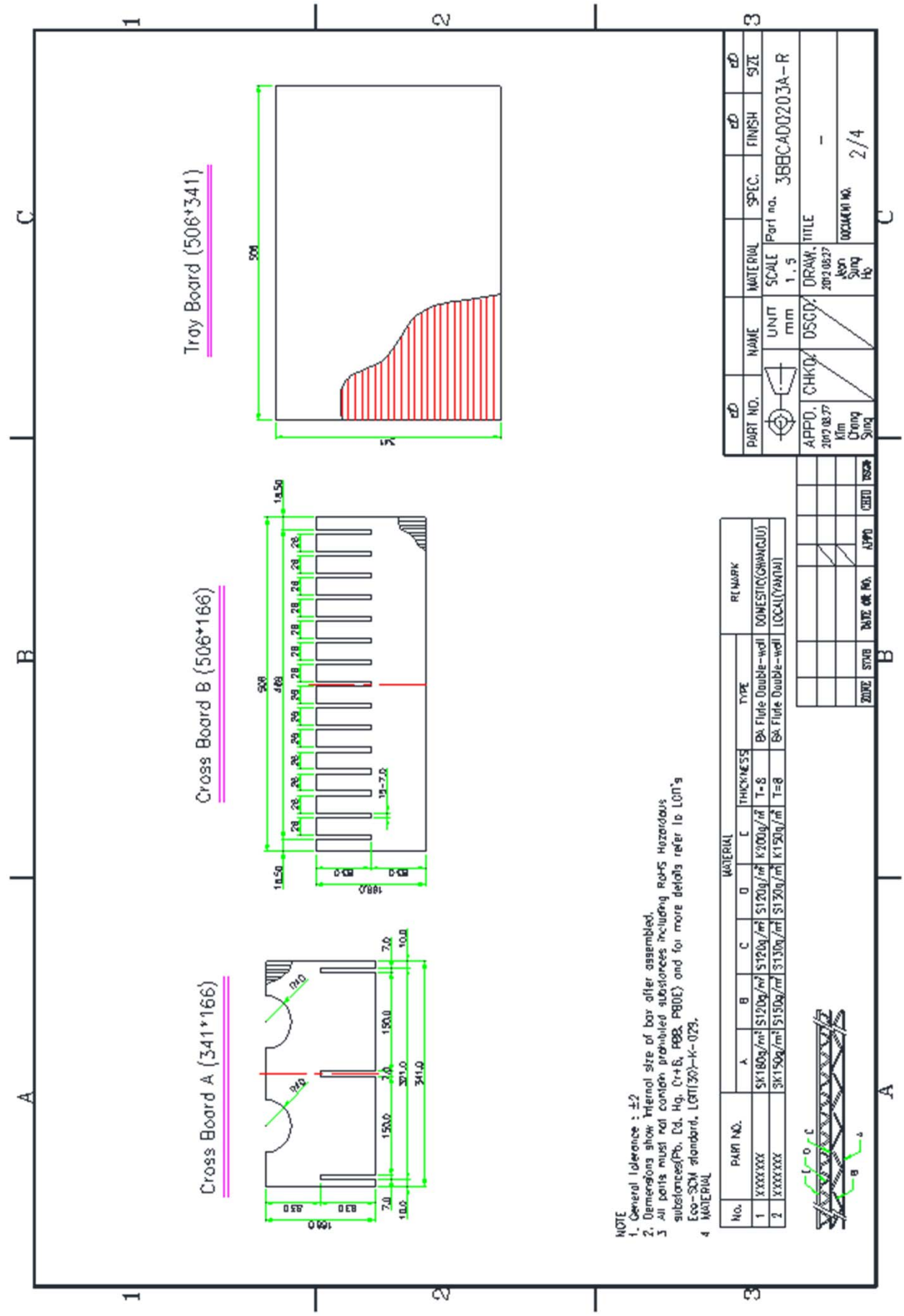
TITLE Heat Sink-1 (3HEAZA0382A-R)

