

SAMSUNG

REFRIGERATOR

Basic Model : RT77K*

Model Name : RT77K*/B*(Dispenser)
RT77S*(No Dispenser)

Model Code : RT77KBEW1/HAC

SERVICE Manual

REFRIGERATOR



RT77/72*
(WITH DISP)



RT77/72*
(NO DISP)

PRODUCT FEATURE

1. PRECAUTION
2. PRODUCT SPECIFICATIONS
3. DISASSEMBLY AND REASSEMBLY
4. TROUBLE SHOOTING
5. EXPLODED VIEW PART LIST
6. PCB DIAGRAM
7. WIRING DIAGRAM
8. SCHEMATIC DIAGRAM
9. REFERENCE INFORMATION



WARNING

IMPORTANT SAFETY NOTICE

The service guide is for service personal with adequate electrical, electronic and mechanical experience. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or dealer cannot be responsible for the interpretation of this information.

SAMSUNG ELECTRONICS

Technical Service Guide

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1. PRECAUTIONS(SAFETY WARNINGS)

- Upon electronic Control system repair/change, make sure the set unplugged.
Be ware of electric shock.
- Use rated electronic Control equipment.
Make sure to check out Model name, Rated voltage, Rated current, Operation Temp, etc.
- Upon repair, make sure that harnesses are not to be water-penetrated and are bundled tight.
Should not be detached by a certain amount of external force.
- Upon repair, completely remove dust or other foreign substances from housing, harness, connector, etc.
To prevent fire by tracking, short, etc.
- Check out whether water has penetrated into the electronic Control system.
If there is any kind of trace, take necessary measures such as related component change, insulation tapping, etc.
- After repair, check out the assembled state of parts.
It should be the same as the previous state.
- Check out the surrounding conditions.
Change the location, if the fridge is located at humid, wet places or the installed state is unstable.
- If needed, ground the fridge.
Especially, if there is a possibility of electric leakage, ground is indispensable.
- Do not allow consumers to overload a certain outlet.
- Check out whether the power cord or the outlet is broken, squeezed, chopped off or heat-deformed.
Repair or replace the defective power cord/outlet immediately.
Make sure the power cord is not punctuated or stomped down.
- Do not allow consumers to keep food unstable or place bottles in the Freezer Room.
- Do not allow consumers to repair the fridge for themselves.
- Do not allow consumers to keep things except for food.
Pharmaceutical, Chemical substances : These are not possible to be fine-Controlled with a consumer fridge.
Flammable material (alcohol, benzene, ether, LPG, etc) : possibility of explosion.

1. PRECAUTIONS(SAFETY WARNINGS)

Read all instructions before repairing the product and keep to the instructions in order to prevent danger or property damage.

CAUTION/WARNING SYMBOLS DISPLAYED SYMBOLS

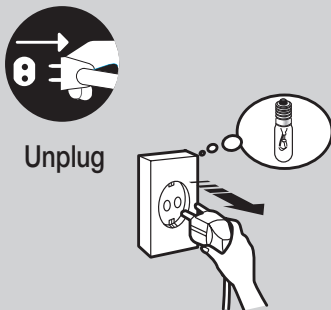
 Warning Indicates that a danger of death or serious injury exists.	 means Prohibition".
 Caution Indicates that a risk of personal injury or material damage exists.	 means Do not disassemble".
	 means No contact".
	 means The things to be followed".
	 means Power cord should be unplugged from the consent"
	 means Earth to prevent Electric shock".



Warning & Caution

Pull the power plug out to exchange the interior lamp of the refrigerator.

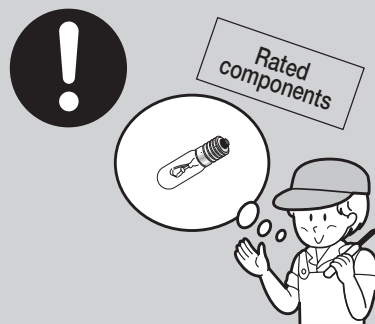
- It may cause electric shock.



Unplug

Use the rated components on the replacement.

- Check the correct model, rated voltage, rated current, operating temperature and so on.



On repair, make sure that the wires such as harness are bundled tightly.

- Bundle tightly wires in order not to be detached by the external force and then not to be wetted.



On repair, remove completely dust or other things of housing parts, harness parts, and check parts.

- Cleaning may prevent the possible fire by tracking or short



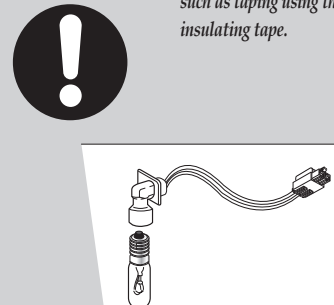
After repair, check the assembled state of components.

- It must be in the same assembled state when compared with the state before disassembly.



Check if there is any trace indicating the permeation of water.

- If there is that kind of trace, change the related components or do the necessary treatment such as taping using the insulating tape.



1. PRECAUTIONS(SAFETY WARNINGS)

* Please let users know following warnings & cautions in detail.



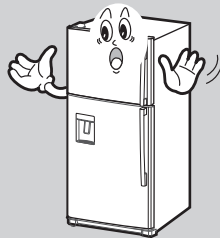
Warning & Caution

Do not allow users to put bottles or kinds of glass in the freezer.

- Freezing of the contents may inflict a wound.



Prohibition



Do not allow users to store narrow and lengthy bottles or foods in a small multi-purpose room.

- It may hurt you when refrigerator door is opened and closed resulting in falling stuff down.



Prohibition



Do not allow users to store pharmaceutical products, scientific materials, etc., in the refrigerator.

- The products which temperature control should not be stored in the refrigerator.



Prohibition

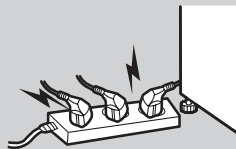


Do not allow users to insert the power plugs for many products at the same time.

- May cause abnormal generation of heat or fire.



Prohibition

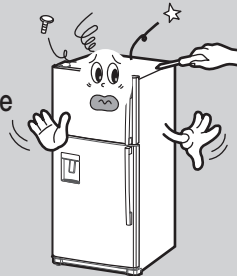


Do not allow users to disassemble, repair or alter.

- It may cause fire or abnormal operation which leads to injury.



Do not disassemble



Do not allow users to bend the power cord with excessive force or do not have the power cord pressed by heavy article.

- May cause fire.

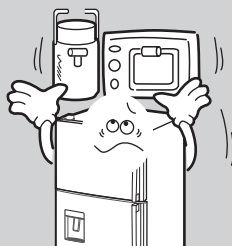


Do not allow users to store articles on the product.

- Opening or closing the door may cause things to fall down, with may inflict a wound.

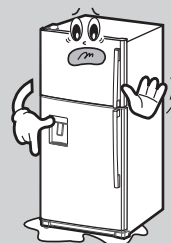


Prohibition



Do not allow users to install the refrigerator in the wet place or the place which water splashes.

- Deterioration of insulation of electric parts may cause electric shock or fire.

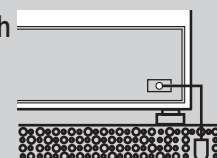


Make sure of the earth.

- If earthing is not done, it will cause breakdown and electric shock.



Earth



2. PRODUCT SPECIFICATIONS

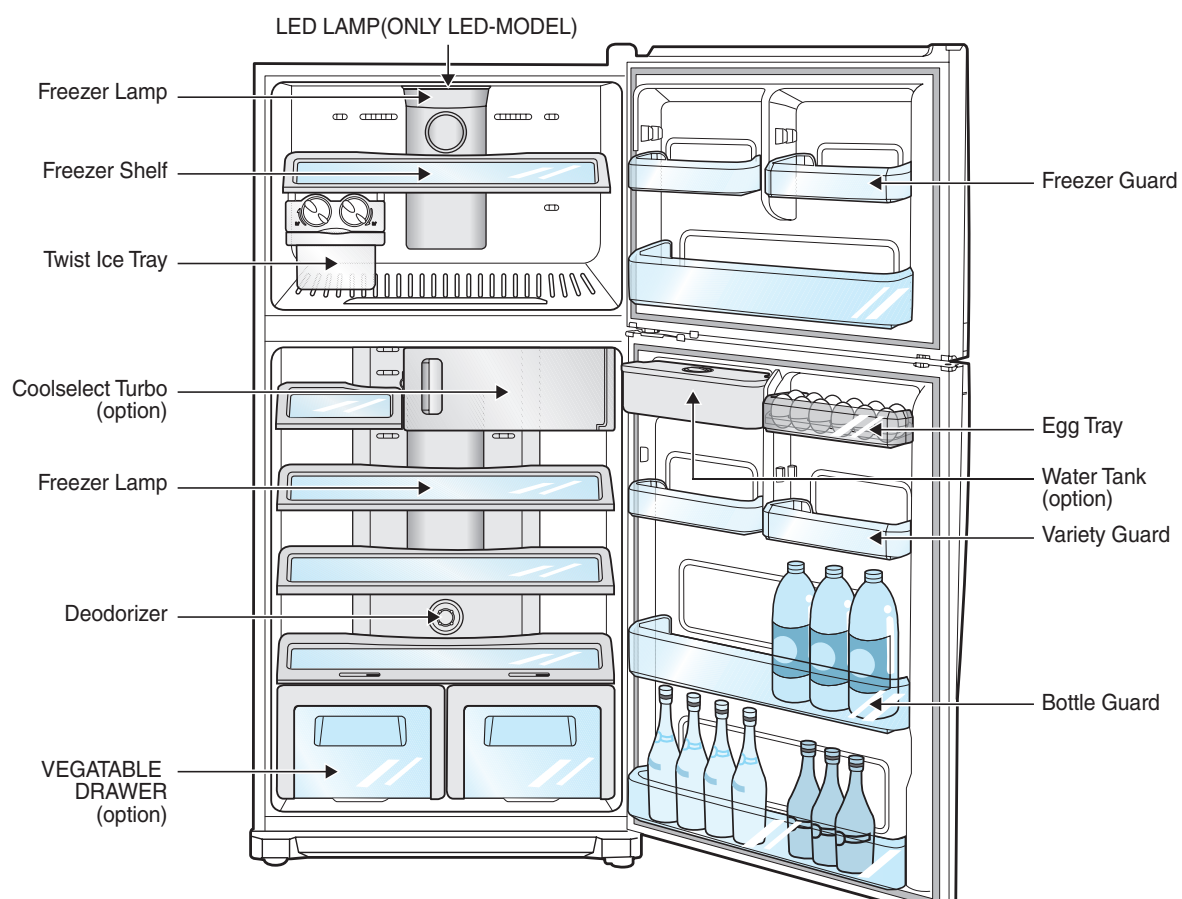
2-1) Model Specification

Range	Specification	New
door	Digital Display - At a glance, sophisticated read-out. Are easy to view the refrigerator compartments. - Installed high, kids can't reach and play with it.	
door	Water Dispenser - Get hygienic water easily without door opening - Saves time and energy	
Ice-Maker	Icemaker - A simple twist is all you need to dispense ice cubes - Larger capacity to keep ice cubes - Enjoy ice cubes freely anytime you want	
refrigerator	CoolSelect Turbo The World's first freezer in a fridge, CoolSelect Freeze enables you create your own storage space to satisfy your needs and tastes with three distinctive settings -Freeze (-12°C), Soft Freeze (-5°C) and Fresh (3°C)	

2. PRODUCT SPECIFICATIONS

2-2. View of your FRIDGE / FREEZER

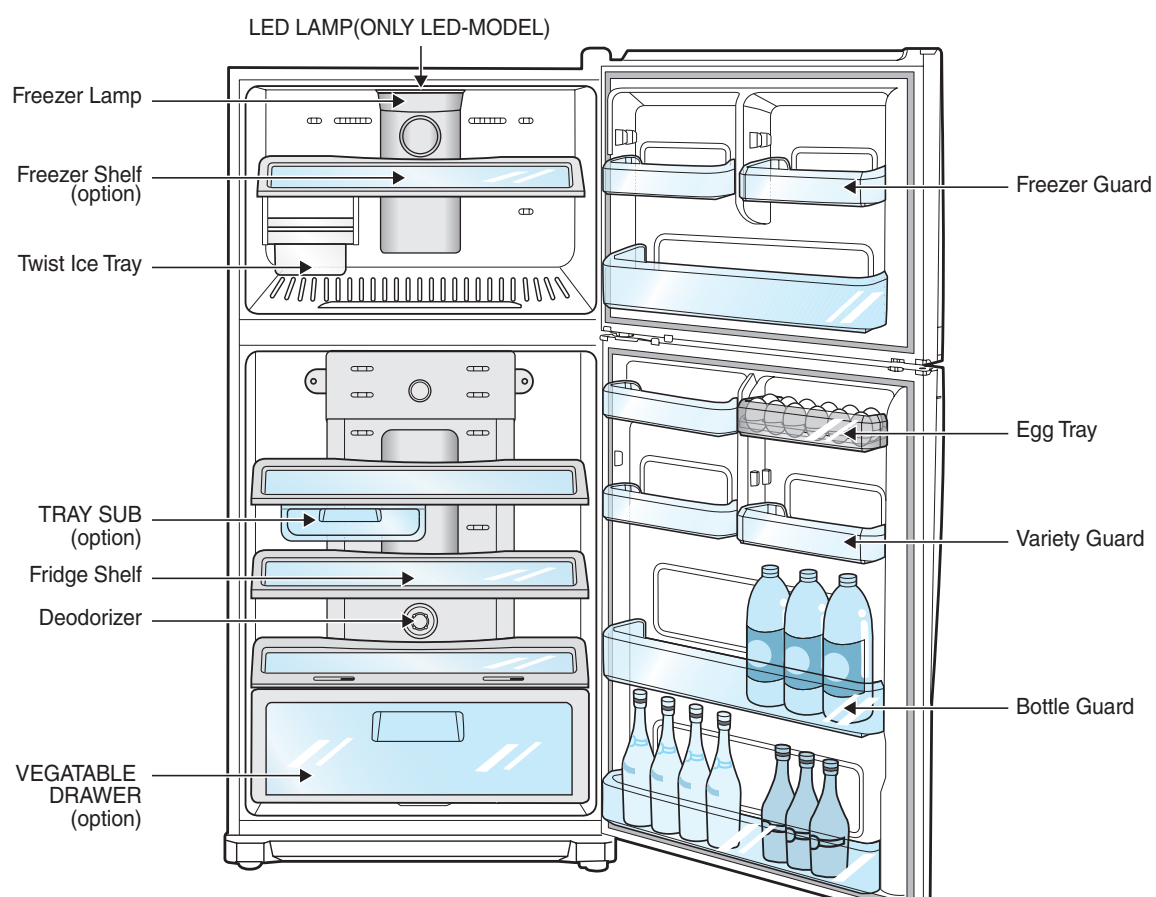
DISPENSER TYPE : RT77K*/B* OR RT72K*/B*



2. PRODUCT SPECIFICATIONS

2-2. View of your FRIDGE / FREEZER

NO DISPENSER TYPE : RT77S* OR RT72S*



2. PRODUCT SPECIFICATIONS

2-3. Electrical Part Specifications

Model		RT77K*	RT77B*	RT77S*	RT72K*	RT72B*	RT72S*
Type		TMF 2 Door			TMF 2 Door		
Temperature control		Electronic	Semi Electronic		Electronic	Semi Electronic	
Net Capacity (l)	Total	566	585	588	532	551	554
	Freezer	154	154	154	154	154	154
	Refrigerator	412	431	434	378	397	400
Dimension (WxDxH)	Net	840 X 726 X 1853			840 X 726 X 1788		
	Package	896 X 776 X 1981			896 X 776 X 1916		
Foam insulation	Cabinet	CYCLO-PENTANE			CYCLO-PENTANE		
	Door	CYCLO-PENTANE			CYCLO-PENTANE		
Liner	Cabinet	ABS			ABS		
	Door	ABS			ABS		
Net weight (kg)		99	95	94	98	94	93

2-3. Electrical Part Specifications

Model		STANDARD
Type		RT77K/B/S*, RT72K/B/S*
Temperature control		220~240V/50Hz, 220V/60Hz
Compressor	Model	MK183GL2U/E08
	Starting type	RSCR
	Refrigerant	R-134a (160G)
	Oil Charge	Freol α -10c(Ester), 265cc
Evaporator	Freezer	Split Fin & Tube Type
Sub-Condenser		Forced & Natural Convection Type
Dryer		Molecular Sieve XH-9
Capillary tube		ID0.75 X L3000
ground screw		BSBN (Brass Screw)

2. PRODUCT SPECIFICATIONS

2-3. Electrical Part Specifications

MODEL				RT77K*,RT72K*	
Temperature	Freezer	Type	Temperature Selection	ON(℃)	OFF(℃)
		F-Sensor	-14℃	-12℃	-16℃
			-19℃	-17℃	-21℃
			-24℃	-22℃	-26℃
	Refrigerator	Type	Temperature Selection	ON(℃)	OFF(℃)
		R-Sensor	7℃	5℃	9℃
			3℃	1℃	5℃
			1℃	-1℃	3℃
Electrical parts	Defrosting	First Defrost Cycle (Concurrent Defrost of F and R)		6hr±10min	
		Defrost Cycle		Min (4HR), Max (18HR)	
		Pause Time		10±2min	
	Sensor	Freezer-Sensor		THERMISTOR(PX-41C) SPEC (5.0K $\varnothing$ /25℃)	
		Refrigerator-Sensor			
		FREEZER Evap-Sensor			
		Ambient TEMP-Sensor			
	Fuse (Bimetal)	Thermal Fuse for Preventing Over Heating of Freezer Defrost Heater		AC250V/10A ON(40℃)/OFF(60℃)	

MODEL				RT77B*,S*,RT72B*,S*	
Temperature	Freezer	Type	Temperature Selection	ON(°C)	OFF(°C)
		F-Sensor	-17°C	-15°C	-19°C
			-20°C	-18°C	-22°C
			-24°C	-22°C	-26°C
	Refrigerator	Type	Thermostat Type	ON(°C)	OFF(°C)
			COLD	10±2°C	-2±2°C
			Normal	13±2°C	2±2°C
			Warm	16±2°C	4.5±2°C
			Vacation	20±2°C	9±2°C
Electrical parts	Defrosting	First Defrost Cycle (Concurrent Defrost of F and R)		6hr±10min	
		Defrost Cycle		Min (8HR), Max (12HR)	
	Sensor	Pause Time		10±2min	
		Freezer-Sensor		THERMISTOR (PX-41C) SPEC (5.0K $\varnothing$ /25°C)	
		FREEZER Evap-Sensor			
		Ambient TEMP-Sensor			
	Fuse (Bimetal)	Thermal Fuse for Preventing Over Heating of Freezer Defrost Heater		AC250V/10A ON(40°C)/OFF(60°C)	

2. PRODUCT SPECIFICATIONS

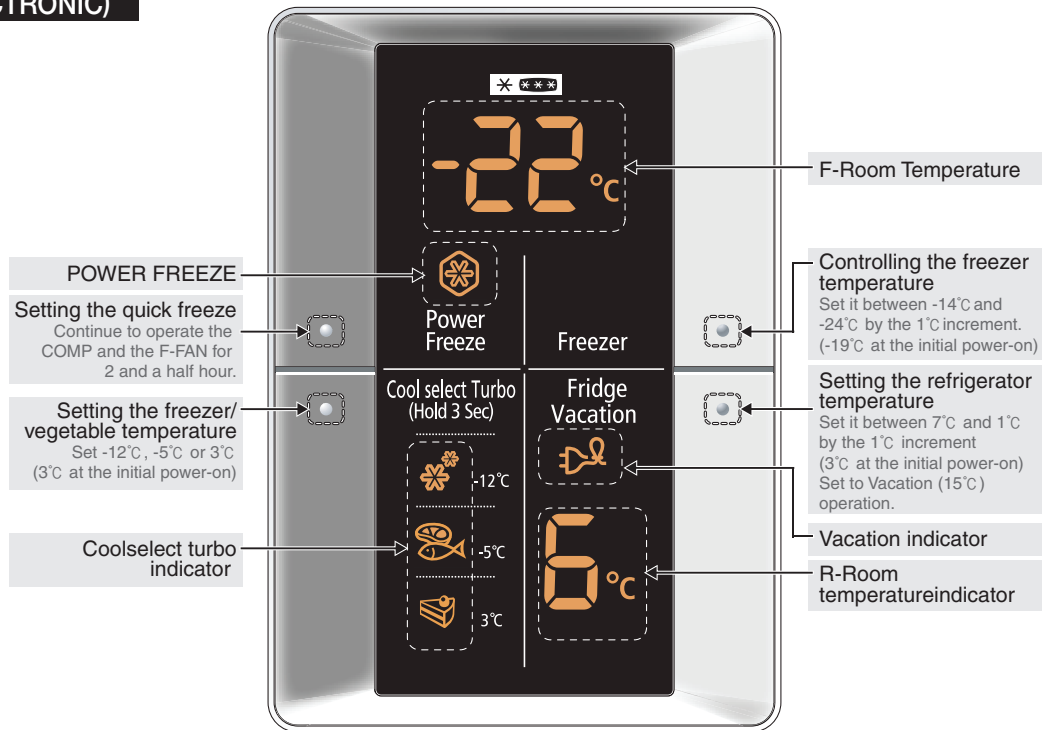
2-3. Electrical Part Specifications

ITEM		Electronic	Semi Electronic		
Temperature	Spec		220~240V/ 50Hz, 220/ 60Hz		
	Compressor		MK183Q-L2U		
	Overload-Protector		4TM293SHBYY-53		
	PTC-Relay		J531Q34E220M350-2		
	Motor-Fan	DREP5020LB		IS27213SNF5C-1	
		2450 ± 150		1950(230V)	1700 ± 150(220V)
		CCW / 3.2W		CCW /13W,11W	
		ϕ 110 / 11Wing		ϕ 110 / 11Wing	
	Motor-Circuit	DRCP5030LA		IS3210SCC7A	
		1550 ± 5%		1400 /1300 ± 200	
CCW / 2.7W		CCW / 13W			
ϕ 150 / 3Wing		ϕ 150 / 3Wing			
Electrical parts	Lamp	F-ROOM	240V/30W(1EA)[BULB-TYPE], DC 12V / 2.16W[LED-TYPE]		
		R-ROOM	240V/30W(1~2EA)[BULB-TYPE], DC 12V / 2.88W[LED-TYPE]		
	Heater-Defrost		230V / 220W / 240 ℓ		
			GLASS		
	Bimetal-Protector		BT-121-M		
			40℃ ± 5 / 60℃ ± 5		
	Motor Step-Damper		Fridge	NSBA001TJ1	
			Coolselect Zone	NSBY001TG1	
			DC12V/60mA MAX		
	Door-Switch		S2P101F		
			250V/0.7A / 125V/1.5A		

