



SPECIFICATION



GH505A(A8)

LED-Converter – Analog-Dimming

Version:

Date: 17.10.2023

Note: This specification is subject to change without prior notice

TO : Customer

DATE : 2023.10.17

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DOCUMENTATION FOR APPROVAL

**PRODUCT : LED BACKLIGHT DRIVER (RoHS)
MODEL NAME : GH505A(A8)
GCCT NAME : GCCT505AH**

APPROVAL	CHECKED	WRITTEN

PLEASE RETURN ONE DOCUMENT AFTER APPROVED SIGN.

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NO	Date	REVISION	Page

REVISION HISTORY

REV.														
Page														
REV.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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1. APPLICATION

This Document Specified The Detailed Product Requirement of LED driver
GH505A(A8)

2. SUITABLE LOAD

LCD MODULE : 4 channel LED BLU

3. ELECTRICAL CHARATERISTICS

3.1. Absolute Maximum Ratings

Item	Symbol	Spec.	Unit	Remarks
Input Voltage 1	Vin	10.8~13.2	V	
Input Voltage 2	ON/OFF	2.4 ~ 5.25	V	
Operating Temperature	Top	-20~70	℃	
Storage Temperature	Tstg	-30~80	℃	
Relative Humidity	RH	80	%	

3.2. Control Signal

PIN No.	Symbol	Status	Action	Remarks
CN1 #9	ON/OFF	HIGH	LAMP-ON	2.4 ~ 5.25V
		LOW	LAMP-OFF	0.8 V Max

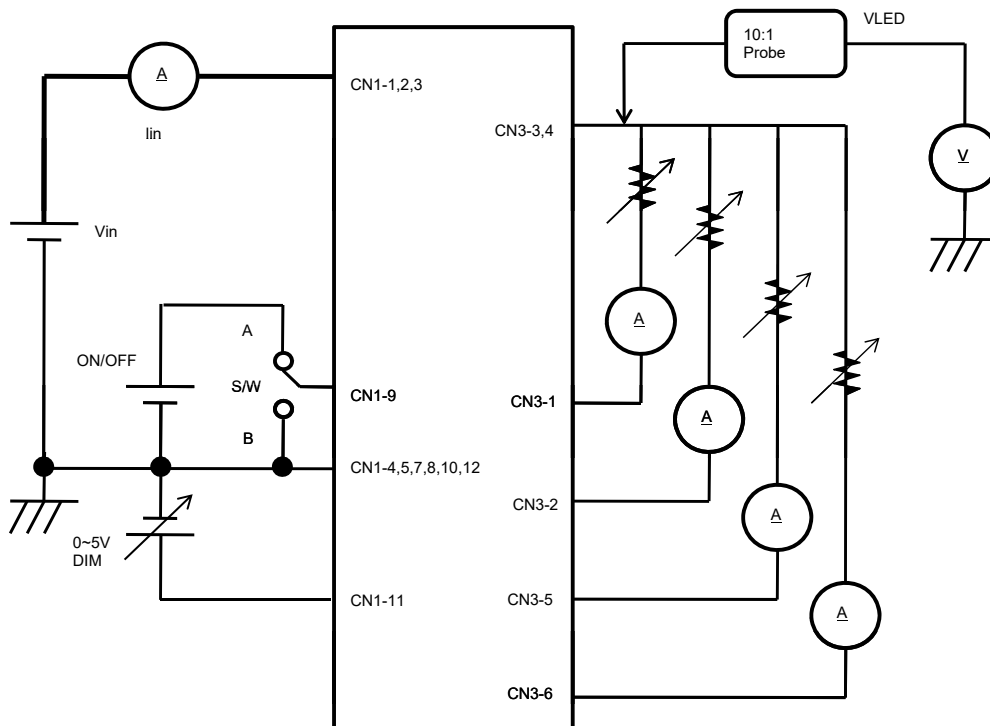
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3.3. Output Characteristics