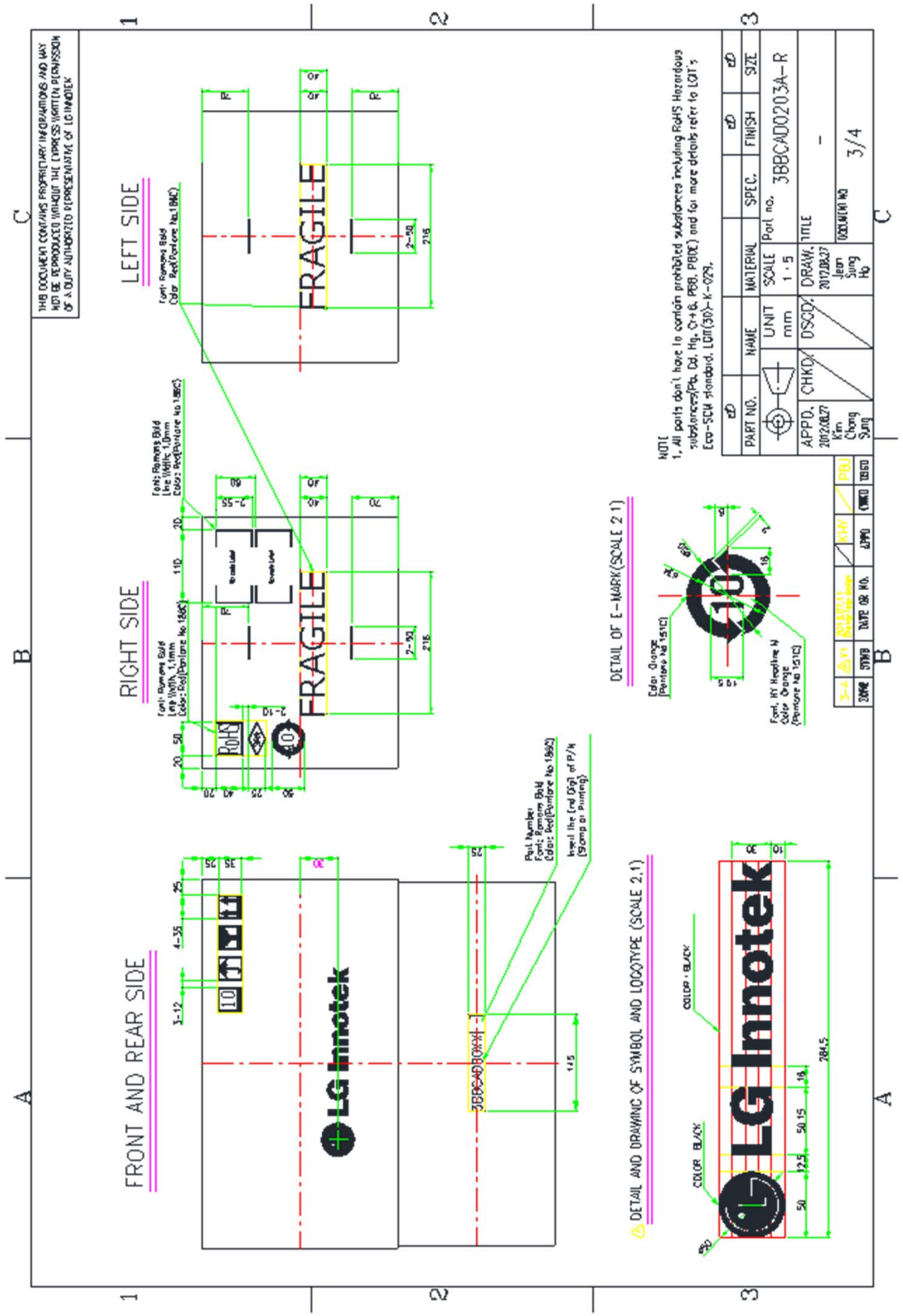
DOCUMENT NO. (1/1)