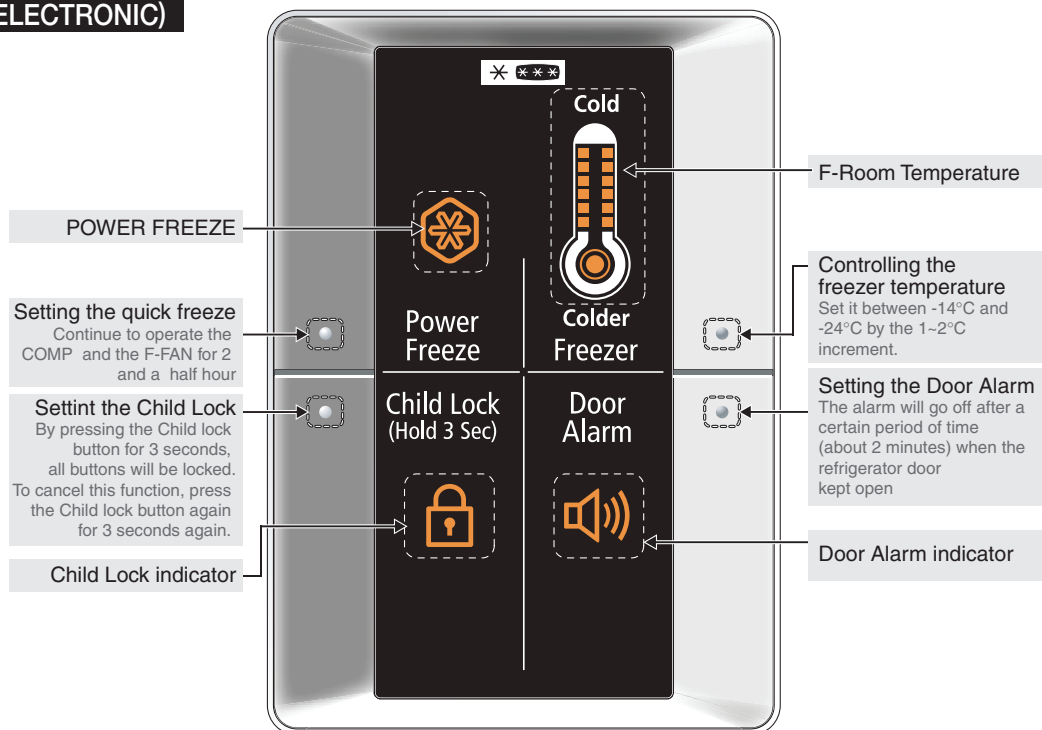
2. PRODUCT SPECIFICATIONS

2-3. Electrical Part Specifications

(ELECTRONIC)

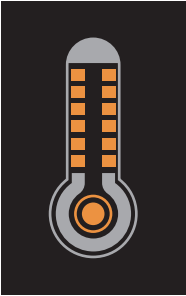


(SEMI ELECTRONIC)



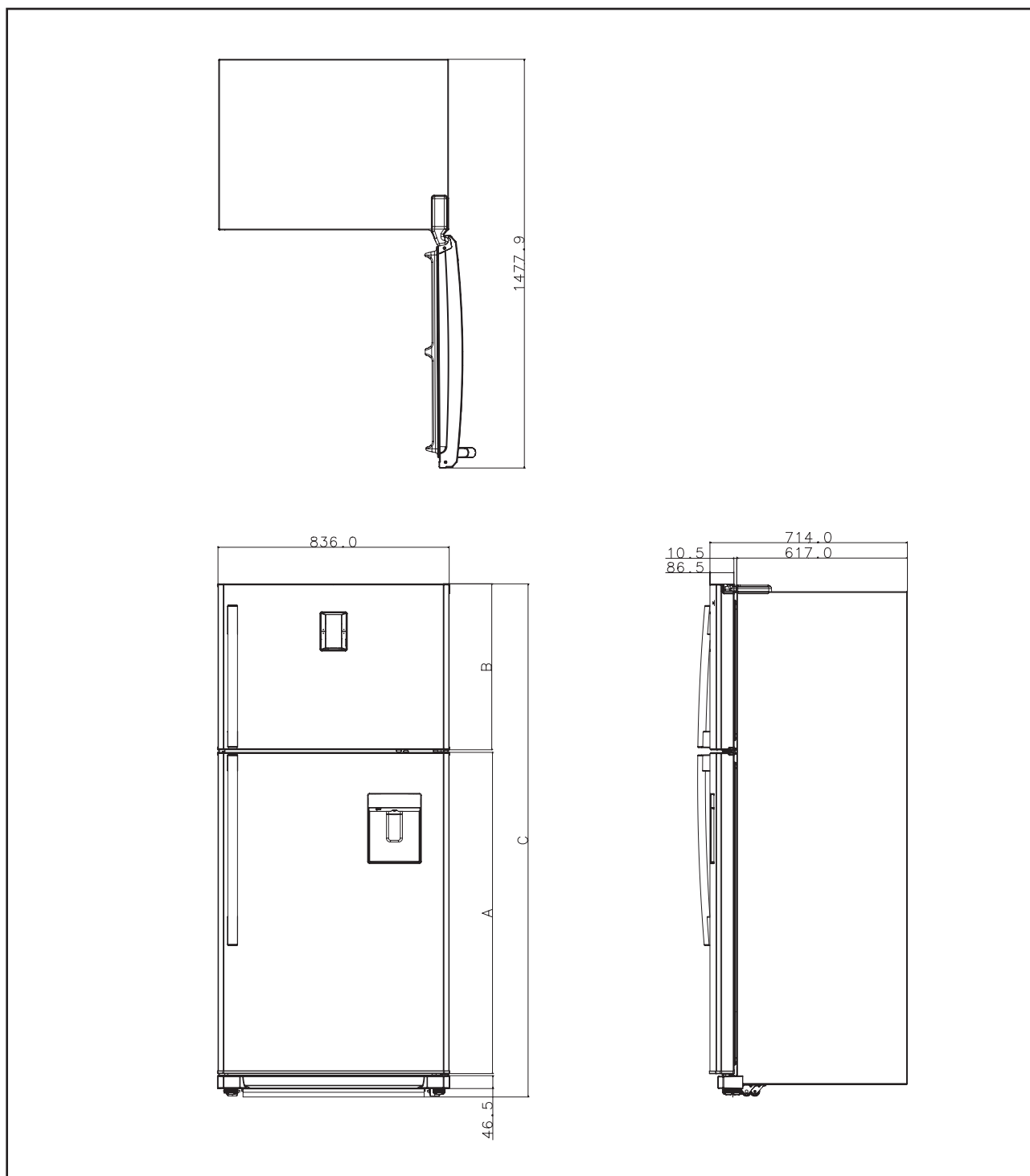
2. PRODUCT SPECIFICATIONS

2-3. Electrical Part Specifications

			
-17°C	-18°C	-19°C	-20°C
			
-21°C	-22°C	-24°C	

2. PRODUCT SPECIFICATIONS

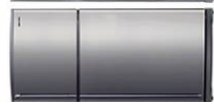
2-4. Dimension (MM)



MODEL	A	B	C	Remark
RT77	1161.5	600.0	1853	
RT72	1079	600.0	1788	

2. PRODUCT SPECIFICATIONS

2-5) Comparison with Competitor

Image	 	 	 	 	Hitachi
Model	RT77K*	SR 699EV	GR718JVP	R660ARP	
Capacity	590L	580L	561L	550L	
Dimension	840 × 726 × 1853	840 × 726 × 1811	860 × 729 × 1794	835 × 715 × 1710	
Features	• <u>Coolselect Zone</u> • <u>Long bar handle</u> • <u>Large Ice Container</u> • Water Dispenser • Twist Icemaker • LED, Electronic Control • Tempered Glass	• <u>Twin Cooling System</u> • <u>X-Flow</u> • Pocket Bar handle • Water Dispenser • Regular Icemaker • LED, Electronic Control • Tempered Glass	• <u>Icebeam cooling</u> • Magic Crisper • <u>Aluminum long handle</u> • Water Dispenser • Twist Icemaker • LED, Electronic Control • Tempered Glass	• <u>Minus-Zero Cooling</u> • Cool jet wrap • <u>Long bar handle</u> • Twist Icemaker • Round Design • Stainless Door [Option]	

3. DISASSEMBLY & REASSEMBLY

3-1. Precautions

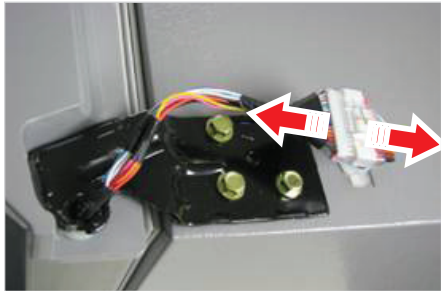
- Unplug the refrigerator before cleaning and making repairs.
- Do not disassemble or repair the refrigerator by yourself.
 - You run risk of causing a fire, malfunction and/or personal injury.
- Remove any foreign matter or dust from the power plug pins.
 - Otherwise there is a risk of fire.
- Do not use a cord that shows cracks or abrasion damage along its length or at either end.
- Do not plug several appliances into the same multiple power board. The refrigerator should always be plugged into its own individual electrical which has a voltage rating that matched the rating plate.
 - This provides the best performance and also prevents overloading house wiring circuits, which could cause a fire hazard from overheated wires.
- Do not install the refrigerator in a damp place or place where it may come in contact with water.
 - Deteriorated insulation of electrical parts may cause an electric shock or fire.
- The refrigerator must be grounded.
 - You must ground the refrigerator to prevent any power leakages or electric shocks caused by current leakage from the refrigerator.
- Do not put bottles or glass containers in the freezer.
 - When the contents freeze, the glass may break and cause personal injury.
- Do not store volatile or flammable substances in the refrigerator.
 - The storage of benzene, thinner, alcohol, ether, LP gas and other such products may cause

- NEED TOOL

IMAGE	ITEM	USE
	Phillips Head Driver	Use for assembling and disassembling of screw
	Flat Head Driver	Use for assembling and disassembling of HomeBar, Dispenser, Deli Cartessen Box, Main PBA etc...
	Socket Wrench Ø10mm	Use for assembling and disassembling of Door Hinge

3. DISASSEMBLY & REASSEMBLY

3-2. Assy Door

PART NAME	DESCRIPTION	FIGURE
Removing the Freezer Door	1. With the door closed, remove the Cap-Hinge Upp. (Like the picture, take off the Cap-Hinge Upp along the arrow)	
	2. Disconnect the connector of wires.	
	3. Remove hinge screws by turnig to counterclockwise, and then take off the Hinge-Upp. Take care when removing the door to ensure that it does not fall on you.	
	4. Remove the door from the middle hinge by carefully lifting the door. [Caution] Be careful not to scratch  CAUTION When disassembling, make sure the unit turned off If you want to assembly, fellow the reverse order	

3. DISASSEMBLY & REASSEMBLY

3-2. Assy Door

PART NAME	DESCRIPTION	FIGURE
Removing the Refrigerator Door	1. Open the Refrigerator door.	
	2. Remove hinge screws by turnig to counterclockwise, and then take off the Hinge-Mid.	
	3. Remove the door from the low hinge by carefully lifting the door.  CAUTION Take care when removing the door to ensure that it does not fall on you.  CAUTION When disassembling, make sure the unit turned off If you want to assembly, fellow the reverse order	

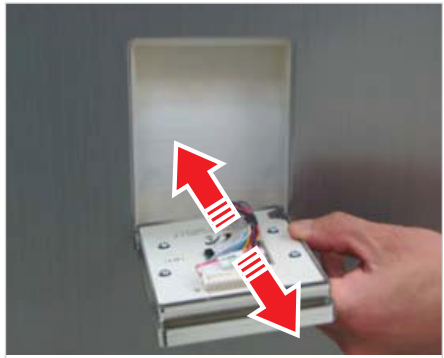
3. DISASSEMBLY & REASSEMBLY

3-3. Door Sub Parts

PART NAME	DESCRIPTION	FIGURE
Disassembly of Dispenser	1. Pick Assy Cover-Dispenser like the picture, pull them upward.  CAUTION Be careful not to scratch	
Tray Dispenser	1. Push the Tray-Dispenser and pick it up.  CAUTION When disassembling, make sure the unit turned off If you want to assembly, follow the reverse order	

3. DISASSEMBLY & REASSEMBLY

3-3. Door Sub Parts

PART NAME	DESCRIPTION	FIGURE
Cover PCB Panel	1. Pick the button display and pull it forward.	
	2. Remove the display by pushing corner of it and pulling it up with flat head driver.	
	3. Disconnect the connector of wireharness.	
	4. Unscrew the rear of PCB. Seperate PCB from the Panel.  CAUTION When disassembling, make sure the unit turned off If you want to assembly, fellow the reverse order	

3. DISASSEMBLY & REASSEMBLY

3-3. Door Sub Parts

PART NAME	DESCRIPTION	FIGURE
Door Handle	1. Open the Door. 2. Remove the door handle of refrigerator by lifting it up and pulling it out. (Refer to the picture)  CAUTION When disassembling, make sure the unit turned off If you want to assembly, fellow the reverse order	

3. DISASSEMBLY & REASSEMBLY

3-4. Refrigerator Compartments

PART NAME	DESCRIPTION	FIGURE
Glass Shelf	These shelves allow the storage of larger items and pull out for easy access. 1. Lift it up and pull the shelf out to the front	
Glass Shelf	Drawers are designed for storage of fruits, vegetables, and deli items. The drawers are located in the lower portion of the refrigerator. 1. Pull out the drawer as far as it goes. 2. Tilt the drawer up and pull it out until it is removed.	

PART NAME	DESCRIPTION	FIGURE
Guard	1. Take out the guard by lifting it up from door	
Water tank	1. Take out the water tank by lifting it up from door. CAUTION  When disassembling, make sure the unit turned off. If you want to assembly, follow the reverse order.	

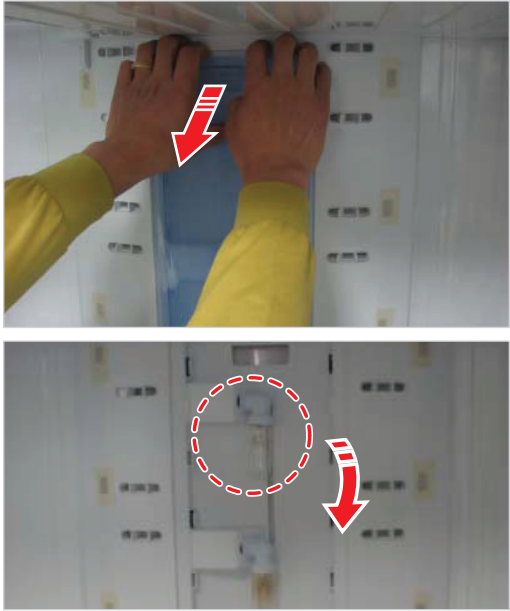
3. DISASSEMBLY & REASSEMBLY

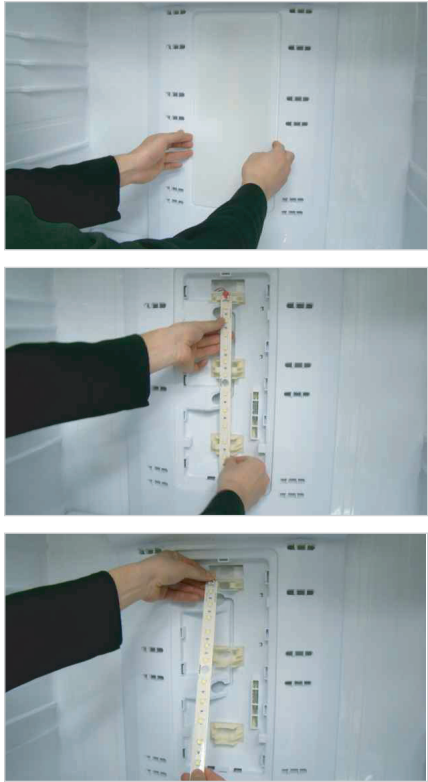
3-4. Refrigerator Compartments

PART NAME	DESCRIPTION	FIGURE
Coolselect Zone Drawer	1. Remove 2 screws with philipshead driver. 2. pull the drawer out until it is removed.  CAUTION When disassembling, make sure the unit turned off If you want to assembly, fellow the reverse order	
		
		
		

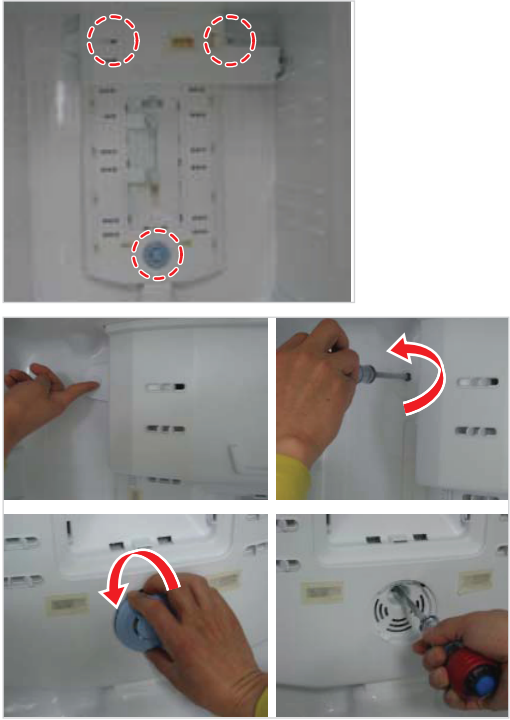
3. DISASSEMBLY & REASSEMBLY

3-4. Refrigerator Compartments

PART NAME	DESCRIPTION	FIGURE
Refrigerator Lamp (Bulb-type)	1. Open the refrigerator door. 2. Remove all shelves 3. Remove the cover lamp. 4. Disassemble the lamp by turning to counterclockwise.	

PART NAME	DESCRIPTION	FIGURE
Refrigerator Lamp (LED-type)	1. Open the refrigerator dooe. 2. Remove all shelves. 3. Remove the cover lamp. 4. Disassemble the lamp and remove wire from LED.  CAUTION When disassembling, make sure the unit turned off.	

3. DISASSEMBLY & REASSEMBLY

PART NAME	DESCRIPTION	FIGURE
Cover Damper	1. Remove the Cap-Screws. 2. Remove 2 screws with philipshead driver. 3. Turn the cover deodorizer counter clockwise to remove it. 4. Remove screw with philipshead driver.  CAUTION When disassembling, make sure the unit turned off If you want to assembly, fellow the reverse order	

3-4. Refrigerator Compartments

PART NAME	DESCRIPTION	FIGURE
Cover Damper	6. Hold the corner of cover with hand. Pull it outward. 7. Disconnect the wireharness. 8. Pull the Cover Damper out forward.  CAUTION When disassembling, make sure the unit turned off If you want to assembly, fellow the reverse order	

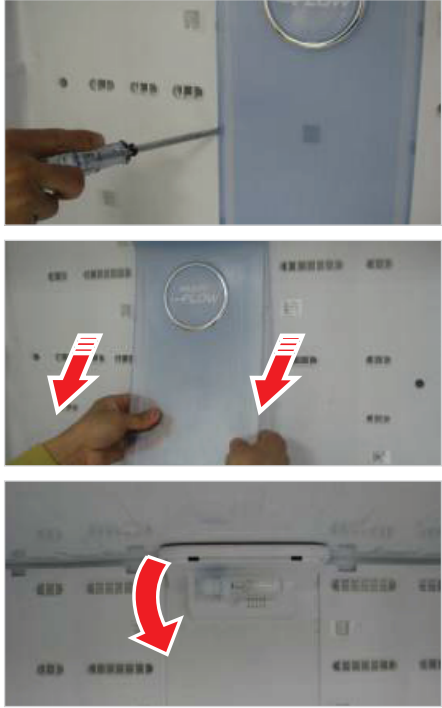
3. DISASSEMBLY & REASSEMBLY

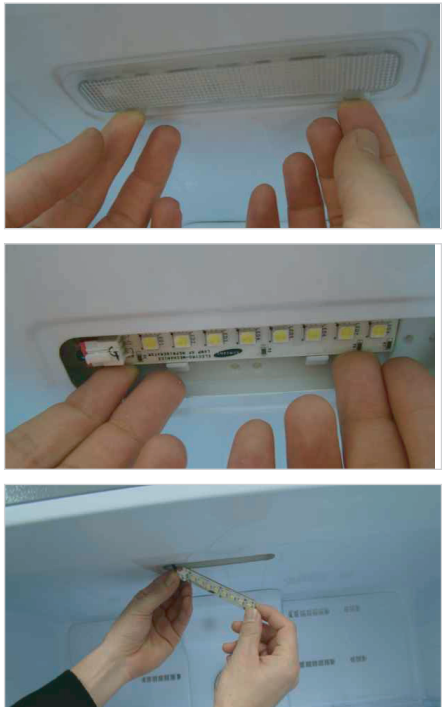
3-5. Freezer Compartments

PART NAME	DESCRIPTION	FIGURE
Cover PCB Panel	1.Pull the ice cube out to the front	
Twist Icemaker	1.Pull the twist Icemaker out to the front	
Shelf	These shelves allow the storage of larger items and pull out for easy access. 1. Lift it up and pull the shelf out to the front  CAUTION When disassembling, make sure the unit turned off If you want to assembly, fellow the reverse order	

3. DISASSEMBLY & REASSEMBLY

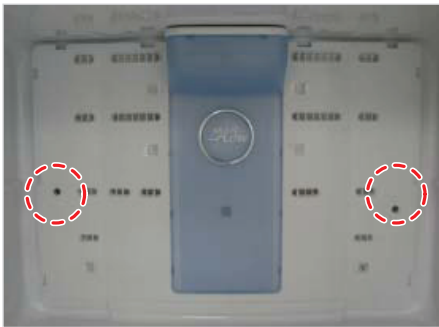
3-5. Freezer Compartments

PART NAME	DESCRIPTION	FIGURE
Cover Lamp (Bulb-type)	1. Remove the cover lamp. 2. Disassemble the lamp by turning to counterclockwise. CAUTION When disassembling, make sure the unit turned off. CAUTION When disassembling, make sure the unit turned off. If you want to assembly, follow the reverse order	

PART NAME	DESCRIPTION	FIGURE
Cover Lamp (LED-type)	1. Remove cover lamp. 2. Disassemble the lamp and remove wire from LED. CAUTION When disassembling, make sure the unit turned off.	