Item	Sym.	Condition	Min.	Typ.	Max.	Unit
Input Voltage	Vin	-	10.8	12.0	13.2	Vdc
Input Current	Iin	Vin=12.0V, Dim=0V	-	1.2	2.0	A
Output Voltage	Vout	Vin=12.0V, DIM=0V	-	51.2	56.0	Vdc
Output Current	Iout (max)	Vin=12.0V, DIM=0V	50.0	60.0	70.0	mAmean
	Iout (min)	Vin=12.0V, DIM=5V	17.0	22.0	27.0	mAmean
Backlight ON/OFF Control	ON	-	2.4	-	5.0	V
	OFF	-	-0.3	-	0.8	V

3.4. Test Circuit

- S/W : A --> BLU ON
B --> BLU OFF



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4. INTERFACE

4.1 CN1 CONNECTOR : 12505WR-12 (YEONHO) or Equivalent

PIN No.	Symbol	Description
1,2,3	VIN	Voltage Input : 12V (typ.)
4,5,7,8,10,12	GND	Ground
6	N.C	No Connection
9	ON/OFF	LED Drive ON/OFF SIGNAL(Active HIGH)
11	DIM	0V(MAX) ~ 5V(MIN)

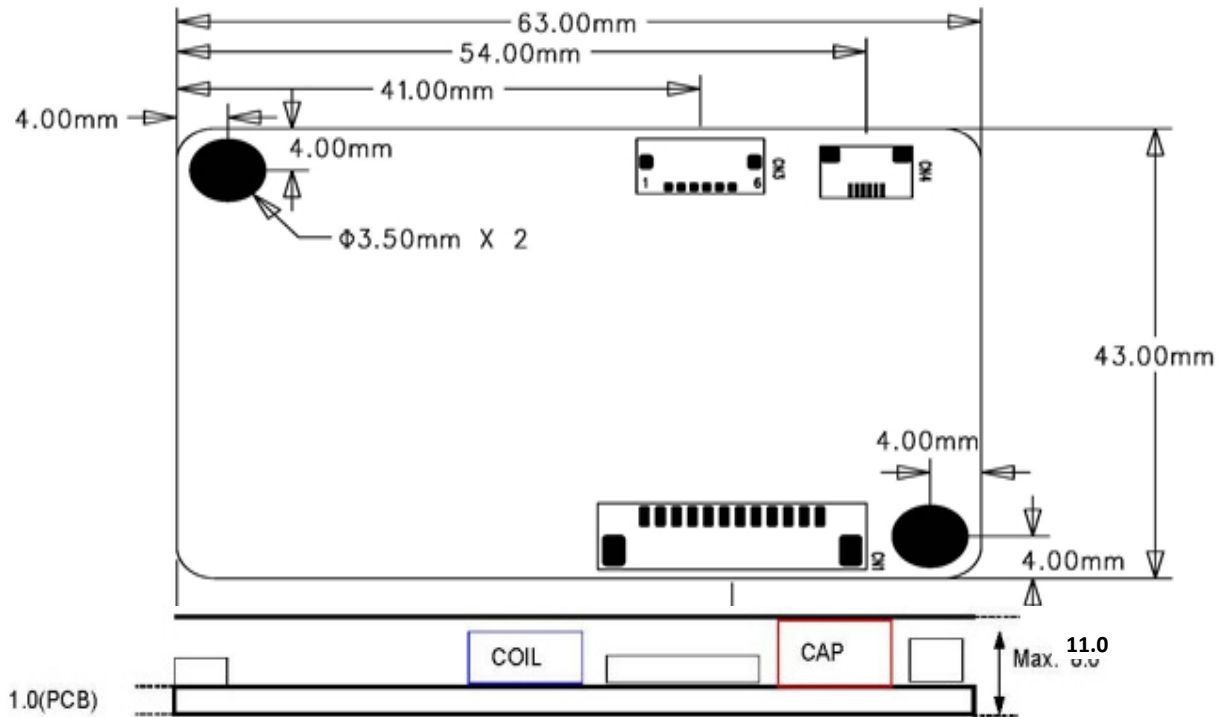
4.2 CN3 CONNECTOR : 10019HR-H06B (YEONHO) or Equivalent