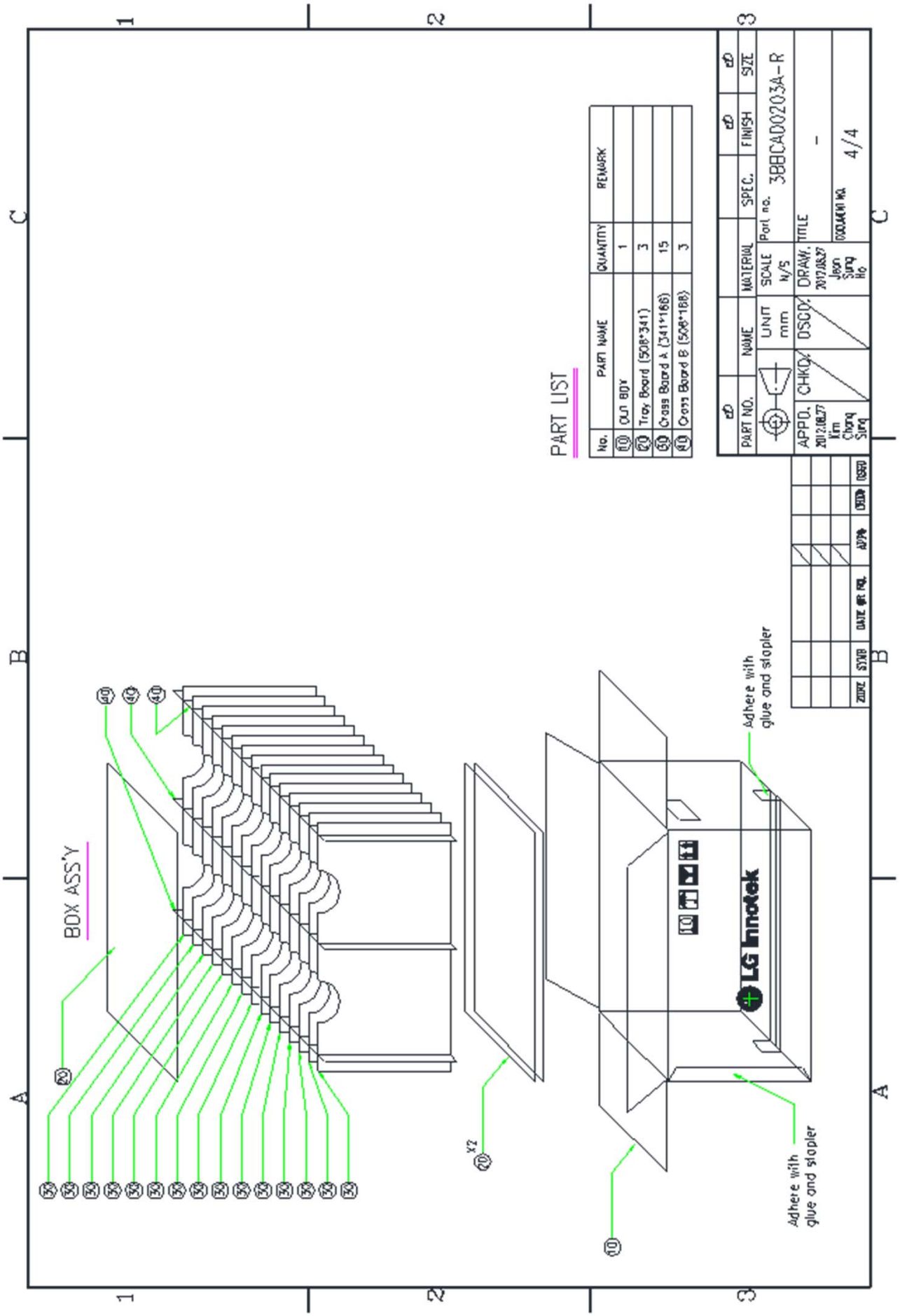
LG Innotek co., Ltd.

Packing Drawing


OUT BOX (SCALE 1:5)
FRAGILE
LG Innotek
3BBCA000XX[ ]
NOTE
1. General tolerance : ±3
2. Compressed Strength(≥4,125), Min 450Kgf/m^2
3. Dimension is 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 LGE's Eco-SCM standard, LGE(30)-K-029.
5. Adhesive side adhere with glue and stapler
6. Material
INNER SIDE
OUTER SIDE
3BBCA000203A-R
1/4


Tray Board (506*341)
Cross Board B (506*166)
Cross Board A (341*166)
NOTE
1. General tolerance : ±2
2. Dimensions 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 LG's Eco-SCM standard. LGE(30)-K-023.
4. MATERIAL
MATERIAL
No. PART NO. A B C D C THICKNESS TYPE REMARK
1 XXXXXXX SK180g/m² S120g/m² S120g/m² S120g/m² K200g/m² T=8 BA Flute Double-wall DONGSTO(GWANGJU)
2 XXXXXXX SK150g/m² S150g/m² S130g/m² S130g/m² K150g/m² T=8 BA Flute Double-wall LOCAL(YANTAI)
PART NO. NAME MATERIAL SPEC. FINISH SIZE
UNIT mm SCALE 1 : 5 Part no. 3BBCADD0203A-R
APPD. CHKD. DSGD. DRAWN. TITLE -
2012.08.27 Kim Chang Sung
2012.08.27 Kim Kwon Sung Ho
DOCUMENT NO. 2/4