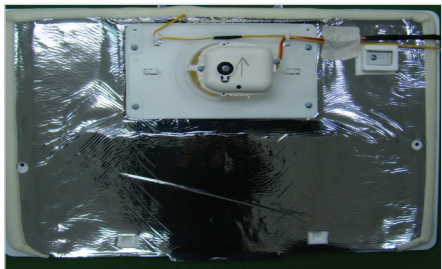
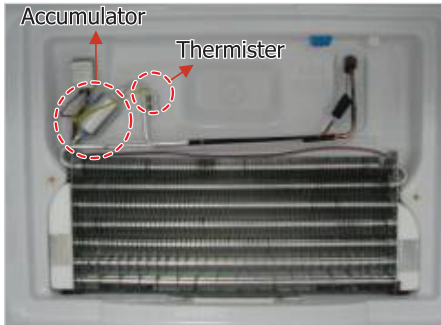
3. DISASSEMBLY & REASSEMBLY

3-5. Freezer Compartments

PART NAME	DESCRIPTION	FIGURE
Evaporator Cover in Freezer	1. Remove the Cap-Screws. 2. Remove 2 screws with philipshead driver. 3. Hold the corner of upper cover with hand. and Pull it downward and outward  CAUTION When disassembling, make sure the unit turned off.  CAUTION When disassembling, make sure the unit turned off If you want to assembly, follow the reverse order	   

3. DISASSEMBLY & REASSEMBLY

3-5. Freezer Compartments

PART NAME	DESCRIPTION	FIGURE
Evaporator in Freezer	1. Disconnect wire harnesses at the top-right corner. 2. Take off the Evaporator Cover in the the Freezer. 3. Disconnect the wire connector (Heater, Bimetal and Thermister) 4. Disconnect the inlet and outlet pipe of the evaporator using a tube cutter or an oxy set. 5. Unscrew the evaporator from the brackets. 6. Pull it out of the Freezer  CAUTION When disassembling, make sure the unit turned off If you want to assembly, fellow the reverse order	  

4. SELF DIAGNOSIS & TROUBLE SHOOTING

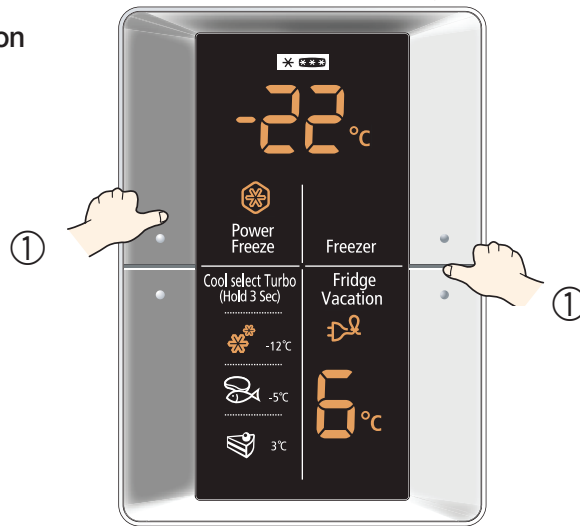
Checkpoints before troubleshooting

4-1. Checkpoints before troubleshooting - ELEC

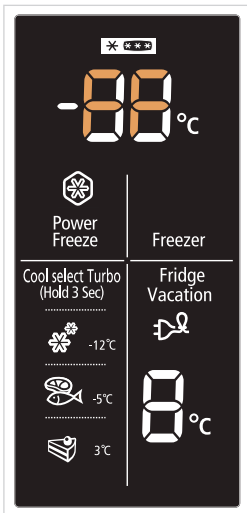
4-1-1. TEST function (Forced Operation / Forced Defrost Function)

- When you press the R Room Temperature Setting and Power Freeze Key on the front panel simultaneously for 8 seconds, it switches to the Test Mode and the Display of the front panel will be All Off.
- When you press any key after switching to the Test Mode, it will operate in the order of Forced Operation (FF) → Forced F Defrost (Fd) → Cancel (Display all off).
- When there is no key entry on the front panel 15 seconds after switching to the Test Mode, the Test Setting Mode will be canceled to switch to the previous Display Mode.

1. Forced Operation Function



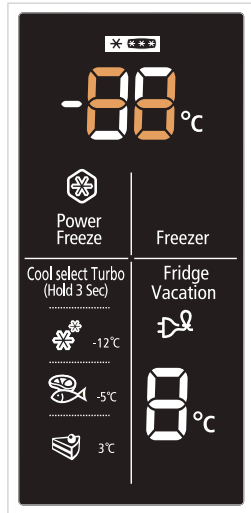
- ① After pressing the Power Freeze Key + R Room Temperature Setting Key simultaneously for 8 seconds, all Display will be turned off and will be in standby condition for Forced Operation.
- ② Press any key to enter the Test (Forced Operation) Mode.



- 1) Irrelevant from which key you select from the Test Mode, when you press once, it will display "FF" for Freezer Display and start the Forced Operation. At this time, the buzzer will go off with the beep sound.
- 2) When Forced Operation is selected, the COMP will start to operate immediately without the 5 minute delay no matter which operating mode it is currently in. At this time, if the unit is in defrost mode, it will immediately stop the defrost mode and execute Forced Operation. (When you directly execute Forced Operation at the point when the COMP is turned OFF, it can cause an OVERLOAD and requires caution)
- 3) When Forced Operation is selected, COMP and F-FAN will continuously operate for 24 hours and the Fridge will be controlled by the set temperature.
- 4) When Forced Operation is selected, the set temperature for the F Room will automatically be set to -24°C and for the R Room, 1°C.
- 5) Power Freeze Function will not work during Forced Operation. When you select this function, the Power Function icon will automatically be turned off in 10 seconds.
- 6) To cancel during the Forced Operation, you can turn off the power and then turn it back on (Reset) or select the Test Cancel Mode in 3) below.
- 7) During the Forced Operation, the alarm sound will continue until the Forced Operation ends (0.25 sec ON/0.75sec OFF), and there is no function to cancel this.

4. SELF DIAGNOSIS & TROUBLE SHOOTING

2) Forced Defrost (F) Function



- 1) When you press any key one more time in Forced Operation ("FF"), the Display will show "Fd" and Forced Operation will immediately be canceled to execute F Room Defrost process.
- 2) At this time, beep sound alarm of the initial Forced Defrost will go off for about 2 seconds and the Forced Defrost alarm will go off. (0.5 sec ON/ 0.5 sec OFF)

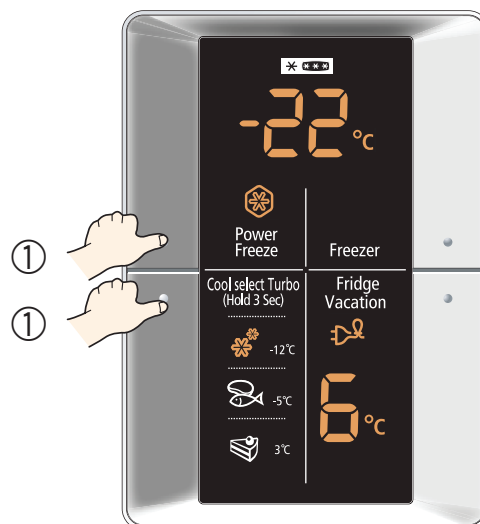
3) Test Cancel Mode

- 1) When you press the Test Key button one more time after switching to Test Mode on the Display Panel during the Forced Defrost Operation, the Freezer and Fridge Defrost will be canceled and it will return to Normal Operation. Also when you turn Off the Main Power and then turn it back On, all Test functions will be canceled.

4-1-2. Self Diagnosis Function

1) Self Diagnosis Function when power is initially turned on

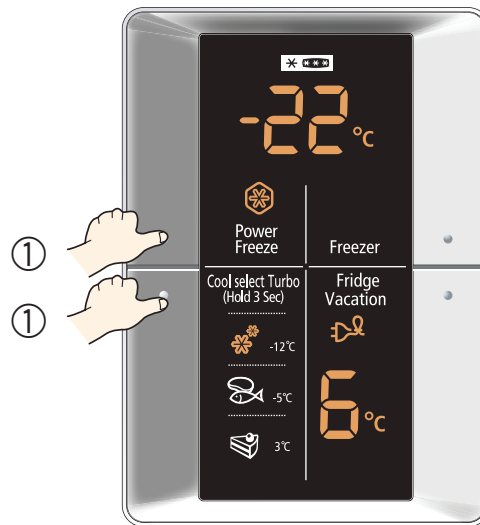
- 1) When you connect the power for the first time to the refrigerator, it automatically judges any error of the temperature sensor internally within MICOM within 1 second.
- 2) If there is a sensor error based on the Self Diagnosis result, the applicable Display LED will be turned on. At this time, the beep sound will not go off. (Refer to Self Diagnosis Checklist)
- 3) When there is a sensor error and the error is displayed from the Self Diagnosis result, the unit will only recognize the Self Diagnosis Function button and will not proceed to Normal Display but temperature control will be controlled in emergency operation.
- 4) In case of the Self Diagnosis Error, you must resolve all the issues or press the Self Diagnosis Function (Power Freeze + Cool Select Turbo) key simultaneously for 8 seconds to automatically cancel all the errors.(It will switch to Normal Display Mode.)



- ① When you press the Power Freeze Key + Cool Select Turbo Key simultaneously for 8 seconds, the Self Diagnosis Error Mode will be cancelled.

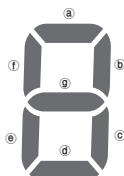
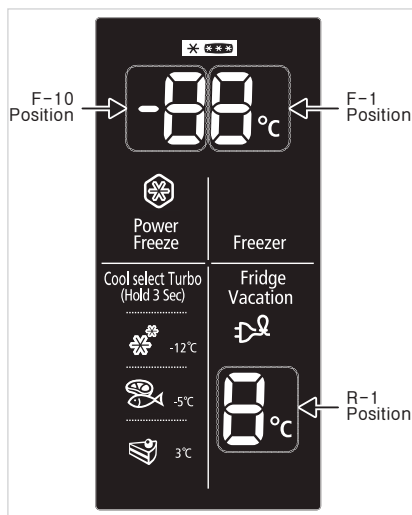
4. SELF DIAGNOSIS & TROUBLE SHOOTING

2) Self Diagnosis Function during Normal Operation



- 1) When you press the Power Freeze + Cool Select Turbo key simultaneously for 6 seconds during the Normal Operation condition of the refrigerator, the Temperature Setting Display will be All On/Off in 0.5 interval for about 2 seconds.
When you press the Power Freeze + Cool Select Turbo Key simultaneously for 8 seconds including the 2 seconds when the LED is repeatedly ON/OFF, the Self Diagnosis Function will be selected.
- 2) At this time, a “Ding-Dong” buzzer sound will go off and enter Self Diagnosis Function. After displaying the error for 30 seconds, it will return to the Normal Condition irrelevant from whether the errors are resolved or not. (“Ding-Dong” buzzer will go off) (Refer to Self Diagnosis Checklist)
- 3) Button entry will not work during Self Diagnosis process.

Self Diagnosis Checklist



NO	Error item	Display LED	Error detail
1	R-Sensor Error	R-1-	R Room SENSOR system error
2	Ambient-Sensor Error	F-1-	External SENSOR system error
3	F-Sensor Error	F-1-	F Room SENSOR system error
4	F-DEF-Sensor Error	F-1-	F Room Defrost SENSOR system error
5	Cool Select Turbo Sensor	R-1-	Cool Select Turbo SENSOR system error
6	F-DEF. Error	F-1-	F Room Defrost system error
7	F-FAN Error	F-1-	F Room Internal Fan Motor system error
8	C-FAN Error	F-1-	Machine Room Fan Motor system error
9	R Room Damper Heater Error	F-10-	R Room Damper Heater system error
10	Cool Select Turbo Damper Heater Error	F-10-	Cool Select Turbo Damper Heater system error

4. SELF DIAGNOSIS & TROUBLE SHOOTING

Detail content by Self Diagnosis Error code

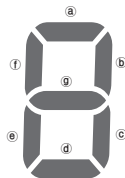
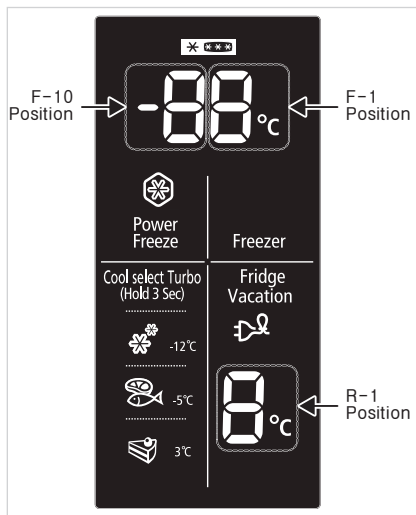
LED Display	Item	TOURBLE SHOOTING	Diagnosis method to judge whether it is normal
R-1-	R-Sensor Error	Sensor housing missing, poor contact, wire disconnection, short circuit, sensor detection temperature for the error display by temperature is when the temperature is 149 (°C) or above, or -58 (°C) or below.	When checking the voltage between No. 5 and 7 of MAIN PCB CN30, the voltage must be within the range of 4.5V~1.0V.
F-1-	Ambient-Sensor Error		When checking the voltage between No. 1 and 4 of MAIN PCB CN31, the voltage must be within the range of 4.5V~1.0V.
F-1-	F-Sensor Error		When checking the voltage between No. 3 and 7 of MAIN PCB CN30, the voltage must be within the range of 4.5V~1.0V.
F-1-	F-DEF-Sensor Error		When checking the voltage between No. 4 and 7 of MAIN PCB CN30, the voltage must be within the range of 4.5V~1.0V.
R-1-	Coolselectzone Sensor Error		When checking the voltage between No. 6 and 7 of MAIN PCB CN30, the voltage must be within the range of 7V~12V.
F-1-	F-DEF. Error	Housing missing, poor contact, wire disconnection, short circuit or temperature fuse error generated related to F Room Defrost Heater.	After separating the MAIN PCB CN71 wire from the PCB, check the resistance between the CN71 No. 3 wire and No. 5 wire, which must be within the range of 270 ohm $\pm 10\%$. (The resistance value changes according to input power)
F-1-	F-FAN Error,	display the error including poor contact of Feed Back signal wire, missing motor wire and error in motor itself	When checking the voltage between No. 2 and 1 of MAIN PCB CN76, the voltage must be within the range of 7V~12V.
F-1-	C-FAN Error	When operating the applicable FAN Motor, display the error including poor contact of Feed Back signal wire, missing motor wire and error in motor itself	When checking the voltage between No. 3 and 1 of MAIN PCB CN76, the voltage must be within the range of 7V~12V.
F-10-	R Room Damper Heater Error	This occurs in case of open wire including missing housing, poor contact, short circuit related to applicable Damper Heater.	After separating the MAIN PCB CN75 wire from the PCB, check the resistance between the Black and Brown Wire, which must be within the range of 145 ohm $\pm 7\%$. For 0 Ohm, check the heater short circuit of the heater and for ∞ Ohm, check the wire disconnection, missing wire etc.
F-10-	Cool Select Turbo Damper Heater Error	This occurs in case of open wire including missing housing, poor contact, short circuit related to applicable Damper Heater.	After separating the MAIN PCB CN74 wire from the PCB, check the resistance between the Black and Brown Wire, which must be within the range of 145 ohm $\pm 7\%$. For 0 Ohm, check the heater short circuit of the heater and for ∞ Ohm, check the wire disconnection, missing wire etc.

4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-1-3. Load Status Display Function



- ① Press the Power Freeze Key + Cool Select Turbo Key simultaneously for 6 seconds until ALL is repeatedly ON/OFF in 0.5 second interval for about 2 seconds, and then release the keys.
- ② Press the Fridge Key to enter the Load Mode



- 1) Press the Power Freeze Key + Cool Select Turbo Key simultaneously for 6 seconds in Normal Operation condition until ALL is repeatedly ON/OFF in 0.5 second interval for about 2 seconds.
- 2) At this time, release the Power Freeze Key + Cool Select Turbo Key and press the Fridge Key to switch to Load Status Display Function Mode ("Ding-Dong" sound will go off).
- 3) Load Status Display Function Mode notifies which load is currently outputting the MICOM signal. But, this does not show whether the MICOM signal has been outputted or whether that load is actually operating. That is, even though the load is displayed to be in operation, it may not be operating due to error in actual load or relay error on PCB etc. During the A/S, you can apply this function for use.
- 4) Load Status Display Function continues for only 30 seconds and then automatically returns to the Normal Condition.
- 5) Load Status Display is as follows.

4. SELF DIAGNOSIS & TROUBLE SHOOTING

Load Mode Checklist

LED	Display detail	Operation detail
R-1- [Ⓔ]	Overload condition	LED ON when external temperature is 34 or above
R-1- [Ⓕ]	Low temperature condition	LED ON when external temperature is 21 or below
R1- [Ⓖ]	Exhibition Mode	LED ON in Exhibition Mode Setting
F-10- [Ⓐ]	R Room Damper Open	Applicable LED ON when R Room Damper is open
F-1- [Ⓐ]	COMP.	Applicable LED ON when COMP is operating
F-1- [Ⓑ]	F-FAN High	Applicable LED ON when F-FAN is operating at High
F-1- [Ⓓ]	F-DEF Heater	LED ON when operating Freezer Defrost Heater
F-1- [Ⓒ]	C-FAN High	Applicable LED ON when operating C-FAN at High
F-1- [Ⓒ]	F-FAN Low	Applicable LED ON when operating F-FAN at Low
F-1- [Ⓕ]	C-FAN Low	Applicable LED ON when operating C-FAN at Low
R-1- ^{Ⓔ,Ⓕ} ALL LED Off	Normal Condition	When external temperature is within 22 ~ 33
F-10- [Ⓕ]	Cool Select Turbo Damper Open	Applicable LED ON when Cool Select Turbo Damper is open

4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-1-4. Exhibition Mode Setting Function



① Press the Power Freeze Key + Freezer Key simultaneously for 8 seconds to enter the Exhibition Mode.

- 1) Press the Power Freeze Key + Freezer Key simultaneously for 8 seconds in Normal Operation condition to enter the Exhibition Mode. ("Ding-Dong" buzzer sound will go off.)
- 2) When you repeatedly select the Power Freeze and Freezer Key, the Exhibition Mode will be cancelled.
- 3) When the sensor of the F or R Room detects temperature of 65 ° or above during the Exhibition Mode, the Exhibition Mode will automatically be cancelled and it switches back to the Air Conditioning Operation.
- 4) Operation detail during Exhibition Mode
 - All functions including Display, F-Fan Motor etc. will work normally and only the C-Fan and COMP will not work.
 - The Defrost function will be not executed.
 - End initial actual temperature Display Function

4-1-5. Option Setting Function

- When you press the Freezer Key + Cool Select Turbo Key simultaneously for about 12 seconds in Normal Operation, the Freezer and Fridge Temperature Display will switch to Option Setting Mode.

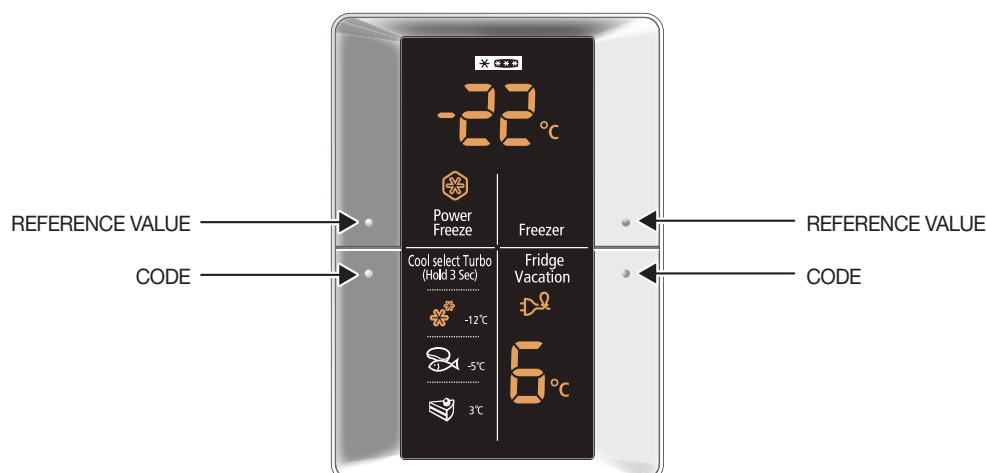
Key operation method after switching to Option Mode



① When you press the Freezer Key +Cool Select Turbo Key simultaneously for 12 seconds, you can enter the Option Setting Mode

4. SELF DIAGNOSIS & TROUBLE SHOOTING

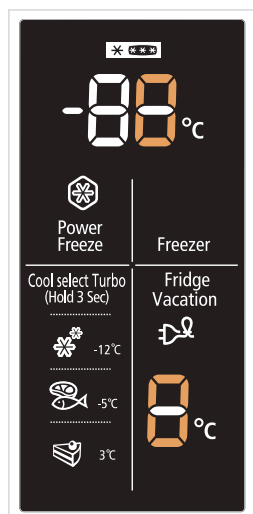
Key operation method after switching to Option Mode



※ Key operation in Option Mode

Cool Select Turbo key	Code(Item) Down key
Fridge key	Code(Item) Up key
Power Freeze Key	Reference Value down key
Freezer Key	Reference Value Up key

2) Forced Defrost (F) Function



- When the Display switches to Option Setting Mode, all of the Display will be turned off excluding the Freezer and Fridge Temperature Display as shown below. Because all Option operations proceed in the same method according to the Option Table, this explains only for the Freezer and Fridge.)