PIN No.	Symbol	Description
1	RTN1	Feedback 1 (Return 1)
2	RTN2	Feedback 2 (Return 2)
3,4	VOUT	System Output
5	RTN3	Feedback 3 (Return 3)
6	RTN4	Feedback 4 (Return 4)

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5. APPERANCE (Unit : mm)

(Tolerance : +0.8mm, -0.2mm)



6. NOTATION OF LOT NUMBER

MARKING:BOTTOM



GH505A(A8)	: USER MODEL CODE
G	: MANUFACTURER CODE (GREEN C&C TECH.)
8	: YEAR OF PRODUCT 8 → 2018 , 9 → 2019 , ... , 3 → 2023
02	: WEEK OF PRODUCT 01,02,03,04,...52
A	: PUBLICATION NUMBER A,B,C,...,Z,0,1,2,...,9
0001	: SERIAL NUMBER 0001,0002.....9998,9999
AJ	: GCCT MODEL CODE (GCCT505AH)

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7. PART LIST

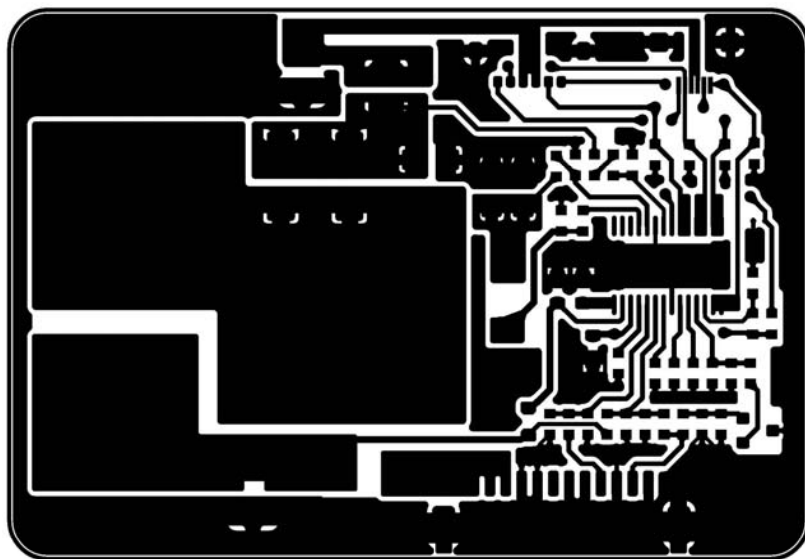
SYMBOL	NAME	1st		2nd	
		TYPE No	MAKER	TYPE No	MAKER
U1	IC	MP3391EF	MPS		
Q1	FET	AP9997GH	APEC	Equivalent	
Q2	TR	MMBT2907A	DIODES	Equivalent	
D1,D2	DIODE	B2100	DIODES/LITEON	Equivalent	
C1	C-ELEC	NXH Series 220uF/35V	SAMYOUNG	Equivalent	
C17		NXA Series 15uF/100V	SAMYOUNG	"	
C2,C3,C4	MLCC	CL21A225KA	SEMCO	Equivalent	
C5,C6,C8		CL10B105KO	"	"	
C7		CL10B102KB	"	"	
C9		CL10B103KB	"	"	
C10,C11,C12, C13,C14		CL10C101JB	"	"	
C15		CL31B105KC	"	"	
R1	CHIP-R	RM10JTN100	TA-I Tech	Equivalent	
R3		RM06JTN334	"	"	
R4,R12		RM06JTN224	"	"	
R5,R21,R22		RM06JTN513	"	"	
R6,R10,R18		RM06JTN104	"	"	
R7		RM06JTN114	"	"	
R9		RM06JTN394	"	"	
R11		RM06JTN362	"	"	
R13		RM06JTN184	"	"	
R14		RM06JTN393	"	"	
R15		RM06JTN363	"	"	
R16,R17		RM06JTN100	"	"	
R19,R20		RL12FTNR100	"	"	
R23		RM06JTN202	"	"	