LEFT SIDE
RIGHT SIDE
FRONT AND REAR SIDE
FRAGILE
DETAIL OF E-MARK(SCALE 2:1)
DETAIL AND DRAWING OF SYMBOL AND LOGOTYPE (SCALE 2:1)
LG Innotek
3BBCAD0203A-R
3/4


PART LIST
No. PART NAME QUANTITY REMARK
10 OUT BOX 1
20 Tray, Board (508*341) 3
30 Cross Board A (341*166) 15
40 Cross Board B (508*168) 3
BOX ASS'Y
Adhere with glue and stopler
Adhere with glue and stopler
LG Innotek
PART NO.
NAME
UNIT mm
MATERIAL
SCALE N/S
SPEC.
FINISH
SIZE
Part no. 3BBCAD02034-R
DRAW. TITLE -
DSGD. CHKD. APPD.
4/4

Bar-Code
Label Drawing

LGP32-13P (EAY62831101)

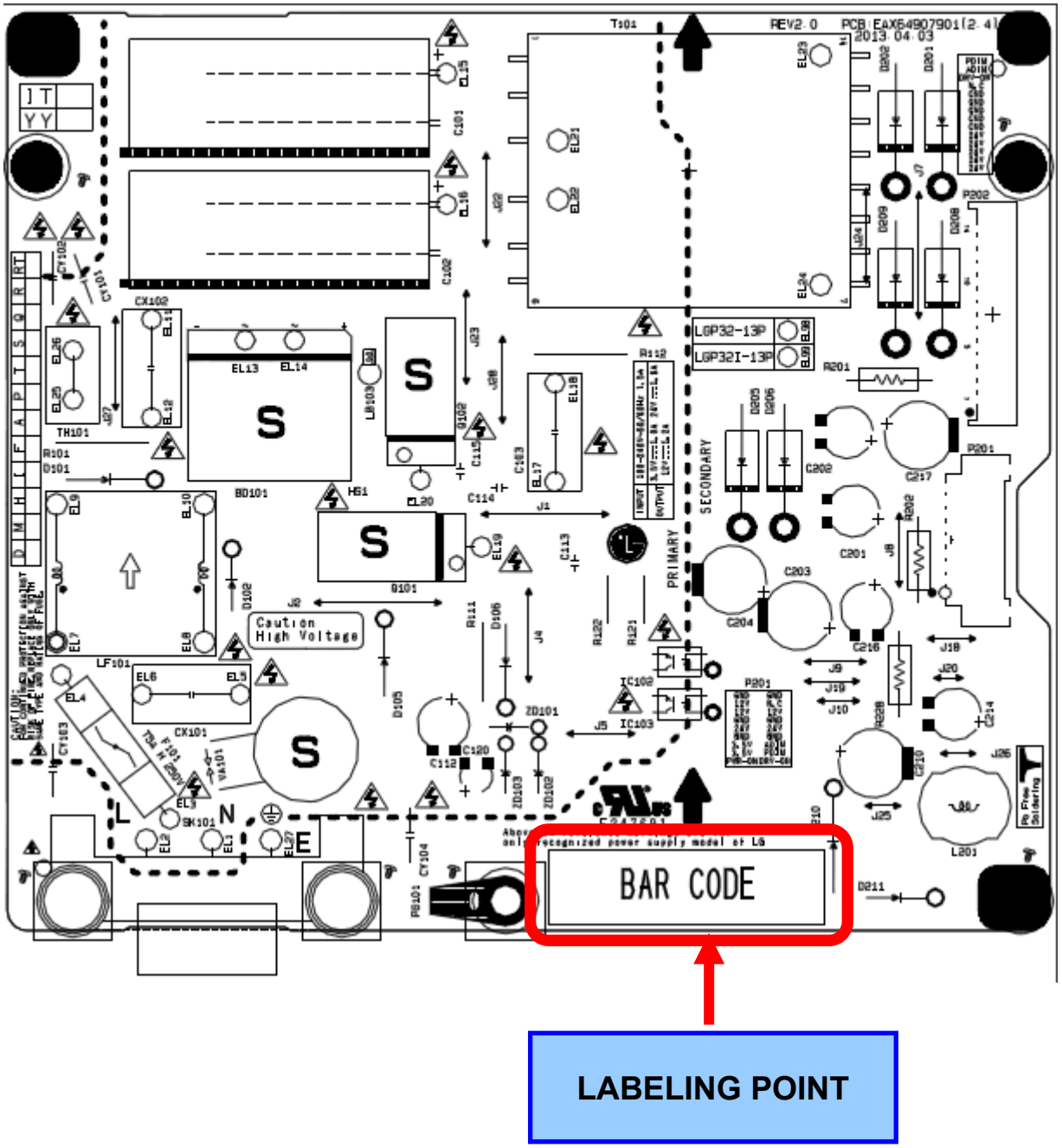
※ Bar Code Size는 그림의 size가 최소size이며, 업체 기준 및 PCB공간에 따라 변경 할 수 있으나, 그림의 size보다 줄일 수 는 없음.