- For example, when you want to adjust the option to shift the reference temperature of the Freezer to 28.4 (-2 °), proceed as follows.

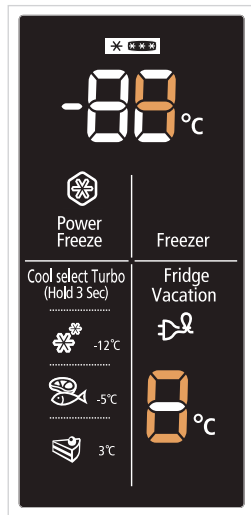
To shift the reference temperature with this function when the current reference temperature of the Freezer is -2 (-19 °), use the option to reduce the temperature to 28.4 (-2° °), so that the reference temperature is controlled to -6 (-21 °).

That is, when you want to change the temperature option, the temperature will operate at -2 (-19 °) on the Display, even when the setting on the Display is shown as -6 (-21 °) internally.

Therefore, it means that the reference temperature is controlled as lower than 28.4 (-2 °) on the Display.

Reference : As default when the product is manufactured, all data in the Option Function is cleared. That is, all the setting value part will be set to "0" as default. But because the setting value can be changed as part of the mass production for the purpose of quality improvement, always check the quality information documentation etc.

4. SELF DIAGNOSIS & TROUBLE SHOOTING



- 2) After changing to Option Mode, all Display LEDs are set to "0" for the Freezer and "0" for the Fridge. (When the product is manufactured, the Fridge is set to "0" and the Freezer to "0". But the setting value can be changed as part of the mass production for the purpose of quality improvement.)
 - When "0" is on for the Fridge, the Fridge Temperature Reference Value is set and the current Fridge Temperature Code will be displayed as the Fridge Temperature Display.
- 3) After setting the Fridge to "0" and setting the Freezer Code to "4", the Freezer Reference Temperature will be reduced to 28.4 (-2.0). (Refer to Freezer Temperature Change figure)
 - : When the adjustment is completed, wait for 20 seconds and MICOM will save the set value to EEPROM. And then it will switch to normal display and cancel the Option Setting Mode.
- 4) Fridge Temperature control, Defrost recovery temperature, Hysteresis by temperature, Notch Gap by temperature etc. can be adjusted in the same method as above.
- 5) Because the Option Function is set in EEPROM when the product is manufactured, refrain from making changes unless it is a special case. Because the Option Setting Function is completely set only when it returns to the normal display after 20 seconds, do not turn off the power until the normal display is recovered.

Reference : For the functions that can be adjusted with the Option, they will be omitted because they are not necessary parts for A/S related in relation to Refrigerator control function.
(Do not set the option outside of the A/S Manual details above.)

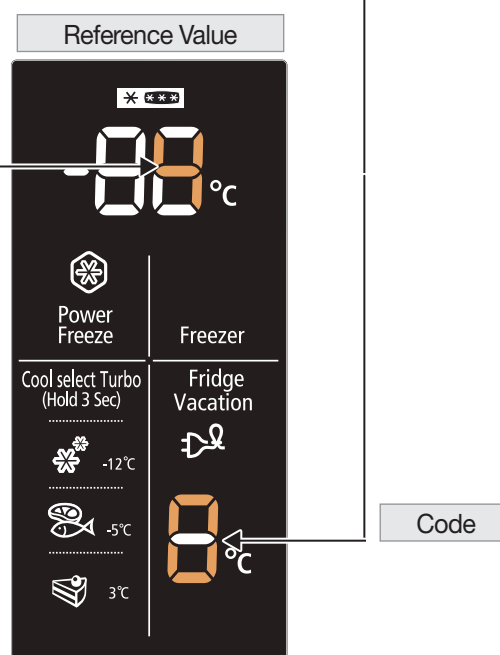
4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-1-6. Option Table

1) Freezer Temperature Change Table

Setting ITEM	Freezer Temp Shift
MODEL	**
Reference Value	Fridge Room 7-SEG
	0

Setting value	Temp. compensation
F Room Code	
0	0.0
1	-0.5
2	-1.0
3	-1.5
4	-2.0
5	-2.5
6	-3.0
7	-3.5
8	+0.5
9	+1.0
10	+1.5
11	+2.0
12	+2.5
13	+3.0
14	+3.5
15	+4.0



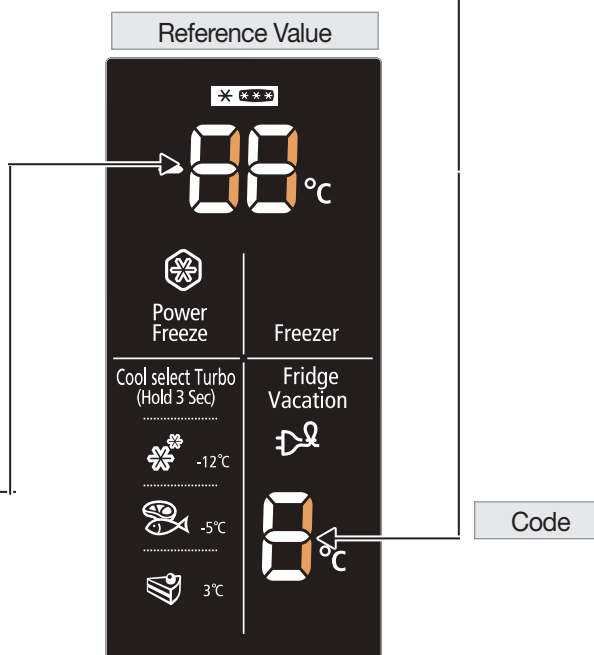
Applied Example : When you want to reduce the Freezer Reference Temperature to 28.4 (-2).

4. SELF DIAGNOSIS & TROUBLE SHOOTING

2) Fridge Temperature Change Table

Setting ITEM	Freezer Temp Shift
MODEL	RT62***
Reference Value	Fridge Room 7-SEG
	1

Setting value	Temp. compensation
F Room Code	
0	0.0
1	-0.5
2	-1.0
3	-1.5
4	-2.0
5	-2.5
6	-3.0
7	-3.5
8	+0.5
9	+1.0
10	+1.5
11	+2.0
12	+2.5
13	+3.0
14	+3.5
15	+4.0



Applied Example : When you want to increase the Freezer Reference Temperature to 35.6 (2)
Setting value

4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-1-7. Troubleshooting flowchart

Data 1. Temperature table

Resistance and MICOM port voltage of sensor by temperature Sensor chip: PX41C

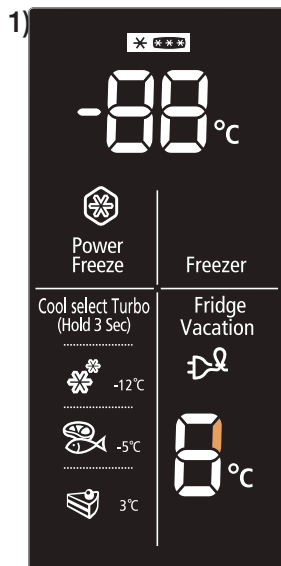
°C	Voltage	Resistance	°C	Voltage	Resistance	°C	Voltage	Resistance
-50	4.694	153319	-5	3.107	16419	40	1.153	2997
-49	4.677	144794	-4	3.057	15731	41	1.124	2899
-48	4.659	136798	-3	3.006	15076	42	1.95	2805
-47	4.641	129294	-2	2.955	14452	43	1.068	2714
-46	4.622	122248	-1	2.904	13857	44	1.04	2627
-45	4.602	115631	0	2.853	13290	45	1.014	2543
-44	4.581	109413	1	2.802	12749	46	0.988	2482
-43	4.56	103569	2	2.751	12233	47	0.963	2384
-42	4.537	98073	3	2.7	11741	48	0.938	2309
-41	4.514	92903	4	2.649	11271	49	0.914	2237
-40	4.49	88037	5	2.599	10823	50	0.891	2167
-39	4.465	83456	6	2.548	10395	51	0.868	2100
-38	4.439	79142	7	2.498	9986	52	0.846	2036
-37	4.412	75077	8	2.449	9596	53	0.824	1973
-36	4.385	71246	9	2.399	9223	54	0.803	1913
-35	4.356	67634	10	2.35	8867	55	0.783	1855
-34	4.326	64227	11	2.301	8526	56	0.762	1799
-33	4.296	61012	12	2.253	8200	57	0.743	1745
-32	4.264	57977	13	2.205	7888	58	0.724	1693
-31	4.232	55112	14	2.158	7590	59	0.706	1642
-30	4.199	52406	15	2.111	7305	60	0.688	1594
-29	4.165	49848	16	2.064	7032	61	0.67	1547
-28	4.129	47431	17	2.019	6771	62	0.653	1502
-27	4.093	45146	18	1.974	6521	63	0.636	1458
-26	4.056	42984	19	1.929	6281	64	0.62	1416
-25	4.018	40938	20	1.885	6052	65	0.904	1375
-24	3.98	39002	21	1.842	58832	66	0.589	1335
-23	3.94	37469	22	1.799	5621	67	0.574	1297
-22	3.899	35433	23	1.757	5419	68	0.856	1260
-21	3.858	33788	24	1.746	5225	69	0.546	1225
-20	3.816	32230	25	1.675	5039	70	0.532	1190
-19	3.773	30752	26	1.636	4861	71	0.519	1157
-18	3.729	29350	27	1.596	4690	72	0.506	1125
-17	3.685	28021	28	1.558	4526	73	0.493	1093
-16	3.64	26760	29	1.52	4369	74	0.481	1063
-15	3.594	25562	30	1.483	4218	75	0.469	1034
-14	3.548	24425	31	1.447	4072	76	0.457	1006
-13	3.501	23345	32	1.412	3933	77	0.446	978
-12	3.453	22320	33	1.377	3799	78	0.435	952
-11	3.405	21345	34	1.343	3670	79	0.424	926
-10	3.356	20418	35	1.309	3547	80	0.414	902
-9	3.307	19537	36	1.277	3428	81	0.404	877
-8	3.258	18698	37	1.253	3344	82	0.394	854
-7	3.208	17901	38	1.213	3204	83	0.384	832
-6	3.158	17142	39	1.183	3098	84	0.375	810

4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-2. Trouble Shooting - ELEC

4-2-1. In case of self diagnosis error

- Sensor error is displayed on the front display of the refrigerator. In case of a sensor error at the initial power connection, the refrigerator will not operate and repeatedly display (flash) the sensor part with the error.
- In case of a sensor error during operation, the refrigerator will not top but operate in emergency operation mode and normal cooling operation may not work. Check and diagnose the problem by using this self diagnosis function in this manual.

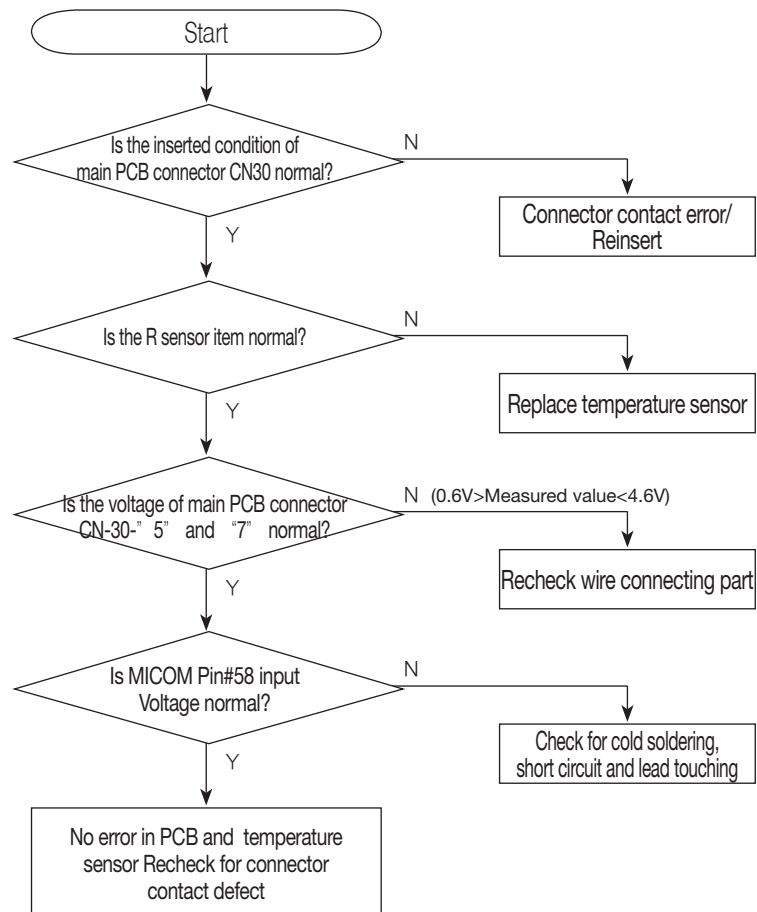


Data 1. Temperature table

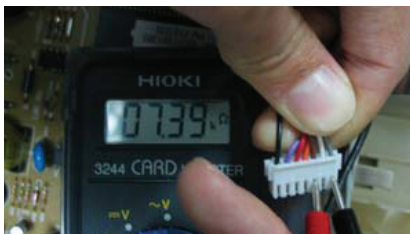
Refer to the circuit diagram in this manual Resistance measuring location by sensor R: Measure resistance between CN30 No. 5 and No. 7 0 Ω refers to short and ∞ Ω refers to open error.

Sensor MICOM/Connector number	
Ambinet	Connector CN30 -"5"- "7"
Voltage is measured between 4.6V and 0.6V.	

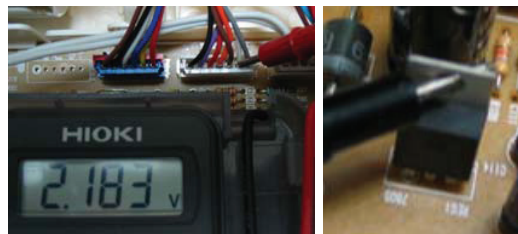
IC10 MICOM #58 voltage is the same as CN30-"5" (Brown)



R Sensor resistance checking method CN30-" 5" (Brown) ↔ "7" (Gray) - Compare with temperature table after measurement.



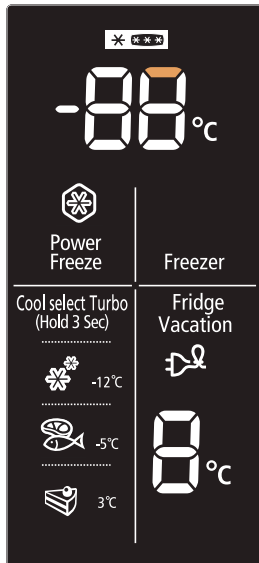
R Sensor voltage checking method - Sensor checkpoint on PCB: Measure voltage of IC10 MICOM #58 or CN30-" 5" (Brown) ↔ "7" (Gray)-Compare with temperature table after measurement Measure voltage of CN30-" 5" (Brown) ↔ "7" (Gray)



CN30-7(Gray) is the same as REG1(GND)

4. SELF DIAGNOSIS & TROUBLE SHOOTING

2) Ambient sensor error



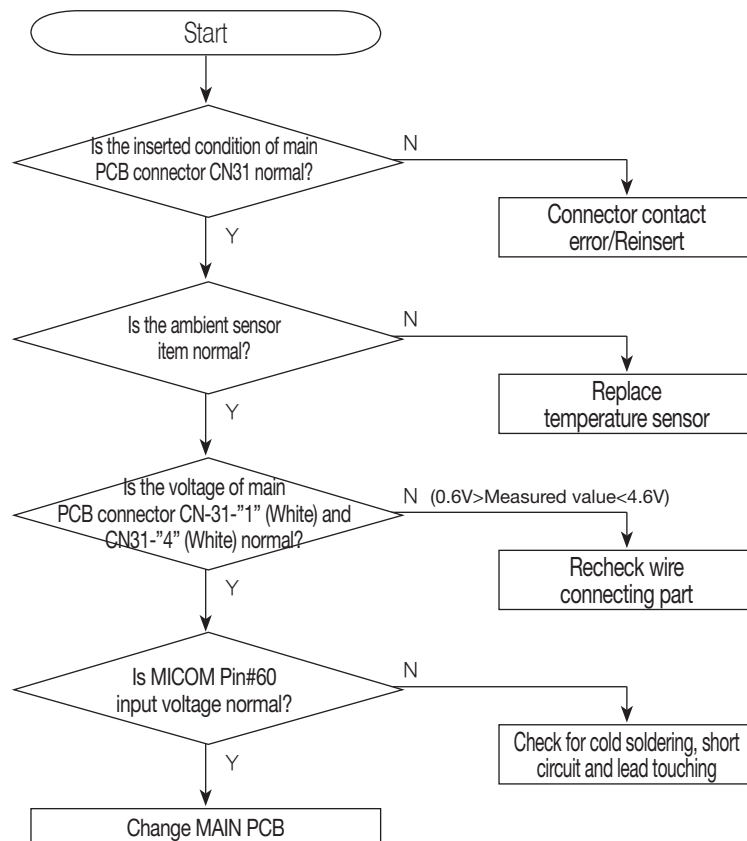
Data 1. Temperature table

Resistance measuring location by sensor
F: Measure resistance between CN31 No. 1 and No. 4 0 Ω refers to short and ∞ Ω refer to open error.

Refer to the circuit diagram in this

Sensor MICOM/Connector number	
F	Connector CN31 -"1"-
Voltage is measured between 4.6V and 0.6V.	

IC10 MICOM #60 voltage is the same as CN31-"1" (Brown)

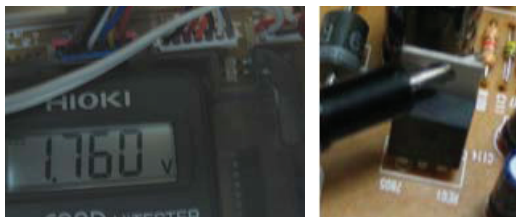


☞ Ambient sensor resistance checking method
CN31-"1" (White) ↔ "4" (White) - Compare with temperature table after measurement



☞ Ambient sensor voltage checking method

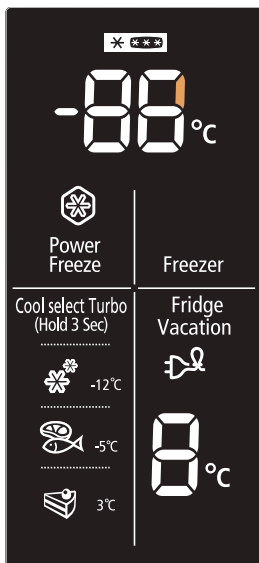
- Sensor checkpoint on PCB: Measure voltage of IC10 MICOM #60 or CN31-"1" (White) ↔ "4" (White)
- Compare with temperature table after measurement Measure voltage of CN31-"1" (White) ↔ "4" (White) as shown below.



CN30-7(Gray) is the same as REG1(GND)

4. SELF DIAGNOSIS & TROUBLE SHOOTING

3) F sensor error



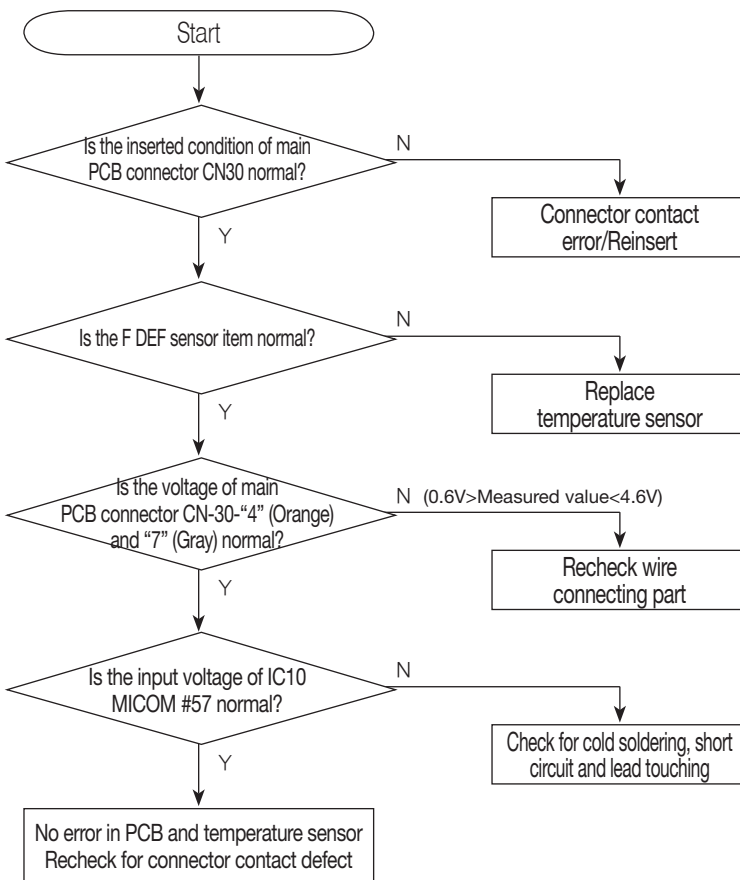
Data 1. Temperature table

Resistance measuring location by sensor
F: Measure resistance between CN30 No. 3 and No. 7 0 Ω refers to short and ∞ Ω refer to open error.

Refer to the circuit diagram in this

Sensor MICOM/Connector number	
F	Connector CN30 -"4"-
Voltage is measured between 4.6V and 0.6V.	