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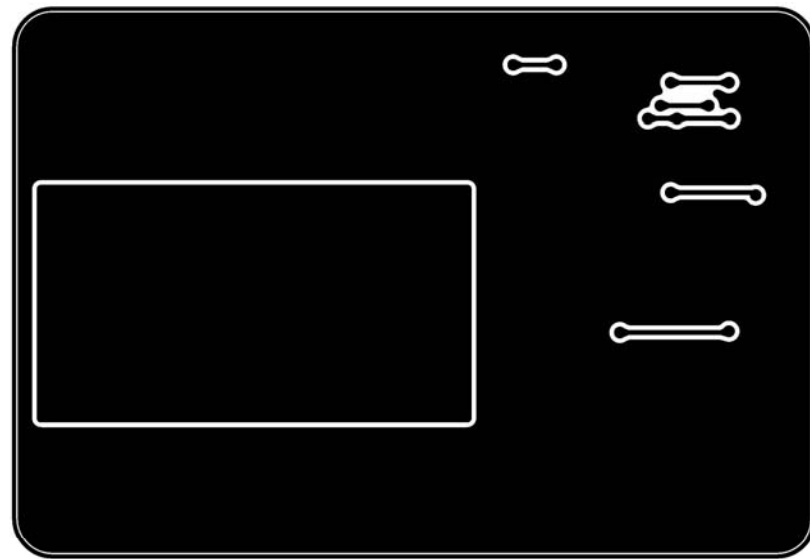
SYMBOL	NAME	1st		2nd	
		TYPE No	MAKER	TYPE No	MAKER
F1	FUSE	CCF1N4	KOA	CB61F4A	Cooper Bussmann
		453004	LITTELFUSE	451004	LITTELFUSE
L1	Inductor	SPI-1580SDM-470	SEJIN	Equivalent	
L2		PNL4020-100M	DONGAN ELEC	"	
CN1	Connector	12505WR-12	YEONHO	Equivalent	
CN3		10019HR-H06B	YEONHO	"	
PCB	PCB	GH505A REV0.0	SEOKANG	GH505A REV0.0	JDM
		GH505A REV0.0	AMCKOREA	GH505A REV0.0	SKY TECHNOLOGY

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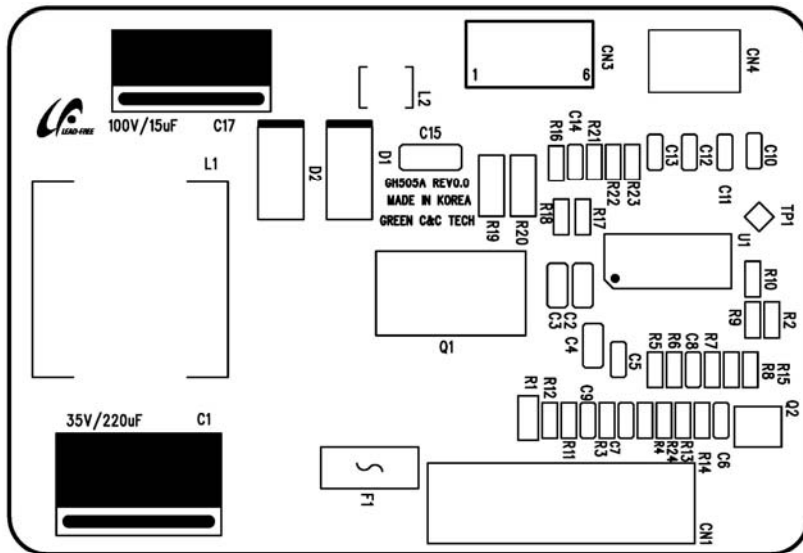
8. PCB LAYOUT