Code	Barcode Specification	Remark
Manufacturing code	L (L : LGIT)	
Manufacturing Year	C (A : 2010, B : 2011, C : 2012, ...)	
Manufacturing Month	2 (1,2,3,... 10:O, 11:N, 12:D)	
Manufacturing Date	1 (1~9,... A:10, B:11, C:12, ...X:31)	except : I,O
Manufacturing Line	A~D : Gwangju , E~N / 0~9 : Yantai , O~V : Indonesia , X~Z : Poland	
LG Part No.	62831101 (EAY62831101)	
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.

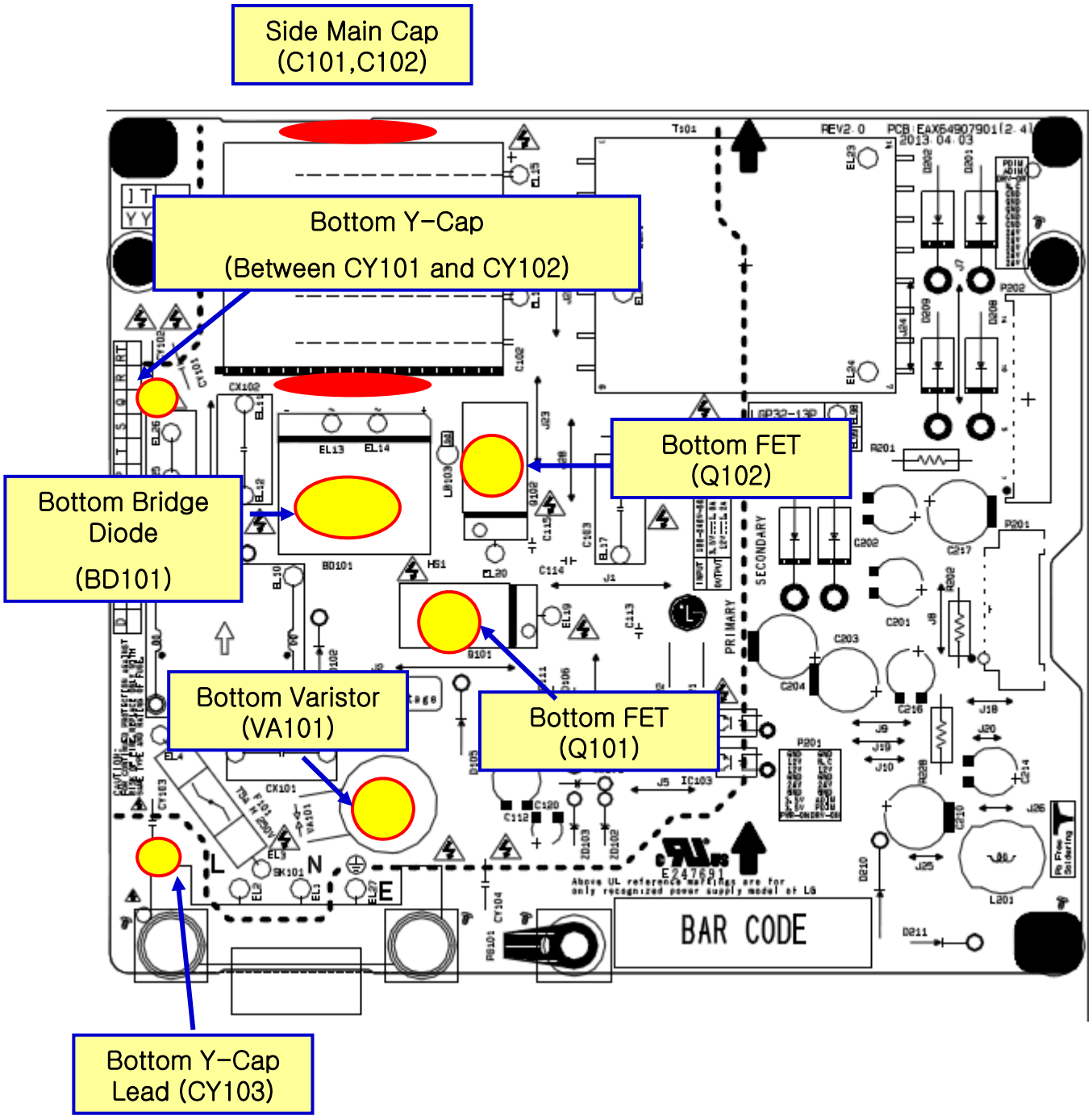
※ Label P/N : 3320KE0008B
Ribbon Black R300 P/N : 5250KR0011A