IC10 MICOM #57 voltage is the same as CN30-"3" (Orange)



④ F DEF sensor resistance checking method
CN30-"4" (Orange) ↔ "7" (Gray) - Compare with temperature table after measurement

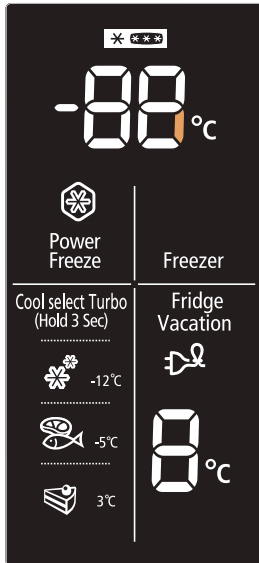


④ F DEF sensor voltage checking method - Sensor checkpoint on PCB: Measure voltage of IC1 MICOM #57 or CN30-"4" (Orange) ↔ "7" (Gray) - Compare with temperature table after measurement Measure voltage of CN30-"4" (Orange) ↔ "7" (Gray) as shown below.



4. SELF DIAGNOSIS & TROUBLE SHOOTING

4) F DEF sensor error



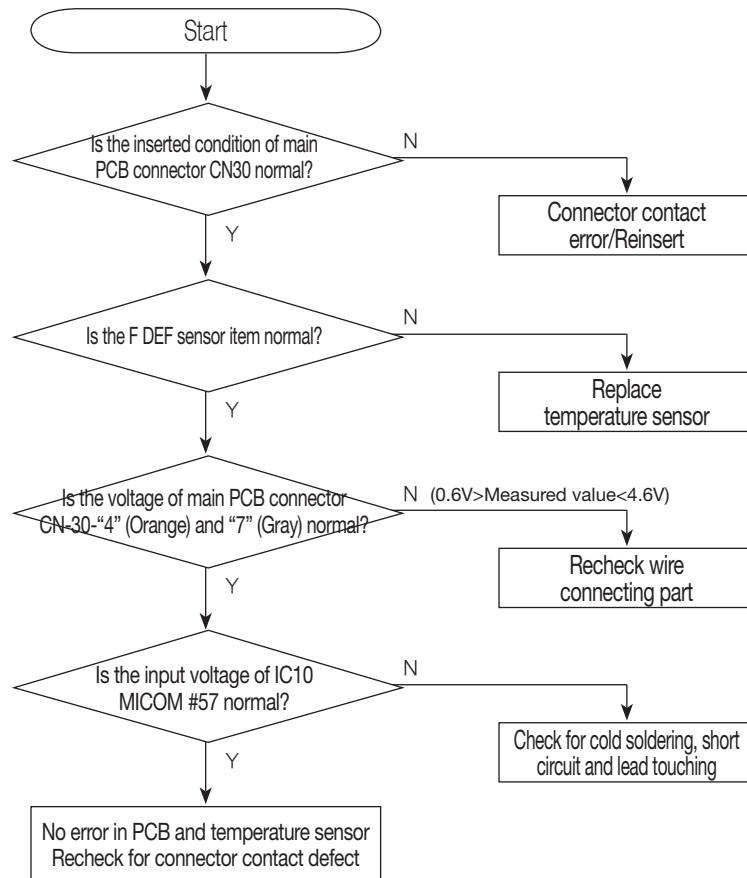
Data 1. Temperature table

F-DEF: Measure resistance between CN30 No. 4 and No. 7. ∞ refers to short and $\varnothing$ refer to open error.

Refer to the circuit diagram in this

Sensor MICOM/Connector number	
F DEF	Connector CN30 -"4"-
Voltage is measured between 4.6V and 0.6V.	

IC10 MICOM #57 voltage is the same as CN30-"4" (Orange)



※ F DEF sensor resistance checking method
CN30-"4" (Orange) ↔ "7" (Gray) - Compare with temperature table after measurement

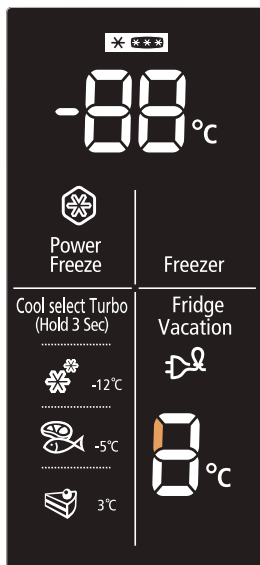


※ F DEF sensor voltage checking method - Sensor checkpoint on PCB: Measure voltage of IC1 MICOM #57 or CN30-"4" (Orange) ↔ "7" (Gray)
- Compare with temperature table after measurement Measure voltage of CN30-"4" (Orange) ↔ "7" (Gray) as shown below.



4. SELF DIAGNOSIS & TROUBLE SHOOTING

5) Coolselect Turbo sensor error



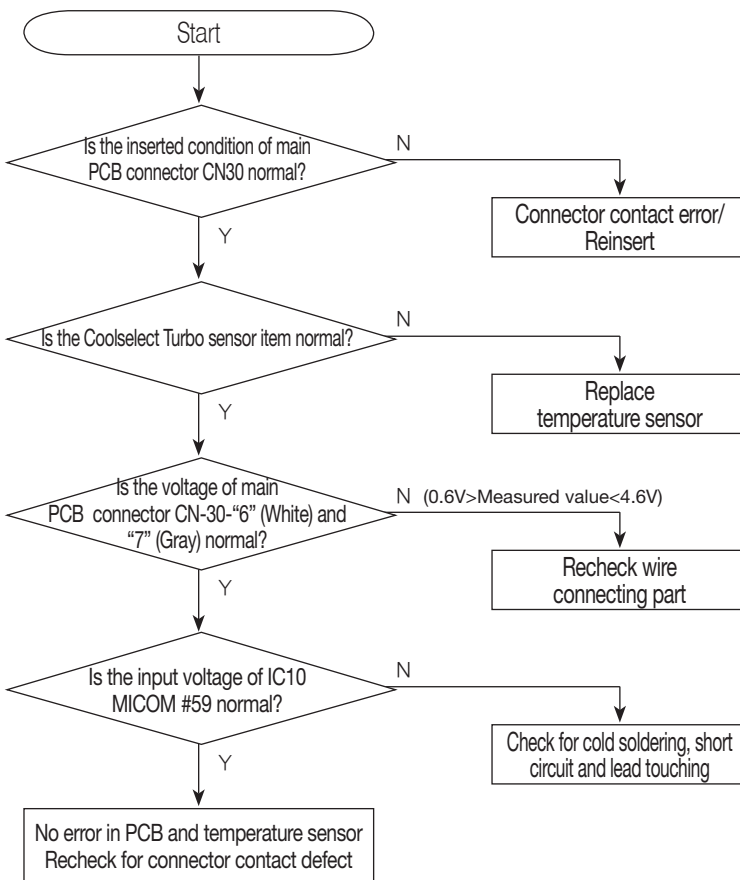
Data 1. Temperature table

F-DEF: Measure resistance between CN30 No. 6 and No. 7 0Ω refers to short and ∞Ω refer to open error.

Refer to the circuit diagram in this

Sensor MICOM/Connector number	
F DEF	Connector CN30 -"6"-
Voltage is measured between 4.6V and 0.6V.	

IC1 MICOM #59 voltage is the same as CN30-"6" (Blue)



☞ Coolselect Turbo sensor resistance checking method
CN30 -" 6" (White) ↔ "7" (Gray) - Compare with temperature table after measurement



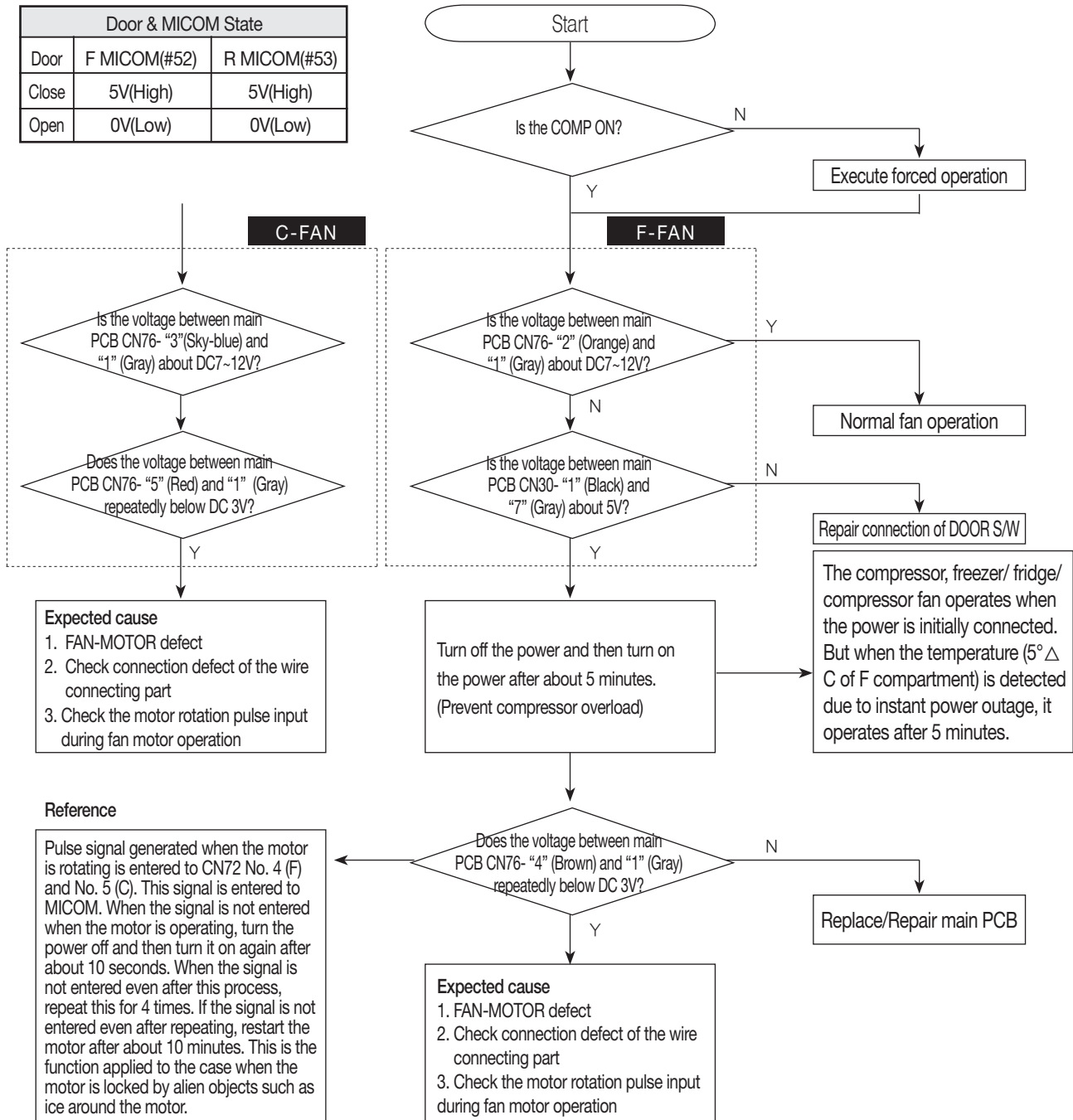
☞ F DEF sensor voltage checking method - Sensor checkpoint on PCB: Measure voltage of IC1 MICOM #57 or CN30-" 4" (Orange) ↔ "7" (Gray)
- Compare with temperature table after measurement Measure voltage of CN30-" 4" (Orange) ↔ "7" (Gray) as shown below.



4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-2-2. When the fan is not working

- This refrigerator uses BLDC fan motor. BLDC motor is a motor operated by DC 7~12V.
- Generally, the F-FAN motor operates together when the COMP is ON. But when the ambient temperature is high and the door is opened/closed once, the operation is delayed for more than 1 minute.
Please note that this is not an error.
- In case of an error, first turn the power off and select self diagnosis function, and check the part where the actual error occurs.



4. SELF DIAGNOSIS & TROUBLE SHOOTING

F FAN pulse voltage

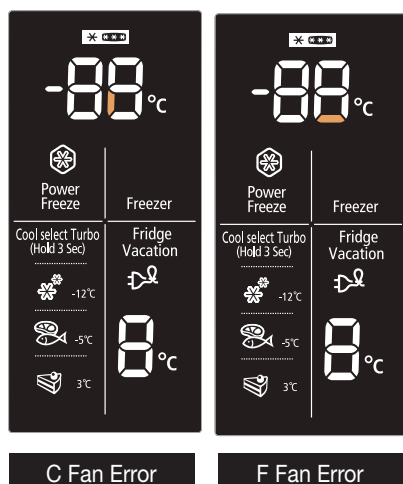
CN76- "5"(Red) ↔ "1"(Gray) Because this signal is a pulse signal, the voltage changes.

But when measured with multi-meter, about 2-3V is measured.



CN30-7(Gray) is the same as REG1(GND)

☞ Display when checking self diagnosis function



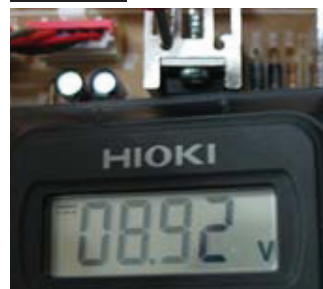
☞ F, C FAN motor voltage checking method F FAN; Voltage between PCB common ground CN76- "1" (Gray) and CN76- "2" (Orange) is within DC 7~12V. C FAN; Voltage between PCB common ground CN76- "1" (Gray) and CN76- "3" (Sky-blue) is within DC 7~12V.

- Check additionally when the resistance differs after measurement.

1) F-FAN



2) C-FAN



4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-2-3. When the defrost is not working (F DEF heater)

Defrost value measuring location by heater
F-DEF: Measure resistance (294 ohm $\pm$ 7%) between CN71 No. 5 (Brown) and CN71 No. 3 (Orange) 0 Ω refers to short and $\infty\Omega$ refer to open (bimetal, heater) error.

Resistance measuring location by sensor
F-DEF: Measure resistance between CN30 No. 4 and No. 7 0 Ω refers to short and $\infty\Omega$ refer to open error.

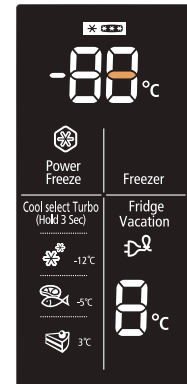
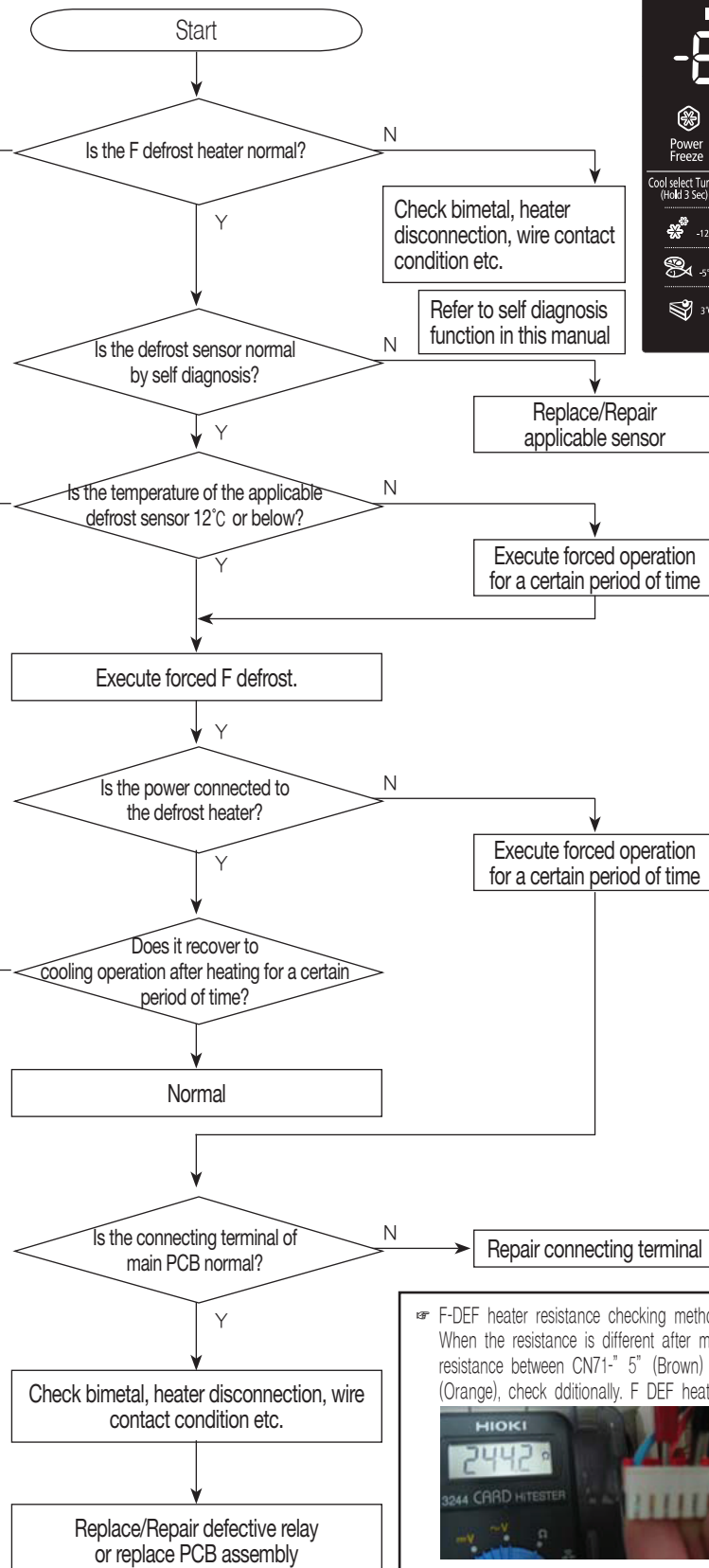
Sensor resistance by temperature		Refer to Data 1. Temperature table for detail temperature
30 °C	4.22 °C	
20 °C	6.05 °C	
10 °C	8.87 °C	
0 °C	13.29 °C	
-10 °C	20.42 °C	
-20 °C	32.23 °C	
-30 °C	52.41 °C	

Resistance measuring location by sensor
F-DEF: Measure resistance between CN30 No. 4 and No. 7 0 Ω refers to short and $\infty\Omega$ refer to open error.

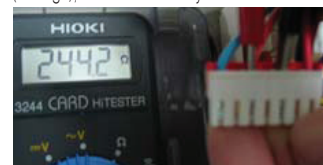
Recheck for applicable sensor error that is not recovered

Reference

When the temperature of F defrost sensor is over 10°C respectively by the heater, it ends the heating and switches to cooling operation after a break.



F-DEF heater resistance checking method F DEF: When the resistance is different after measuring the resistance between CN71- 5" (Brown) and "3" (Orange), check additionally. F DEF heater



4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-2-4. When the power is not working

Caution

Because the main PCB power terminal generates AC 220V power and more than DC300V of high voltage, be careful during repair or measurement.