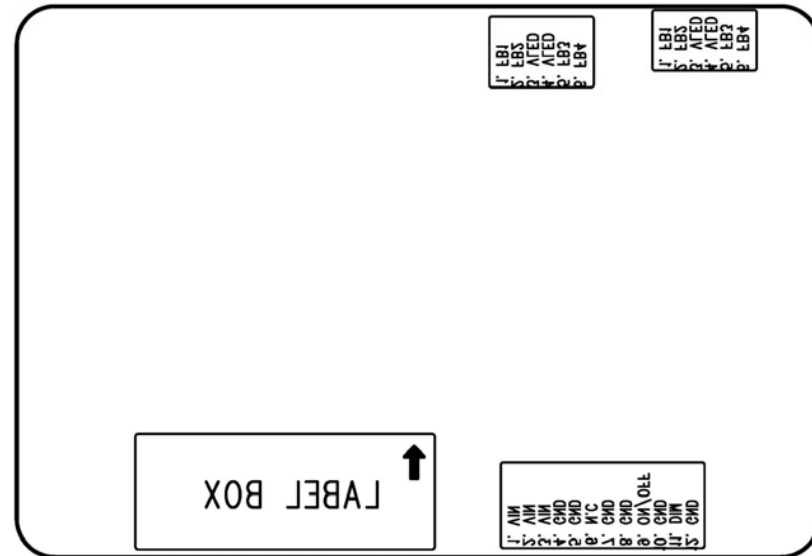
TOP LAYER



BOTTOM LAYER

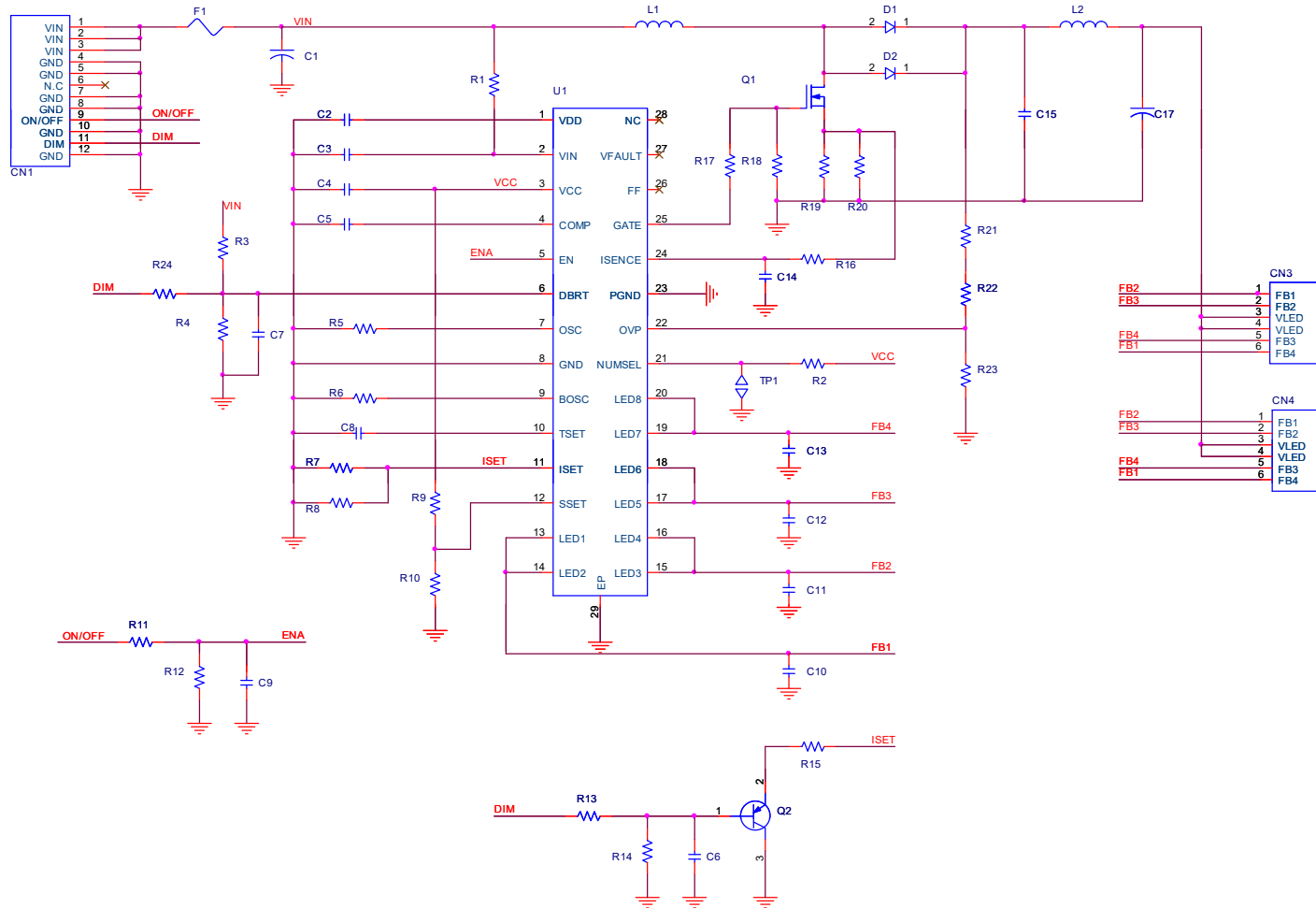


SILK SCREEN TOP



SILK SCREEN BOTTOM

9. CIRCUIT



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10. RELIABILITY TEST SPEC.

NO.	ITEM	Conditions and Method
1	High Temperature Storage Test	Temp : 80 °C Duration : 250hrs
2	Low Temperature Storage Test	Temp : -30 °C Duration : 250hrs
3	High Temperature High Humidity Operation Test	Temp : 70 °C Humidity : 95%RH Duration : 250hrs
4	Signal On/Off Test	Temp : Normal Temperature On-Off Signal On 10sec / Off 10sec Power on full Load 30,000 cycles
5	Thermal Shock Test	Temp : -30 °C ↔ 80 °C, 100 cycles (30min) (30min)
6	High Temperature Operation Test	Temp : 70 °C Duration : 250hrs
7	Low Temperature Operation Test	Temp : -20 °C Duration : 250hrs

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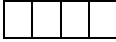
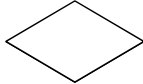
11. FLOW CHART