Labeling Point


BAR CODE
LABELING POINT

Workmanship Point

Top side RTV Bonding (PCB Bottom , Component Side)



Manufacturing Process

공정흐름	공정명	설비	작업내용	4M				
				MAN (사람)	Machine (장비)	Material (재료)	Method (방법)	
1	[Incoming material]	▽	[자재 준비] 제단 모델의 부품 확인과 수량을 확인하고 Box 해제 후 Tray에 적치		작업대, 이동대차, 레벨 프린터, 스캐너	부품	수량,표준서번, 부번, Lot 상태, 일자	제조 검규 요청 리스트 웹별 입출고 관리 리스트
2	[Eyelet]	○	PCBM Eyelet, GT Pin을 삽입		Eyelet M/C	Eyelet	Programing, 모델명 확인, 삽입 좌표 조정 에어압력: 6.0Kgf/㎠ ~ 이상	외관검사표 기종전환 Sheet 초품검사일지 수리일보
3	[Jump Wire]	○	PCBM Jump Wire를 삽입 후 클린처		Jump Wire M/C 비전 검사(AOI) 버니어 캘리퍼스 각도 측정 지그	Jump Wire	Clinching 길이:1.5±0.3mm Clinching 각도:15~35° 장품 삽입 이물 없을 것	외관검사표 수리일보
4	[Sequence]	○	Axial 자재를 순서와 규성에 맞게 Tape로 연결		Sequence M/C 버니어캘리퍼스	Axial 부품	테이핑 치수 : 54.5~55mm 부품 치우침 : 0.3mm 이하 부품 간격: 5mm	외관검사표 초품검사일지
5	[Axial]	○	PCBM Axial 부품을 삽입 후 클린처		Axial M/C 비전 검사(AOI) 각도 측정 지그 버니어 캘리퍼스	부품 Sequence	Clinching 길이:1.2~1.5mm Clinching 각도:15~35° 틸삽, 미삽 발생하지 않을 것	외관검사표 초품검사일지 기종전환 Sheet 수리일보
6	[아웃 자삽]	○	PCBM 아웃 부품을 삽입 후 클린처		M10 M/C 버니어 캘리퍼스	아웃 부품	Clinching 길이:1.2~1.5mm Clinching 각도:15~35° 부품 거리: 6~6.5mm 틸삽, 미삽 발생하지 않을 것	외관검사표 초품검사일지 기종전환 Sheet 수리일보
7	[Radial]	○	PCBM Radial 부품을 삽입 후 클린처		Radial M/C 버니어 캘리퍼스 비전 검사(AOI)	Radial 부품	투입 부품 번, 극성 방향, 위치 확인 Clinching 길이:1.2~1.5mm Clinching 각도:35° PCB위 극성 일치 틸삽, 미삽 발생하지 않을 것	BOM 외관검사표 기종전환 Sheet 수리일보

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

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
								칩접착제 모델명 : HT-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)

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 Tray 에 적치		입고도장 제습함 부품보관대 이동대차	부품	수량,포장상태, 부번, Lot 상태, 일자 LGIT P/N Label 확인	제조 정규 요청 리스트 월별 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℃	Soldering 일상 점검 일지 작업지도서
								납조 성분 Check -Cu: 12,000 ppm -Pb : 800ppm 이내 DPU 관리	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

Appendix List

No.	Contents
1	POWER Check list
2	Warranty letter

Appendix 1.