☞ SMPS input voltage checking method
CN10 input; AC power between
CN1- "1" (Red) and "3" (Black)



☞ SMPS 2nd side voltage (+12V)
checking method CN73- "1" >
"JP17" → Same as C102 ends

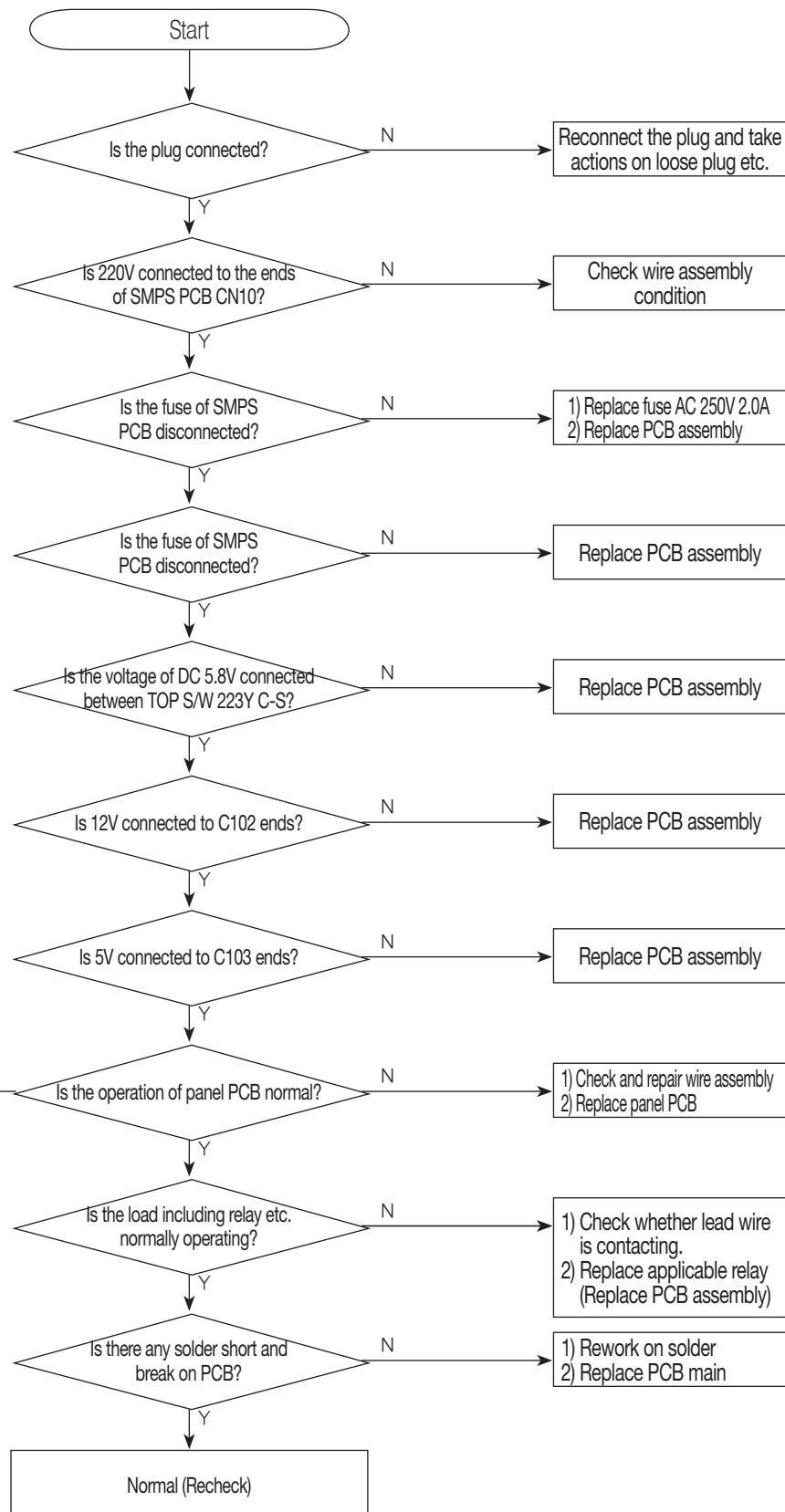


☞ SMPS 2nd side voltage (+5V)
checking method C104 ends → Same
as C103 ends



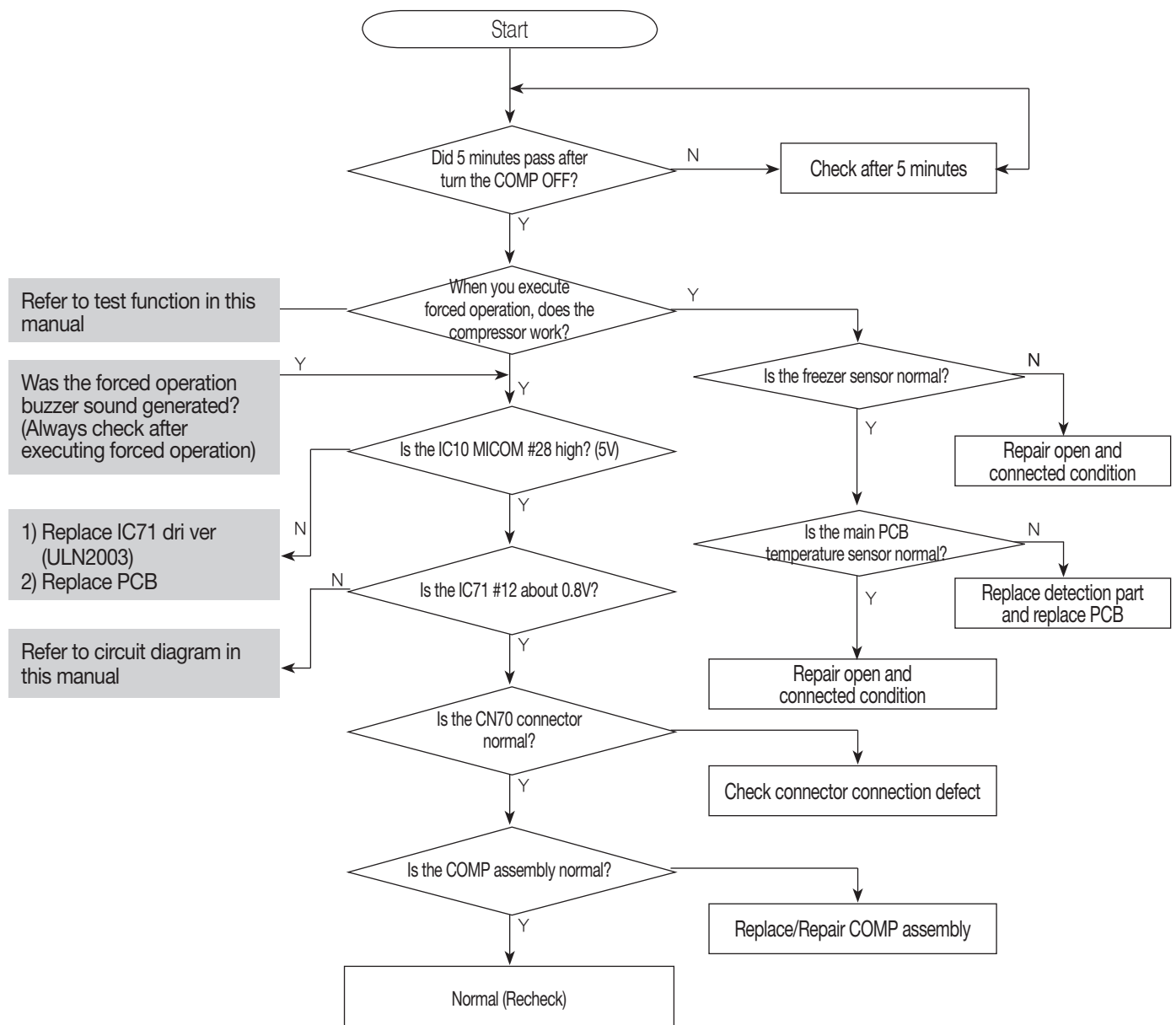
CN30-7(Gray)
is the same
as REG1(GND)

Check door panel PCB connection



4. SELF DIAGNOSIS & TROUBLE SHOOTING

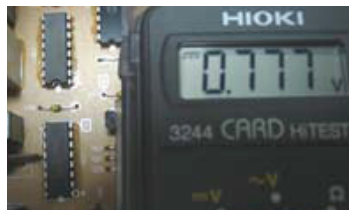
4-2-5. When the compressor is not working



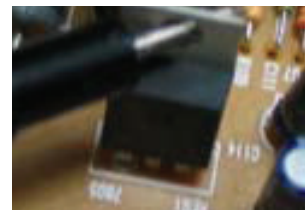
⚠ Voltage checking method PCB common ground D104 heat emission plate and
1) IC1 MICOM #18: Voltage high ($5V \pm 0.5V$)
IC02 MICOM #18 when the COMP is operating.



⚠ Voltage checking method PCB common ground D104 heat emission plate and
1) IC1 MICOM #14: Voltage low ($0.7V \pm 0.5V$)
IC3 #14 when the COMP is operating.



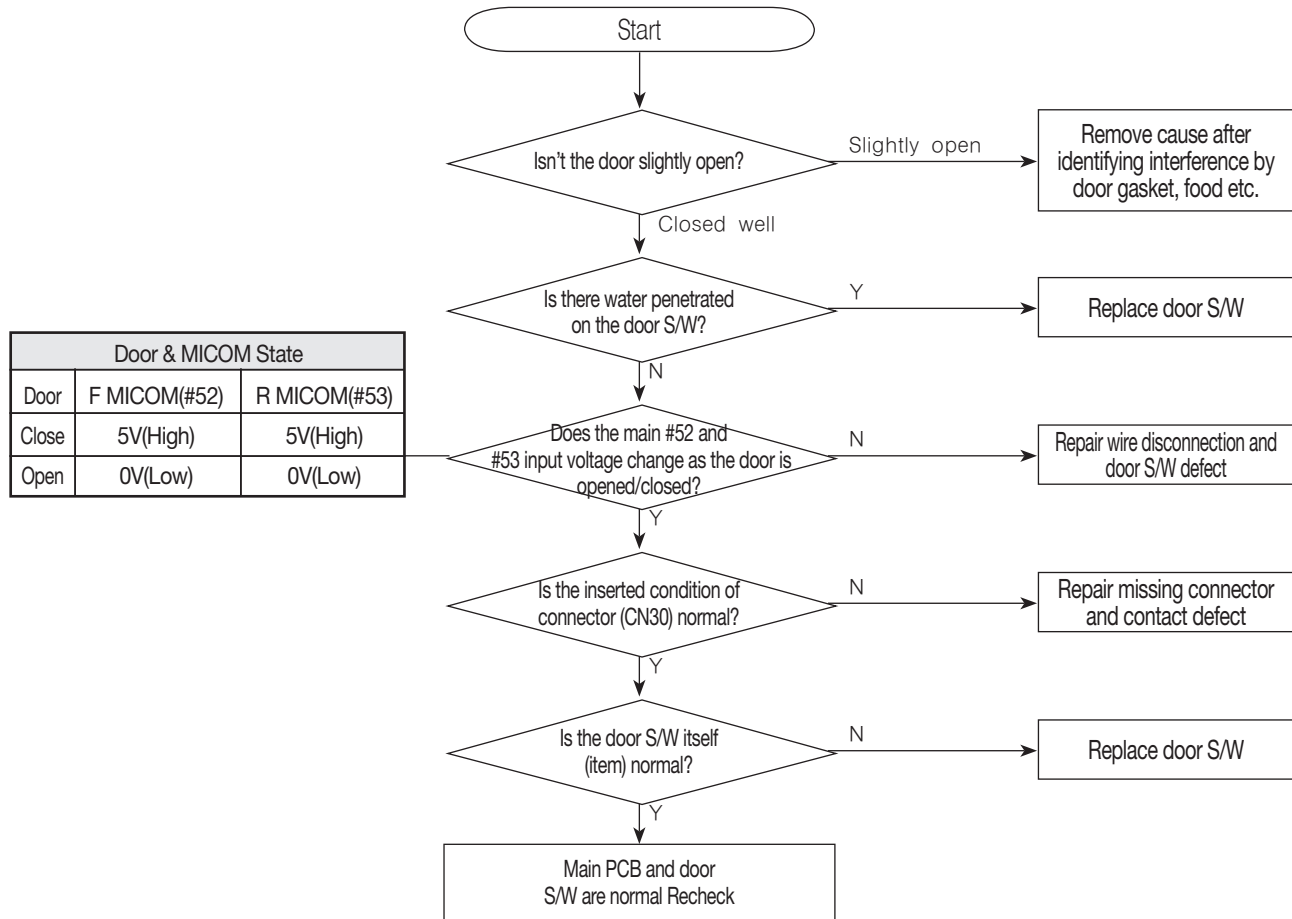
CN30-7(Gray) is the same as REG1(GND)



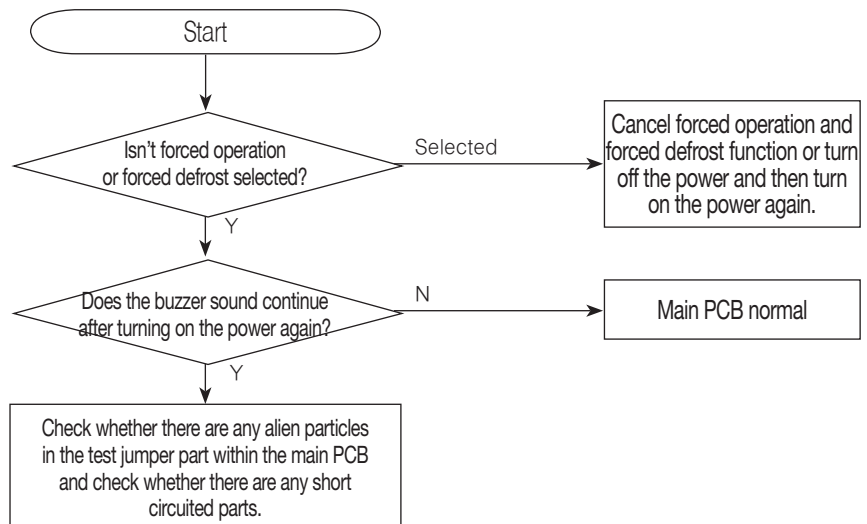
4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-2-6. When the alarm is generated continuously

① When the 'Ding Dong' sound is generated continuously



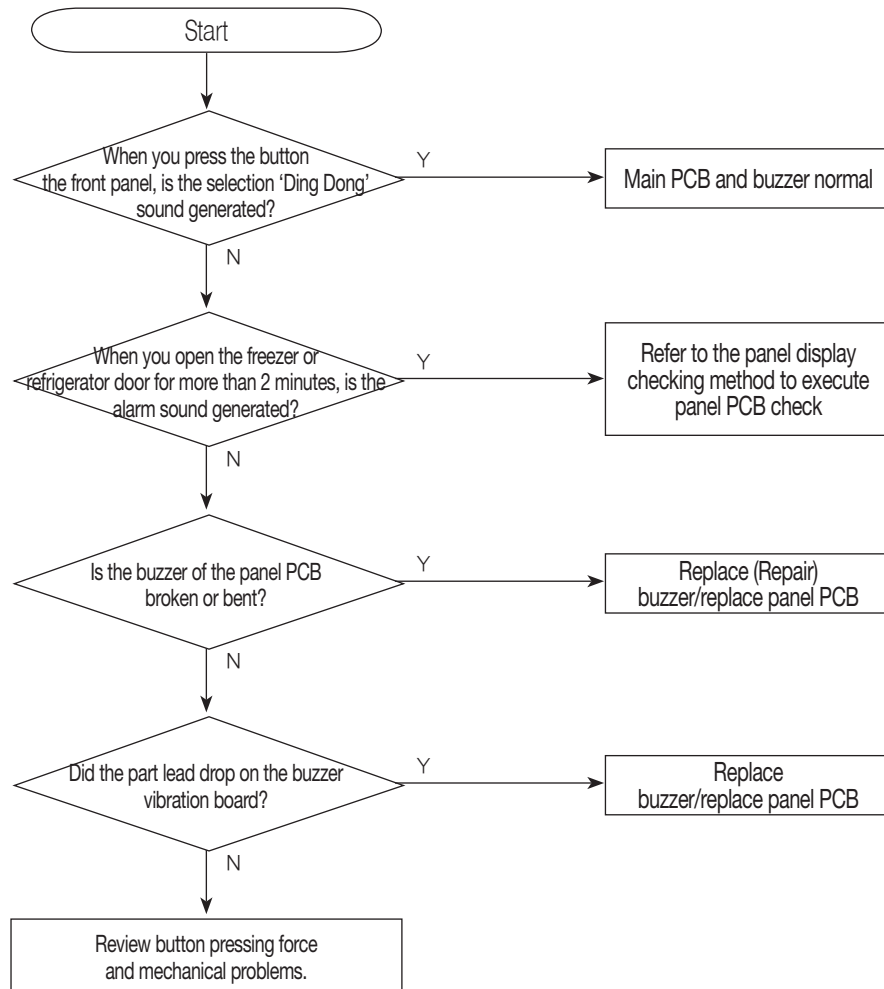
② When the 'Beep-Beep' sound is generated continuously



4. SELF DIAGNOSIS & TROUBLE SHOOTING

③ When there is no buzzer sound generated

This model has a buzzer installed (attached) on the main PCB. When the buzzer sound is not generated when the button is pressed, when forced operation is executed and when the door is opened, separate the panel PCB to first check for broken buzzer, soldering defect etc.



4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-2-7. When the panel PCB is abnormal



CN30-7(Gray) is the same as REG1(GND)

② When the panel PCB key is not selected

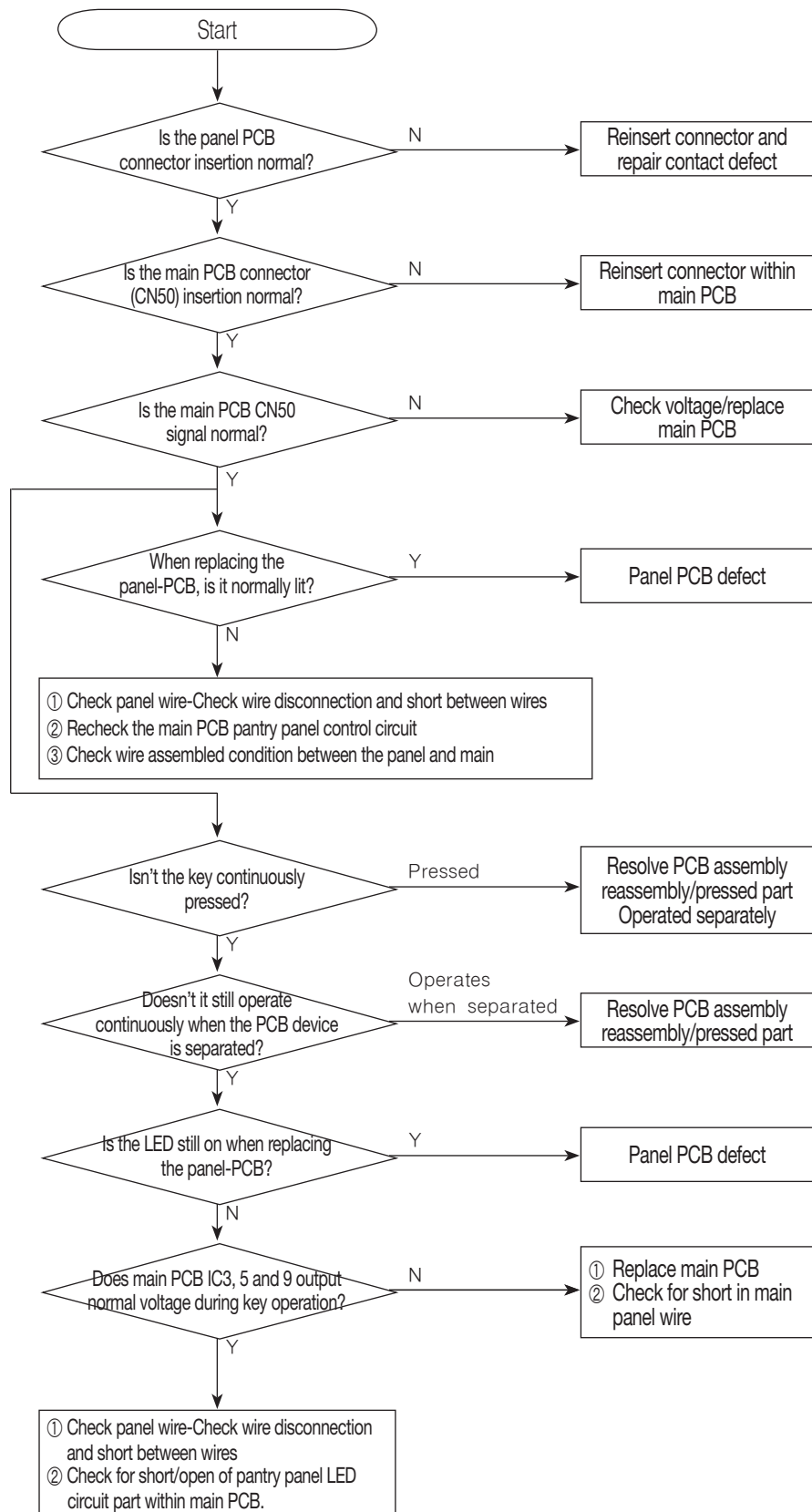
※ Basic checking method is for when it is not repaired after executing the above process. Isn't the key continuously pressed?

⚡ Voltage checking method Basically it is based on PCB common ground CN1-" 3" (Black)

- 1) Key voltage : CN50-" 1" (Purple)
- 1) Normal times (0.0V)



2) Operation times (over 1.2V)



4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-2-8. When the room lamp of the refrigerator is not working

1. When replacing the room lamp of the freezer/refrigerator, there is a possibility of electric shock.

Therefore you must turn the power off before any replacement or repair.

2. For the light bulbs, be careful of heat emitted from the light bulbs.

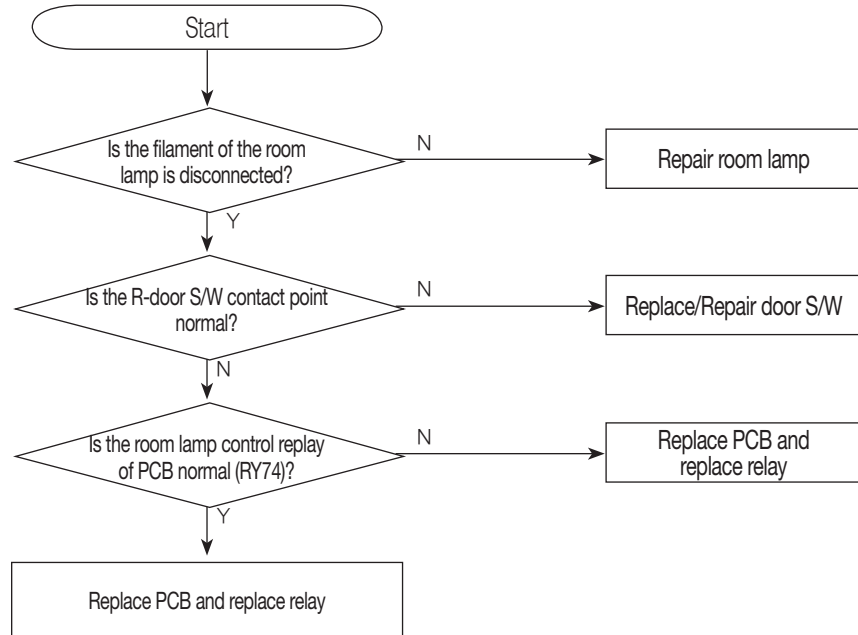
※ The following will be described based on the example of R-Room lamp.

Please take same approach based on the same principle and method.

Door & MICOM State		
Door	F MICOM(#52)	R MICOM(#53)
Close	5V(High)	5V(High)
Open	0V(Low)	0V(Low)

Reference

- ※ Room lamp relay is turned ON/OFF depending on whether the door is opened/closed.
- ※ When the room lamp is not turned on well, observe the operating noise of the relay.
- ※ Every time you pen/close the door, the relay operating sound will be generated.
- ※ F-LAMP Relay - RY73
- ※ R-LAMP Relay - RY74



Reference

When the door is open, the door S/W contact point becomes open to connect 5V to MICOM for detection.

- ☞ When measuring lamp resistance of the wire
 - The resistance changes depending on the lamp input voltage.(Below value is the actually measured value and can change depending on the function.



☞ Freezer lamp →
CN70-" 3" (Purple) ↔ CN71-" 7" (RED)
;1600hm ±16 Ohm
Lamp ;



☞ Fridge lamp →
CN70-" 1" (Blue) ↔ CN71-" 7" (RED)
;800hm ±8 Ohm
Lamp ; 60W

- ☞ Door switch voltage checking method

- Sensor check point on PCB: IC1 MICOM #44 or CN30-" 1" (Black) ↔ Measure voltage of common PCB GND
- Compare with temperature table after measurement Measure voltage of CN30-" 1" (Black) ↔ Measure voltage of common PCB GND as shown below.