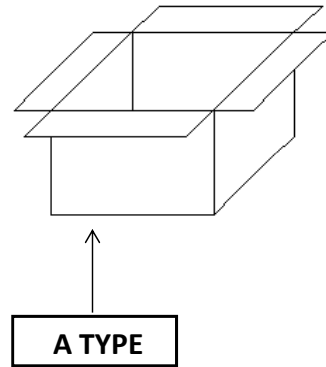
MODEL (TYPE)	GH505A(A8)	REVISION	0
WRITER	K.S.SUNG		
FLOW CHART	PROCESS	EQUIPMENTS	Remark
<p>The flowchart diagram illustrates the manufacturing process for the LED driver. It starts with 'Raw Material' and proceeds through several stages: 'Solder Printing' (using a Cream-solder Printer), 'Surface Mounting' (using a Low-high Mounter), and 'Reflow Soldering (CTQ)' (using a Reflower). There are two inspection points: 'Visual Inspection (AOI)' (using a Microscope, Vision-Master) and 'Visual Inspection' (unspecified). Both inspection points have 'Waste' and 'Repair' paths. The process continues with 'Label attachment' (using Marking), 'Preparing Process', 'Soldering by Hand for Discrete Parts', 'Spreading Silicon' (using a Silicon Dispenser), 'Insert Lead Parts', 'Wave-Soldering' (using a Wave-Soldering Machine), and another 'Visual Inspection'. This is followed by 'PCB Division', 'Aging' (using Power Supply, Aging Box for 2hrs), 'Electrical Characteristics inspection' (using Testing System, Testing JIG), 'Insulator Attachment', 'Bar-Code Reading' (using Bar-Code Reader), and 'Package'. The final stages are 'Outgoing Inspection' (using Testing System, Testing JIG) and 'Shipping'. There are also 'Re-inspection' and 'Insulator' paths shown in the diagram.</p>	Raw Material		PART LIST
	Solder Printing	Cream-solder Printer	
	Surface Mounting	Low-high Mounter	
	Reflow Soldering (CTQ)	Reflower	
	Visual Inspection (AOI)	Microscope, Vision-Master	
	Label attachment	Marking	
	Preparing Process		
	Soldering by Hand for Discrete Parts		
	Spreading Silicon	Silicon Dispenser	
	Insert Lead Parts		
	Wave-Soldering	Wave-Soldering Machine	
	Visual Inspection		
	PCB Division		
	Aging	Power Supply, Aging Box	2hrs
	Electrical Characteristics inspection	Testing System, Testing JIG	
	Insulator Attachment		
	Bar-Code Reading	Bar-Code Reader	
	Package		
	Outgoing Inspection	Testing System, Testing JIG	List of Inspection
	Shipping		
Based on Standard Rule	GCCT505AH		

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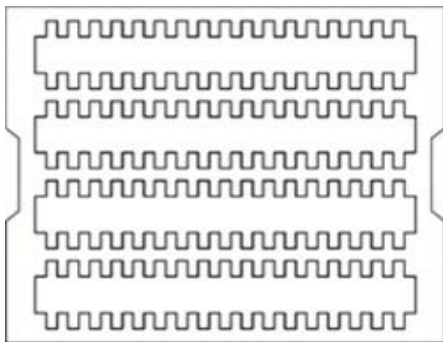
12. PACKING

12.1. BOX

			
1. Customer		<div style="border: 1px solid black; width: 100%; height: 15px; margin-bottom: 5px;"></div>	L/C NO : C/T NO : MADE IN KOREA
2. PART NAME	GH505A(A8)		
3. PO NO			
4. Q'ty	000 EA		
5. Date	00.00.00		
6. LOT NO			



12.2. TRAY



SYMBOL	TYPE NO
PACKING-TRAY	393*324*53
PACKING-BOX	415*340*332
PACKING-PAD	400*325*5

1 TRAY : 68EA (GR2052)
1BOX : 6 TRAY (408EA) - A TYPE

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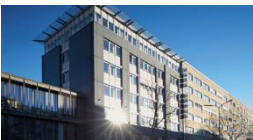
13. Material list for safety GH505A(A8)

SYMBOL	NAME	TYPE No	MANUFACTURER	DESCRIPTION
F1	FUSE	CCF1N4	KOA	UL FILE NO. : E171861
		451004	LITTELFUSE	UL FILE NO. : E10480
		453004		CSA FILE NO : LR29862
		CB61F4A	COOPER BUSSNANN	UL FILE NO. : E19180
PCB	Printed Writing Board	FR4	SEOKANG	UL FILE NO. : E150774
			JDM	UL FILE NO. : E221964
			AMCKOREA	UL FILE NO. : E475806
			SKY TECHNOLOGY	UL FILE NO. : E513927
CN1	Connector	12505WR-12	YEONHO	UL FILE NO. : E108706
CN3	Connector	10019HR-H06B	YEONHO	UL FILE NO. : E108706

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