POWER CHECK LIST

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)	○		
2	Power 2차측 회로 Location No.가 200번대 일 것(Stand by 2차측,Multi 2차 포함)	○		
3	Inverter 1차측 회로 Location No.가 300번대 일 것	-	-	
4	Inverter 2차측 회로(F/B,OVP회로부 포함) Location No.가 400번대 일 것	-	-	
5	Stand by 1차측은 Location No.가 500번대 일 것	○		
6	PFC단은 Location No.가 600번대 일 것	○		
7	MICOM 주위는 Location No.가 700번대 일 것	-	-	
8	LCD : LED Driver 단은 Location No.가 800번대 일 것	-	-	LCD 에만 적용함
9	PDP : STBY 1,2차단은 Location No.가 300번대 일 것	-	-	PDP 에만 적용함
10	PDP : Va 2차단은 Location No.가 500번대 일 것	-	-	PDP 에만 적용함
11	PDP : Vs 2차단은 Location No.가 900번대 일 것	-	-	PDP 에만 적용함
12	PDP : Vs,Va 1차단은 Location No.가 800번대 일 것	-	-	PDP 에만 적용함
13	CTV : Power Block은 Location No. 800번대 일 것	-	-	CTV 에만 적용함
14	Resistor의 회로Location No.는 R***로 시작할 것	○		
15	Capacitor의 회로Location No.는 C***로 시작할 것	○		
16	Diode의 회로Location No.는 D***로 시작할 것	○		
17	Zener Diode의 회로Location No는 ZD***로 시작할 것	○		
18	Coil의 회로Location No.는 L***로 시작할 것 (PFC 포함)	○		
19	Transformer의 회로Location No.는 T***로 시작할 것 (Drive Trans 포함)	○		
20	Bead의 회로Location No.는 LB***로 시작할 것	○		
21	Fuse의 회로Location No.는 F***로 시작할 것	○		
22	TR/FET/Thyristor의 회로Location No.는 Q***로 시작할 것	○		
23	Varistor의 회로Location No.는 VA***로 시작할 것	○		
24	Volume Resistor의 회로Location No.는 VR***로 시작할 것	-	-	Varilable Resistance
25	Jumper의 회로Location No.는 J***로 시작할 것	○		
26	H/S의 회로Location No.는 HS***로 시작할 것	○		
27	IC의 회로Location No.는 IC***로 시작할 것	○		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	○		
29	Eyelet의 회로Location No.는 EL***로 시작할 것	○		
30	Gripper의 회로Location No.는 G***로 시작할 것	–	–	
31	Holder의 회로Location No.는 HD***로 시작할 것	○		
32	Thermistor의 회로Location No는 TH***로 시작할 것	○		
33	Metal Ground의 회로Location No.는 PG***로 시작할 것	○		
34	Line Filter의 회로Location No.는 LF***로 시작할 것	○		
35	AC Socket(Inlet)의 회로 Location No.는 SK***로 시작할 것 **(AC 전원 Docking용 Wafer 포함)**	○		2007.04.16 DDC 표준
36	Photo Coupler의 회로Location No는 IC***로 시작할 것	○		2007.04.16 DDC 표준
37	Relay의 회로 Location No.는 RL***로 시작할 것	–	–	
38	Y-Capacitor의 회로Location No는 CY***로 시작할 것	○		
39	X-Capacitor의 회로Location No는 CX***로 시작할 것	○		
40	Fuseble Resistor의 회로Location No는 R***로 시작할 것			
▶ 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.)	○		첨부화일 참조. (Creepage) NOTE 0 Creepage
2	Primary(L,N) ⇔ Safety GND 간격이 **3mm**이상일 것 **(단, 2심일 경우 6mm 이상 일 것)**	○		
3	Live ⇔ Neutral 간격이 **3mm** 이상일 것	○		
4	Primary ⇔ Secondary 부품간 공간 거리는 **6mm**이상일 것 (6mm 이하일 경우에는 insulation sheet 추가)	○		
5	1차측 Main Current loop는 Pattern 두께 3mm 이상일 것 **(BD ↔ 1차 평활 Cap까지 중점 Check)**	○		
6	PFC Coil 밑으로 소신호 Line이 지나가지 말 것. DC는 문제 없음	○		
7	주 GND(AC 평활 Cap. GND) 에서 IC GND 연결 시 Pattern Impedance 를 고려하여 pattern을 분리 할 것.	○		
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.	○		
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**)	○		