CN30-7(Gray) is the same as REG1(GND)

4. SELF DIAGNOSIS & TROUBLE SHOOTING

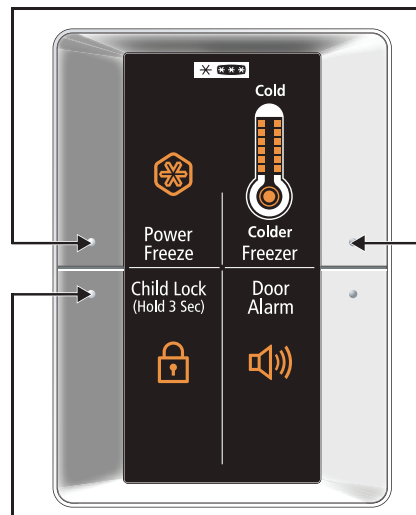
Checkpoints before troubleshooting

4-3. Checkpoints before troubleshooting - SEMI

4-3-1. TEST function (Forced Operation/Forced Defrost Function)

- When you press the Freezer Temperature and Power Freeze keys on the front panel simultaneously for more than 6 seconds, the panel display will blink for 4 seconds. At this time, when you release both keys and press the Power Freeze key, it will proceed to the Test Mode.
- When you press the TEST Key after switching to the Test Mode, it will operate in the order of Forced Operation → Forced F Defrost → Cancel (Normal Operation).
- When there is no key entry on the front panel 15 seconds after switching to the Test Mode, the Test Setting Mode will be canceled to switch to the previous Display Mode.

① Press for more than 6 seconds (Press until it blinks)



② Release the two buttons when it blinks and press the button again

1. Forced Operation Function

① After pressing the Freezer Temperature key and Power Freeze key simultaneously for more than 6 seconds, all display will be turned off. At this time, when you press the Power Freeze key once, you can enter the Test (Forced Operation) Mode.

- 1) Irrelevant from which key you have selected from the Test Mode, when you press once, it will switch to Forced Operation. At this time, the buzzer will go off with the beep sound.
- 2) When Forced Operation is selected, the COMP will start to operate immediately without the 5 minute delay no matter which operating mode it is currently in. At this time, if the unit is in defrost mode, it will immediately stop the defrost mode and execute Forced Operation. (When you directly execute Forced Operation at the point when the COMP is turned OFF, it can cause an OVERLOAD and requires caution)
- 3) When Forced Operation is selected, COMP and F-FAN will continuously operate for 24 hours and the Fridge will be controlled by the set temperature.
- 4) When Forced Operation is selected, F Room will operate in high Notch (-24 ℃).
- 5) Power Freeze Function will not work during Forced Operation.

4. SELF DIAGNOSIS & TROUBLE SHOOTING

When you select this function, the Power Function icon will automatically be turned off in 10 seconds.

- 6) To cancel during the Forced Operation, you can turn off the power and then turn it back on (Reset) or select the Test Cancel Mode in 3) below.
- 7) During the Forced Operation, the alarm sound will continue until the Forced Operation ends (0.25 sec ON/0.75sec OFF), and there is no function to cancel this.

2) Forced Defrost (F) Function

- 1) When you press the Test Key twice in the Test Mode, it will execute F room defrost with the alarm of beep sound.
- 2) Beep sound alarm will go off until heating and break time completion point. (0.5 sec ON/0.5 sec OFF)
- 3) When you select Forced F Defrost, it will be executed irrelevant from the Heater On point and end the Defrost process by comparing the Heater Off Temperature point.

3) Test Cancel Mode

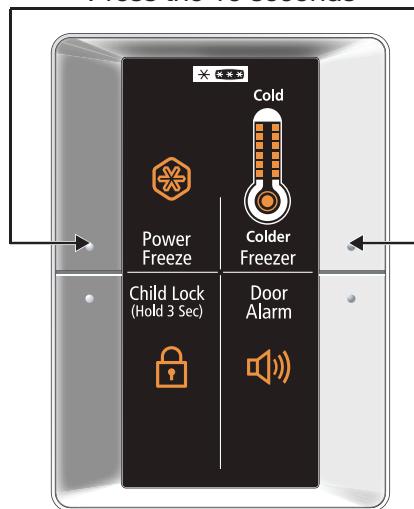
- 1) When you press the Test Key button one more time after switching to Test Mode on the Display Panel during the Freezer Defrost Operation, the Freezer Defrost will be canceled and it will return to Normal Operation. Also when you turn Off the Main Power and then turn it back On, all Test functions will be canceled.

4-3-2. Self Diagnosis Function

1) Self Diagnosis Function when power is initially turned on

- 1) When you connect the power for the first time to the refrigerator, it automatically judges any error of the temperature sensor internally within MICOM within 1 second.
- 2) If there is a sensor error based on the Self Diagnosis result, the applicable Display LED will be turned on. At this time, the beep sound will not go off. (Refer to Self Diagnosis Checklist)
- 3) When there is a sensor error and the error is displayed from the Self Diagnosis result, the unit will only recognize the Self Diagnosis Function button (Press the Freezer Temperature and Power Freeze key simultaneously for 10 seconds) and will not proceed to Normal Display and retain Temperature Control.
- 4) In case of the Self Diagnosis Error, you must resolve all the issues or press the Freezer Temperature and Power Freeze key simultaneously for 10 seconds to automatically cancel all the errors. (It will switch to Normal Display Mode.) Press the 10 seconds

Press the 10 seconds



- ① Press the Freezer Temperature key + Power Freeze key simultaneously for 10 seconds to automatically cancel the errors.

4. SELF DIAGNOSIS & TROUBLE SHOOTING

2) Self Diagnosis Function during Normal Operation

① When you press the Freezer Temperature key + Power Freeze key simultaneously for 10seconds, it will execute the Self Diagnosis Function (During operation)

- 1) When you press the Freezer Temperature key and Power Freezer key simultaneously for 10 seconds during the Normal Operation condition of the refrigerator, the Self Diagnosis Function will be selected. When you press for more than 6 seconds, all Display LED will be turned ON/OFF in 0.5 interval for 4 seconds.
- 2) At this time, a “Ding-Dong” buzzer sound will go off and enter Self Diagnosis Function. After displaying the error for 30 seconds, it will return to the Normal Condition irrelevant from whether the errors are resolved or not. (“Ding-Dong” buzzer will go off) (Refer to Self Diagnosis Checklist)
- 3) Button entry will not work during Self Diagnosis process.

Self Diagnosis Checklist

NO	Error item	Display LED	Error detail
1	Ambient-Sensor Error	Freezer Temperature “Low”	External SENSOR system error
2	F-Sensor Error	Freezer Temperature “Med”	F Room SENSOR system error
3	F-DEF-Sensor Error	Freezer Temperature “High”	F Room Defrost SENSOR system error
4	F-DEF Error	Power Freeze	F Room Defrost system error

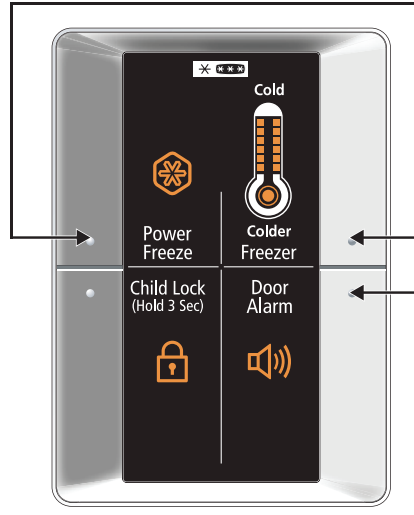
Detail content by Self Diagnosis Error code

LED display	Item	Error detail	Diagnosis method to judge whether it is normal
Freezer Temperature “Low”	Ambient-Sensor Error	Sensor housing missing, poor contact, wire disconnection, short circuit, Sensor detection temperature for the error display by temperature is when the temperature is 149 (+65) or above or -58 (-50) or below	When checking the voltage between No. 1 and 4 of MAIN PCB CN32, the voltage must be within the range of 4.5V~1.0V.
Freezer Temperature “Med”	F-Sensor Error		When checking the voltage between No. 6 and 3 of MAIN PCB CN30, the voltage must be within the range of 4.5V~1.0V.
Freezer Temperature “High”	F-DEF-Sensor Error		When checking the voltage between No. 4 and 3 of MAIN PCB CN30, the voltage must be within the range of 4.5V~1.0V.
Power Freeze	F-DEF. Error	Housing missing, poor contact, wire disconnection, short circuit or temperature fuse error generated related to F Room Defrost Heater.	After separating the MAIN PCB CN70 wire from the PCB, check the resistance between the CN70 No. 5 wire and No. 1 wire, which must be within the range of 294 ohm $\pm 7\%$. (The resistance value changes according to input power)

4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-3-3. Load Status Display function

- ① Press the button for 6 seconds (Press unit it blinks)



- ② When it starts to blink, release the two buttons and then press the

Press the Freezer Temperature key + Power Freeze key for 10 seconds until the Display LED blinks, and then press the Door Alarm Set/Cancel key.

- 1) Press the Freezer Temperature key + Power Freeze key simultaneously for 6 seconds in the Normal Operation condition until all parts of Display LED starts to blink. (LED will repeat ON/OFF in interval of 0.5 second repeatedly.)
- 2) When you press the Alarm Set/Cancel key while the Display is blinking for 4 seconds, it will switch to the Load Status Display Function Mode.
- 3) Load Status Display Function Mode notifies which load is currently outputting the MICOM signal. But, this does not show whether the MICOM signal has been outputted or whether that load is actually operating. That is, even though the load is displayed to be in operation, it may not be operating due to error in actual load or relay error on PCB etc. During the A/S, you can apply this function for use.
- 4) Load Status Display Function continues for only 30 seconds and then automatically returns to the Normal Condition.

Load Mode Checklist

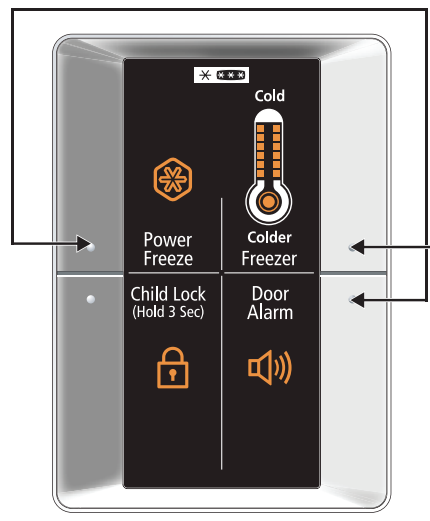
Display LED	Display detail	Operation detail
Freezer Temperature "Low"	COMP.	Applicable LED ON when COMP is operating
Freezer Temperature "Med"	F-FAN	Applicable LED ON when F-FAN is operating
Freezer Temperature "High"	C-FAN	Applicable LED ON when C-FAN is operating
Power Freeze	F-DEF Heater	LED ON when Freezer Defrost Heater is operating
Alarm Set/Cancel	Exhibition Mode	LED ON in Exhibit Mode

4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-3-4. Option Setting Function

- 1) When you press the Alarm Set/Cancel key + Power Freeze key simultaneously for 6 seconds in Normal Operation condition, the Display LED starts to blink. At this time, when you press the Freezer Temperature key, you can enter the Exhibition Mode.
- 2) When you repeat the above selection, the Exhibition Mode will be canceled.
- 3) When the sensor of the F Room increases to 65 ° or above during the Exhibition Mode, the Exhibition Mode is automatically canceled and it switches back to the Air Conditioning Operation.
- 4) Operation detail during Exhibition Mode
 - All functions including Display, Fan Motor etc. will work normally and only the COMP will not work.
 - The Defrost function will be not executed.
 - End initial actual temperature Display Function

① Press for more than 6 seconds (Press until it blinks)



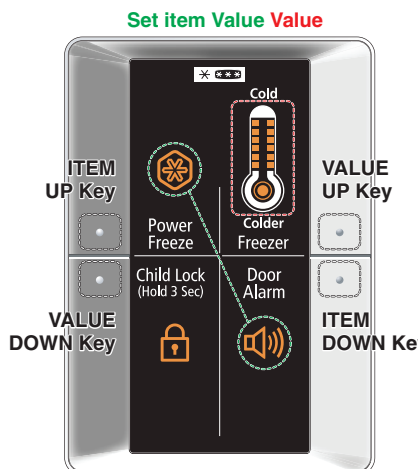
② When it starts to blink, release the two buttons and then press the

When you press Freezer Temperature key + Power Freeze key simultaneously for 6 seconds until the Display LED blinks, and then press the Freezer Temperature key, you can enter the Option Setting Mode with a "Ding-Dong"

- When you press the Freezer Temperature key + Power Freeze key simultaneously for 6 seconds in Normal Operation condition, the Display LED starts to blink. At this time, when you press the Freezer Temperature key, and it will switch the Display to Option Setting Mode.

4. SELF DIAGNOSIS & TROUBLE SHOOTING

Key operation method after switching to Option Mode



※ Key operation in option mode

Power Freeze Key	Code Up key
Alarm Set/Cancel Key	Code Down key
Freezer Temperature Key	Reference Value Up key
Child Lock Key	Reference Value Down key

- Because all Option operations proceed in the same method according to the Option Table, this explains only for the Freezer.

- For example, when you want to adjust the option to shift the reference temperature of the Freezer by -1 °C, proceed as follows.

To shift the reference temperature with this function when the current reference temperature of the Freezer is -19 °C, use the option to reduce the temperature by -1 °C, so that the reference temperature is controlled to -20 °C.

That is, when you want to change the temperature option, the temperature will operate as -20 °C even when the setting on the Display is shown as -19 °C. Therefore, it means that the reference temperature is controlled as -1 °C lower than that on the Display.

Reference : As default when the product is manufactured, all data in the Option Function is cleared. That is, all the setting value part will be set to "0" as default. But because the setting value can be changed as part of the mass production for the purpose of quality improvement, always check the quality information documentation etc.

- After changing to Option Mode, all Display LEDs are maintained to "OFF" condition.
(When the product is manufactured, the Fridge is set to "0" and the Freezer to "0". But the setting value can be changed as part of the mass production for the purpose of quality improvement.)
- Power Freeze and Alarm Cancel/Set LED is set to OFF condition (Freezer Display), and when the "Med" part of the Freezer Temperature LED is set to "ON", the Freezer Reference Temperature is set lower by -1.0 °C. (Refer to Freezer Temperature Change figure)
: When the adjustment is completed, wait for 20 seconds and MICOM will save the set value to EEPROM. And then it will switch to normal display and cancel the Option Setting Mode.

4. SELF DIAGONOSIS & TROUBLE SHOOTING



- 4) Defrost recovery temperature, Hysteresis by temperature, Notch Gap by temperature etc. can be adjusted in the same method as above.
- 5) Because the Option Function is set in EEPROM when the product is manufactured, refrain from making changes unless it is a special case. Because the Option Setting Function is completely set only when it returns to the normal display after 20 seconds, do not turn off the power until the normal display is recovered.

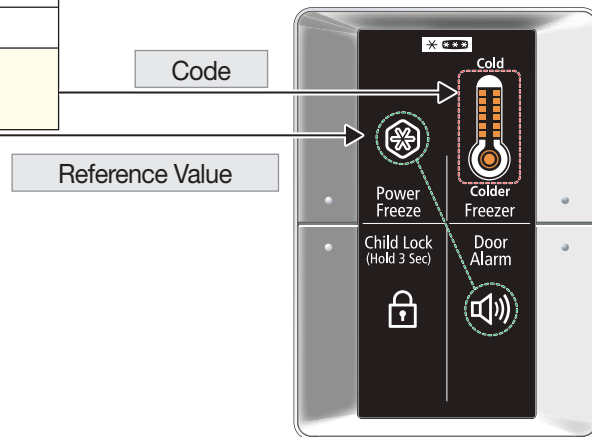
Reference : For the functions that can be adjusted with the Option, they will be omitted because they are not necessary parts for A/S related in relation to Refrigerator control function.
(Do not set the option outside of the A/S Manual details above.)

4-3-5. Option Table

1) Freezer Temperature change table

Setting ITEM	Freezer Temp Shift
MODEL	RT77B**
Reference Value	Power Freeze: OFF Alarm Set/Cancel: OFF

Example of application :
When you want to reduce the reference temperature of the freezer by - 1 .



0 °C	-0.5 °C	-1.0 °C	-1.5 °C	0.5 °C	1.0 °C	1.5 °C	2.0 °C

4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-3-6. Troubleshooting flowchart

Data 1. Temperature table

Resistance and MICOM port voltage of sensor by temperature Sensor chip: PX41C

℃	Voltage	Resistance	℃	Voltage	Resistance	℃	Voltage	Resistance
-50	4.694	153319	-5	3.107	16419	40	1.153	2997
-49	4.677	144794	-4	3.057	15731	41	1.124	2899
-48	4.659	136798	-3	3.006	15076	42	1.95	2805
-47	4.641	129294	-2	2.955	14452	43	1.068	2714
-46	4.622	122248	-1	2.904	13857	44	1.04	2627
-45	4.602	115631	0	2.853	13290	45	1.014	2543
-44	4.581	109413	1	2.802	12749	46	0.988	2482
-43	4.56	103569	2	2.751	12233	47	0.963	2384
-42	4.537	98073	3	2.7	11741	48	0.938	2309
-41	4.514	92903	4	2.649	11271	49	0.914	2237
-40	4.49	88037	5	2.599	10823	50	0.891	2167
-39	4.465	83456	6	2.548	10395	51	0.868	2100
-38	4.439	79142	7	2.498	9986	52	0.846	2036
-37	4.412	75077	8	2.449	9596	53	0.824	1973
-36	4.385	71246	9	2.399	9223	54	0.803	1913
-35	4.356	67634	10	2.35	8867	55	0.783	1855
-34	4.326	64227	11	2.301	8526	56	0.762	1799
-33	4.296	61012	12	2.253	8200	57	0.743	1745
-32	4.264	57977	13	2.205	7888	58	0.724	1693
-31	4.232	55112	14	2.158	7590	59	0.706	1642
-30	4.199	52406	15	2.111	7305	60	0.688	1594
-29	4.165	49848	16	2.064	7032	61	0.67	1547
-28	4.129	47431	17	2.019	6771	62	0.653	1502
-27	4.093	45146	18	1.974	6521	63	0.636	1458
-26	4.056	42984	19	1.929	6281	64	0.62	1416
-25	4.018	40938	20	1.885	6052	65	0.904	1375
-24	3.98	39002	21	1.842	58832	66	0.589	1335
-23	3.94	37469	22	1.799	5621	67	0.574	1297
-22	3.899	35433	23	1.757	5419	68	0.856	1260
-21	3.858	33788	24	1.746	5225	69	0.546	1225
-20	3.816	32230	25	1.675	5039	70	0.532	1190
-19	3.773	30752	26	1.636	4861	71	0.519	1157
-18	3.729	29350	27	1.596	4690	72	0.506	1125
-17	3.685	28021	28	1.558	4526	73	0.493	1093
-16	3.64	26760	29	1.52	4369	74	0.481	1063
-15	3.594	25562	30	1.483	4218	75	0.469	1034
-14	3.548	24425	31	1.447	4072	76	0.457	1006
-13	3.501	23345	32	1.412	3933	77	0.446	978
-12	3.453	22320	33	1.377	3799	78	0.435	952
-11	3.405	21345	34	1.343	3670	79	0.424	926
-10	3.356	20418	35	1.309	3547	80	0.414	902
-9	3.307	19537	36	1.277	3428	81	0.404	877
-8	3.258	18698	37	1.253	3344	82	0.394	854
-7	3.208	17901	38	1.213	3204	83	0.384	832
-6	3.158	17142	39	1.183	3098	84	0.375	810

4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-4. Trouble Shooting - SEMI

4-4-1. In case of self diagnosis error

- Sensor error is displayed on the front display of the refrigerator. In case of a sensor error at the initial power connection, the refrigerator will not operate and repeatedly display (flash) the sensor part with the error.
- In case of a sensor error during operation, the refrigerator will not top but operate in emergency operation mode and normal cooling operation may not work. Check and diagnose the problem by using this self diagnosis

1) Ambient sensor error

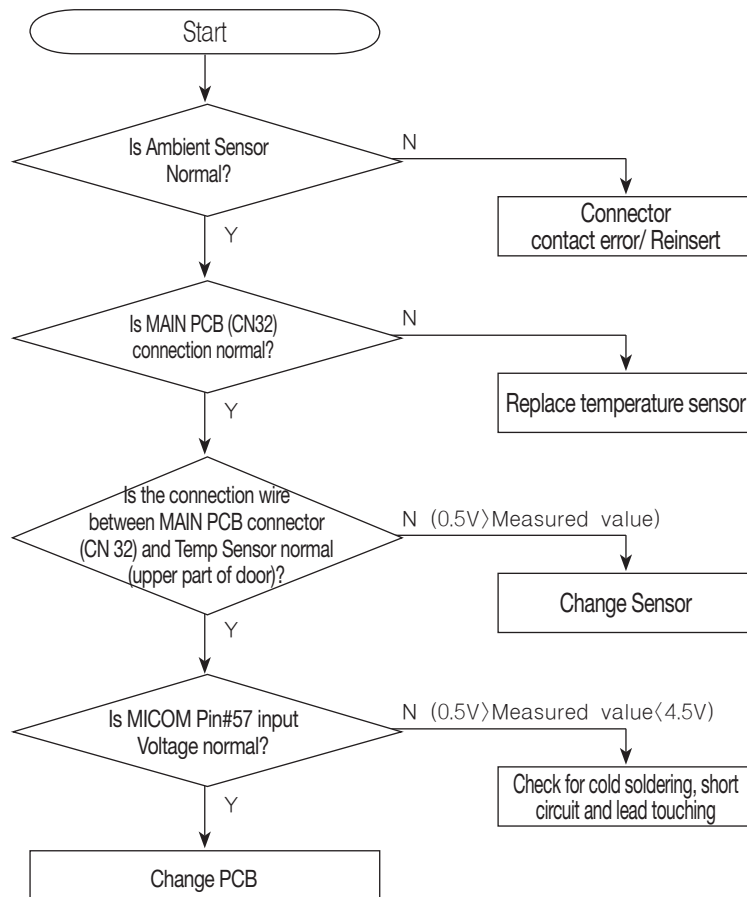


Data 1. Temperature table

Refer to the circuit diagram in this manual
Resistance measuring location by sensor R:
Measure resistance between CN32 No. 1 and
No. 4. 0 Ω refers to short and ∞ Ω refer to open
error.