	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)	○		(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)**	○		
3	1차 평활 전해 Cap 부품 upper 영역은 1mm이상 Bottom 영역은 5mm 이상 이격 시킬 것 (Vertical type Capacitor에 한함) (Note 1)	○		PSU가 수직 장착 모델에 한함.
4	1차 평활 Cap 3mm 영역 내 아래로 Pattern이 지나가지는 않을 것 (양면 PCB 상측 Pattern에 한함)	○		
5	높이가 낮은 코어를 사용할 경우 절연 tape를 사용할 것 (PCB와의 이격거리 확보)	○		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)**	○		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**	○		
8	부품에 힘을 가했을 때 1~2차 부품간 6mm 공간 거리 확보할 것. Core에 절대로 부품이 접촉되면 안됨	○		
9	Box type Capacitor 사용 시 Forming type이 적용할 것. RTV Bond가 되어 있을 것 (X-capacitor 포함.) **단, PDP Sony 모델에 한함**	-	-	
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)	○		
11	Inverter Trans와 Metal Frame(shield)과 4mm 이상 이격을 시킨다. (적용이 어려울 경우, 반드시 Insulation sheet 추가한다.)	-	-	
12	2차 측 출력 Wafer 는 고정 PIN 추가 TYPE 적용 할 것 (단, LPB 일 경우 Micom Deberging 용 Wafer 는 제외)	○		
13	누운 type의 choke coil일 경우 유동에 따른 lead 설삽 발생 방지를 위해 중점 검사 항목 지정관리를 한다.			첨부화일 참조. (choke coil)

NOTE 0 Creepage

NOTE 1 CAPACITOR

NOTE 2

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)	○		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.**	○		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 ~)**	○		
4	Fuse가 보이는 곳에 위치할 것 (Fuse Marking도 보이는 곳에.)	○		
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	○		
6	입력/출력 전압, 전류 Spec표기는 되어 있을 것 (Note 3)	○		
7	1차측과 2차측 구분하는 Marking 표시할 것. (상측면 / 하측면)	○		
8	각 부품의 회로No.가 부품에 가려지지 않을 것	○		
9	Solder pattern에 하측 회로No./부품 형상 등 겹쳐지지 말 것	○		
10	기구 Dead Space가 고려되어 PCB Marking할 것. PCB 고정용 Metal 영역 표시할 것.	○		
11	PCB 사양서에 CTI Spec 이 있는지 확인하고, PCB 에 마킹 되었는지 확인 할 것. - 표기 값 : 600V 이상 (CTI 600)	○		
12	Critical Component List 기준으로 회로도에 Caution 마크 넣을 것 ⚠	○		
13	PCB 에 Screw 마크 넣을 것	○		
14	PCB 에 2심 기기 규격 마크 넣을 것	-	-	단, 2심 일 경우에만 적용함

NOTE 2

NOTE 3

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	○		
2	Lightning Surge가 L/G, G/N간 : 3KV이상 시 Y-Cap. Y1급 사용할 것	○		
3	Lightning Surge 로 인해 Fuse Dead시만 OK. (대책 : arcing을 방지,Varistor는 Fuse와 가까운 곳에 위치할 것)	○		
4	GND Arcing pattern Slit은 1.2mm일 것 Arcing Pattern 양단 거리는 safety규정은 최소 3.0mm 이상 일 것 (L/N 사이)	○		
5	Conducted Emission 측정조건 : 110Vac/220Vac & 50Hz/60Hz TV Model : GND 有/無, Vivid/Standard, HDMI/Antenna	○		
▶ 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.	○		
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)	○		
3	Litz Wire 사용하지 말 것.	○		USTC
4	PFC Bypass Diode가 적용되어 있을 것. (Note 4)	○		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)			첨부화일 참조(Relay)
6	1차 Control IC의 IC Vcc 정류Cap.은 High Ripple, Low Impedance Cap. 사용할 것.	○		
7	RN Type (Metal Film Type) Resistor는 100kohm이상 사용하지 말 것.	○		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)	○		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	○		
10	Critical Component List 의 부품인 경우 실물에서 형명 마킹 제대로 되어 있는지 확인 할 것	○		
11	일본향 모델에 사용되는 방전저항은 규격 인증된 Dip Type 저항만 사용 할 것. (단, 일본향 모델에 한 함)	○		

NOTE 4 Bypass-Diode

NOTE 5 Relay

Details Check Item		RESULT		REMARK
▶ Attachment		OK	NG	
1	PL check List PL Safety Check List Ver3.7	○		

Appendix 2.

WARRANTY LETTER

비사용 증명서

구분	☐ 승인용 ☑ 양산용	제출일자	2012 . 12 . 14

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.	EAY62831101	부품제조일자	
Maker P/No.	PSEC-L221A	생산 공장	LGIT Yantai, Poland
부품명(품명)	LGP32-13P		

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