Sensor MICOM/Connector number	
Ambinet	Connector CN32 - "1" -
Voltage is measured between 4.6V and 0.6V.	

IC1 MICOM #57 voltage is
the same as CN32 - "1"(White)



- ☞ Ambient Sensor resistance checking method CN32-"1" (White) ↔ "4" (White)
- Compare with temperature table after measurement.



- ☞ Ambient Sensor voltage checking method
- Sensor checkpoint on PCB: Measure voltage of IC1 MICOM #57 or CN32-"1" (White) ↔ "4" (White)



- Compare with temperature table after measurement Measure voltage of CN32-"1" (White) ↔ "4" (White) as shown below.

4. SELF DIAGNOSIS & TROUBLE SHOOTING

2) F sensor error



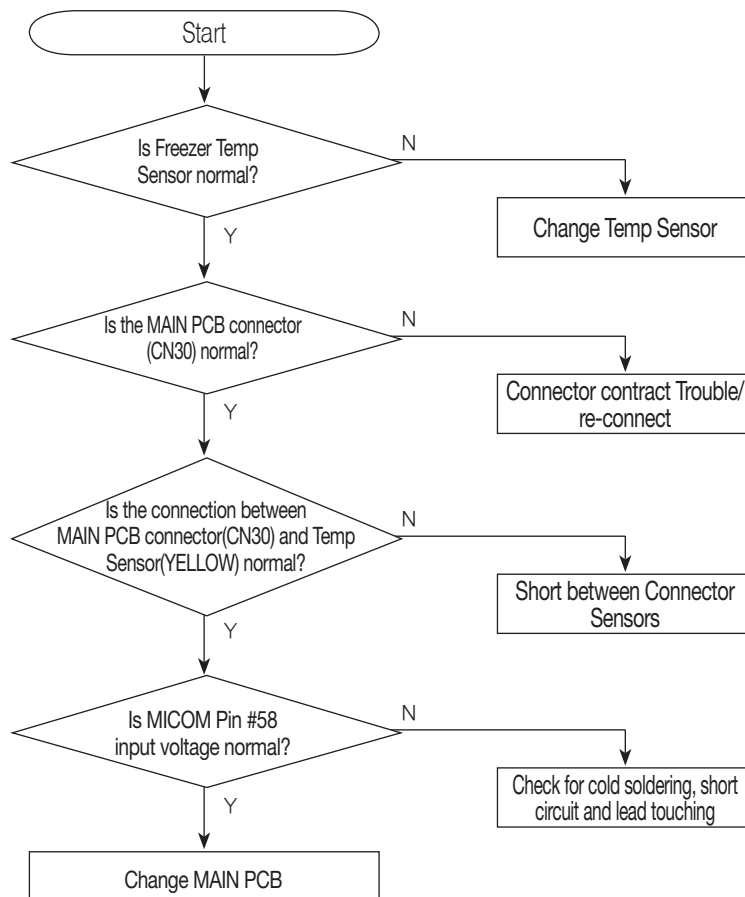
Data 1. Temperature table

Resistance measuring location by sensor
F: Measure resistance between CN30 No. 6 and No. 3. 0 Ω refers to short and $\infty \Omega$ refer to open error.

Refer to the circuit diagram
in this manual

Sensor MICOM/Connector number	
F	Connector CN30- "6"- "3"
Voltage is measured between 4.6V and 0.6V.	

IC1 MICOM #58 voltage is the
same as CN30- "6" (Yellow)



- F sensor resistance checking method CN30- "6" (Yellow) ↔ "3" (Gray)
- Compare with temperature table after measurement



- F sensor voltage checking method
- Sensor checkpoint on PCB: Measure voltage of IC1 MICOM #58 or CN30- "6" (Yellow) ↔ "3" (Gray)
- Compare with temperature table after measurement
- Measure voltage of CN30- "6" (Yellow) ↔ "3" (Gray) as shown below.



4. SELF DIAGNOSIS & TROUBLE SHOOTING

3) F DEF sensor error

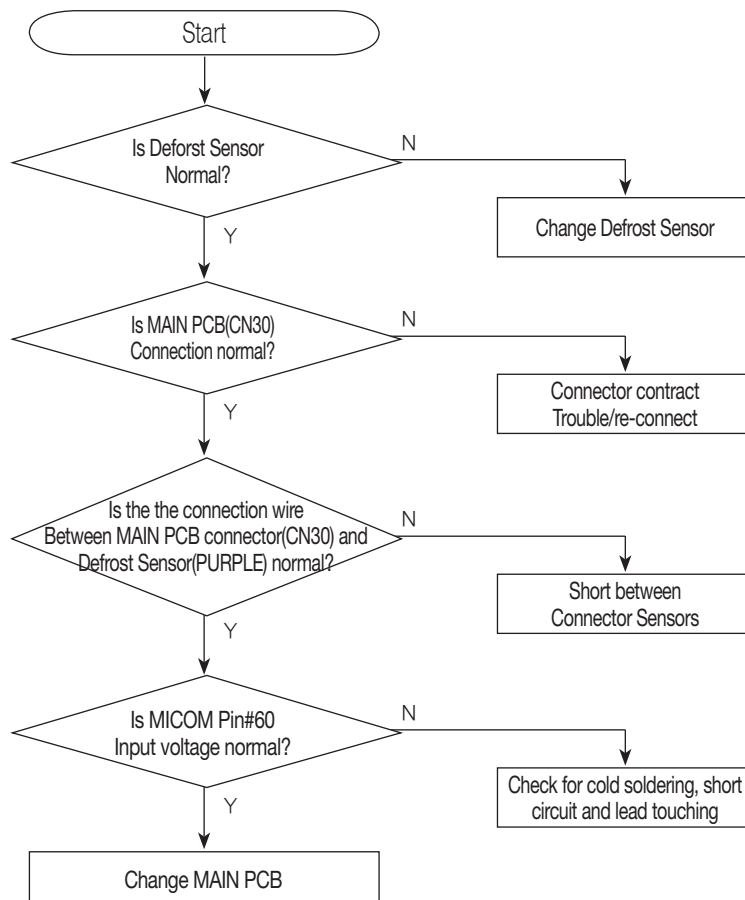


Data 1. Temperature table

F-DEF: Measure resistance between CN30 No. 4 and No. 3 0Ω refers to short and ∞Ω refer to open error.

Refer to the circuit diagram in this manual

Sensor MICOM/Connector number	
F DEF	Connector CN30- "4"-
IC1 MICOM #60 voltage is the same as CN30- "4" (Purple)	



- ☞ F DEF sensor resistance checking method CN30-"4" (Purple) ↔ "3" (Gray)
- Compare with temperature table after measurement



- ☞ F DEF sensor voltage checking method
- Sensor checkpoint on PCB: Measure voltage of IC1 MICOM #60 or CN30-"4" (Purple) ↔ "3" (Gray)

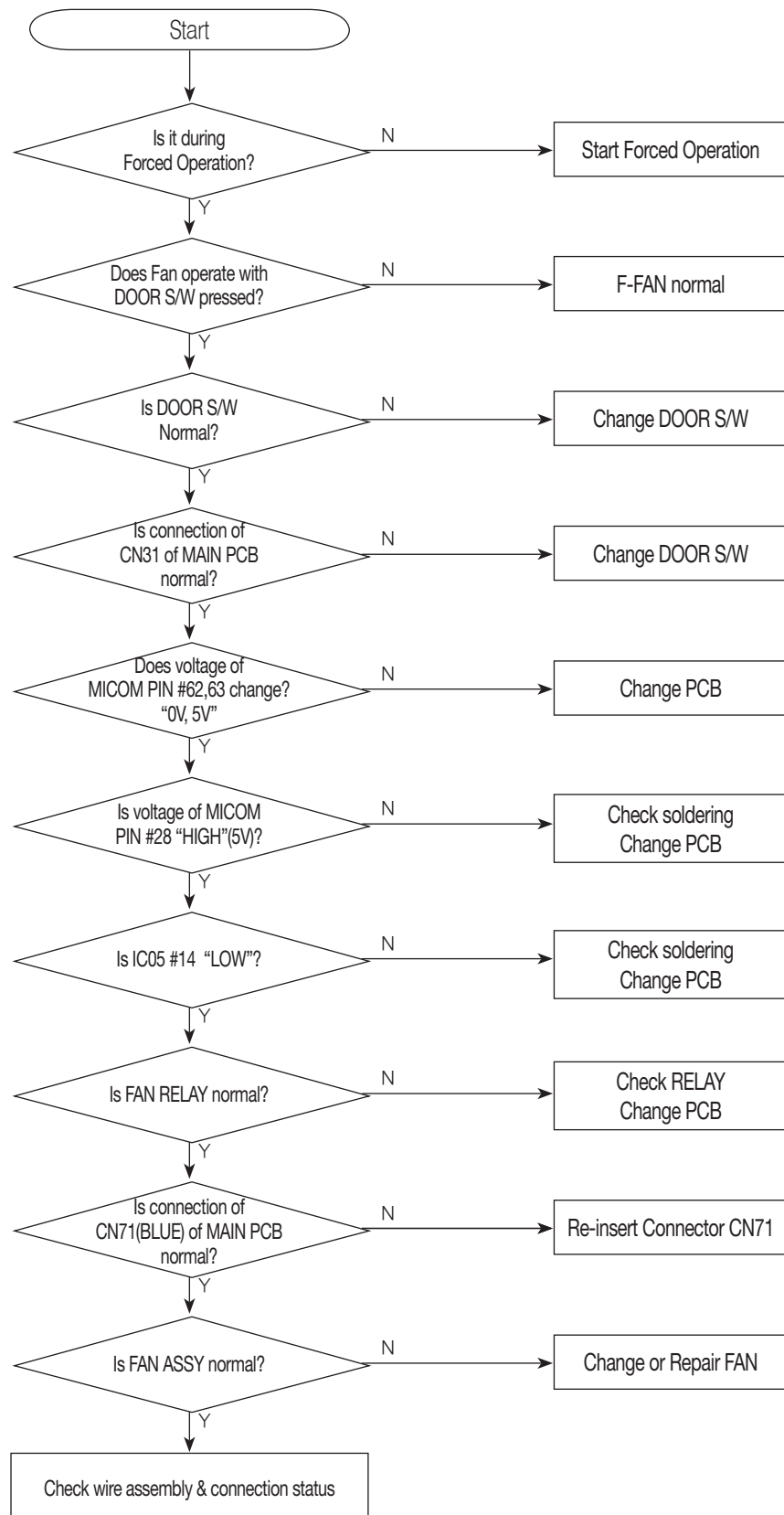


- Compare with temperature table after measurement
- Measure voltage of CN30-"4" (Purple) ↔ "3" (Gray) as shown below.

4. SELF DIAGNOSIS & TROUBLE SHOOTING

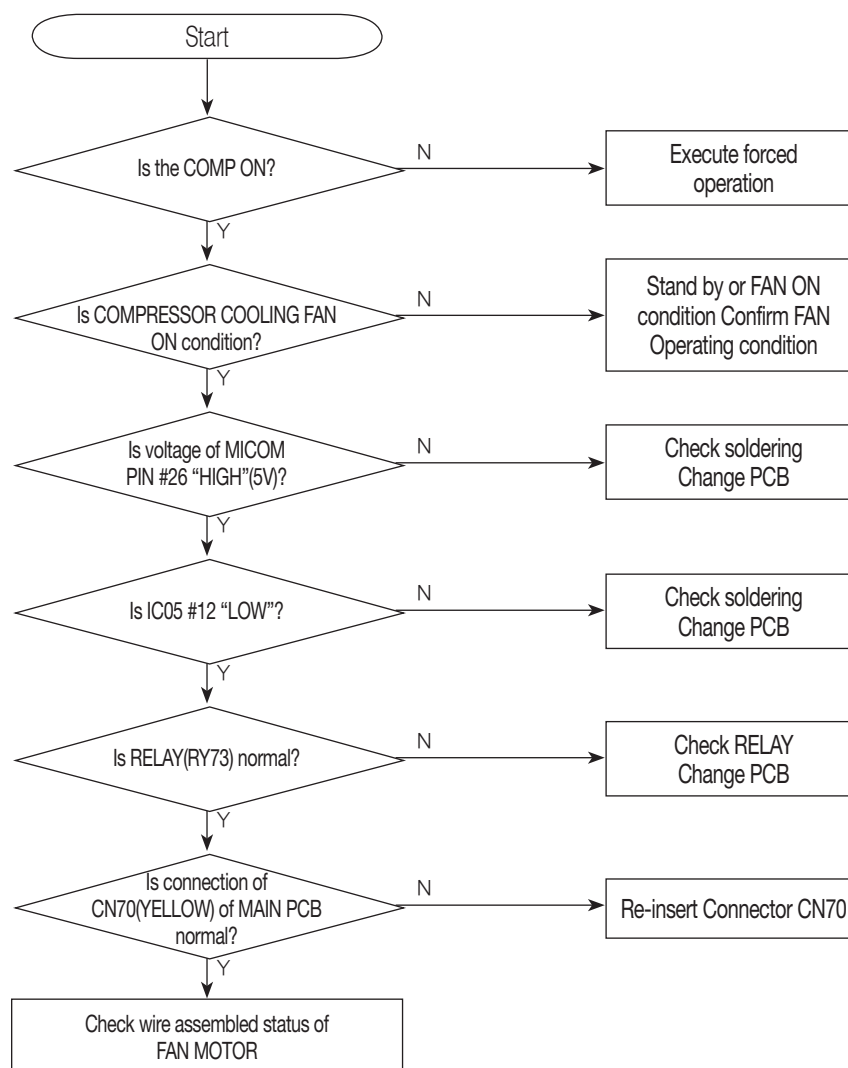
4-4-2. When the fan is not working

- Generally, the F-FAN motor operates together when the COMP is ON. But when the ambient temperature is high and the door is opened/closed once, the operation is delayed for more than 1 minute. Please note that this is not an error.
- In case of an error, first turn the power off and select self diagnosis function, and check the part where the actual error occurs.



4. SELF DIAGNOSIS & TROUBLE SHOOTING

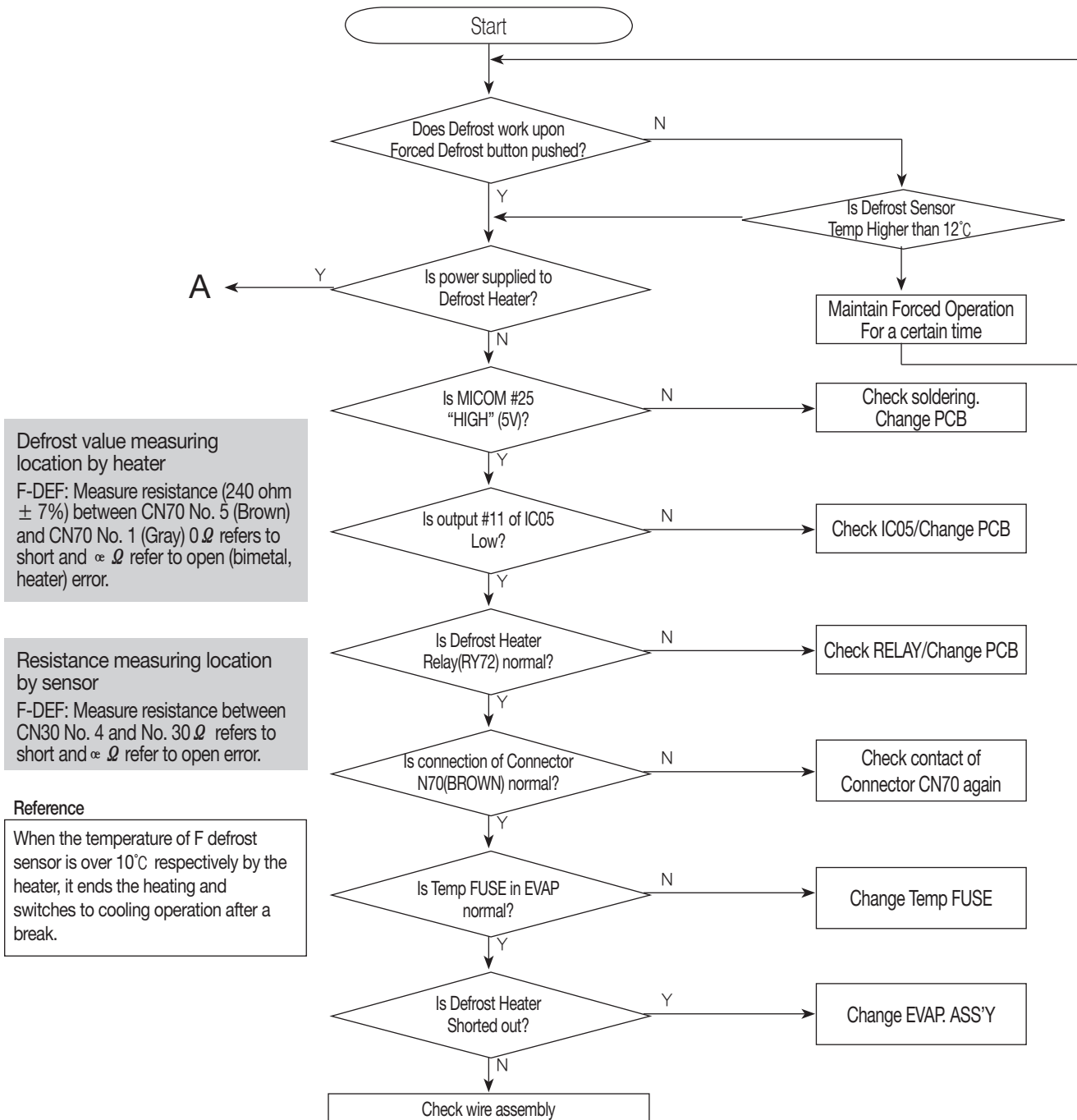
4-4-3. When the fan is not working



	Ambient Temp Range	Compressor Fan gets off regardless of COMPRESSOR
Compressor FAN DELAY	Higher than 18°C	Compressor Fan operates in 5 min after COMPRESSOR ON
	Between 13°C and 17°C	Compressor Fan operates immediately upon COMPRESSOR ON
	Lower than 12°C	Load Operation Status

4. SELF DIAGNOSIS & TROUBLE SHOOTING

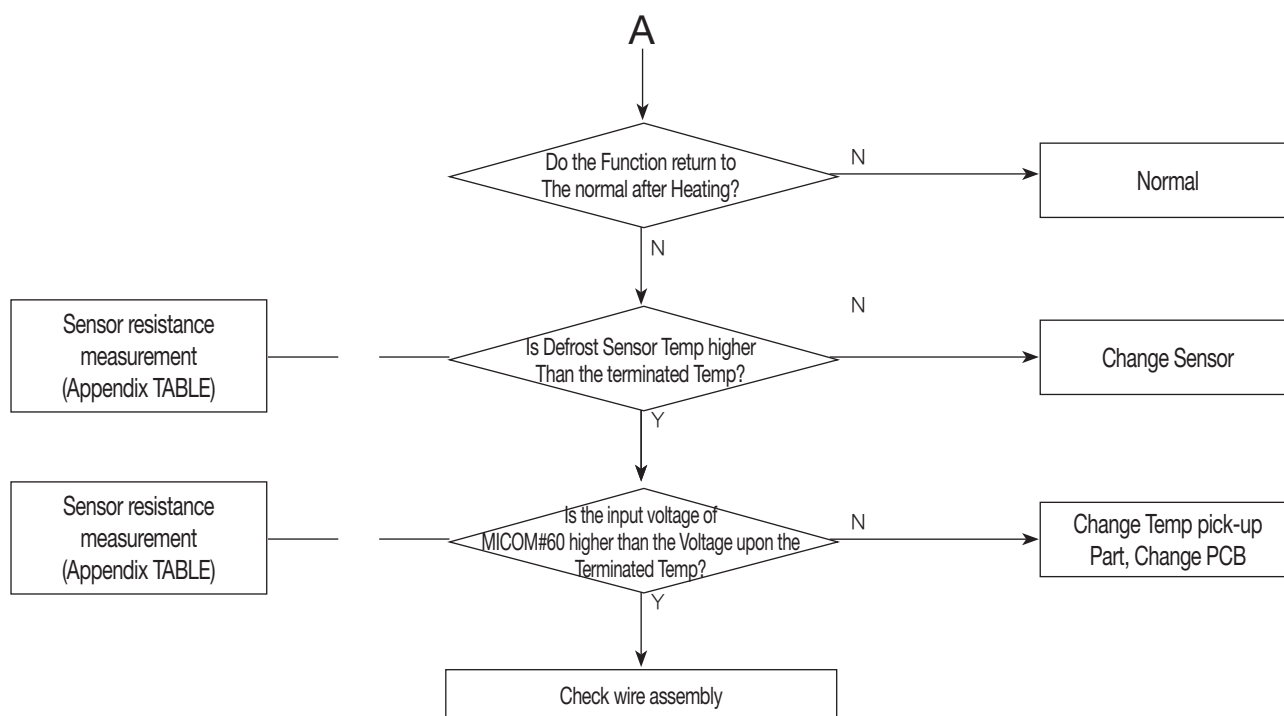
4-4-4. When the defrost is not working (F DEF heater)



F-DEF heater resistance checking method
F DEF: When the resistance is different after measuring the resistance between CN70- "5" (Brown) and "1" (Gray), check additionally. F DEF heater



4. SELF DIAGNOSIS & TROUBLE SHOOTING



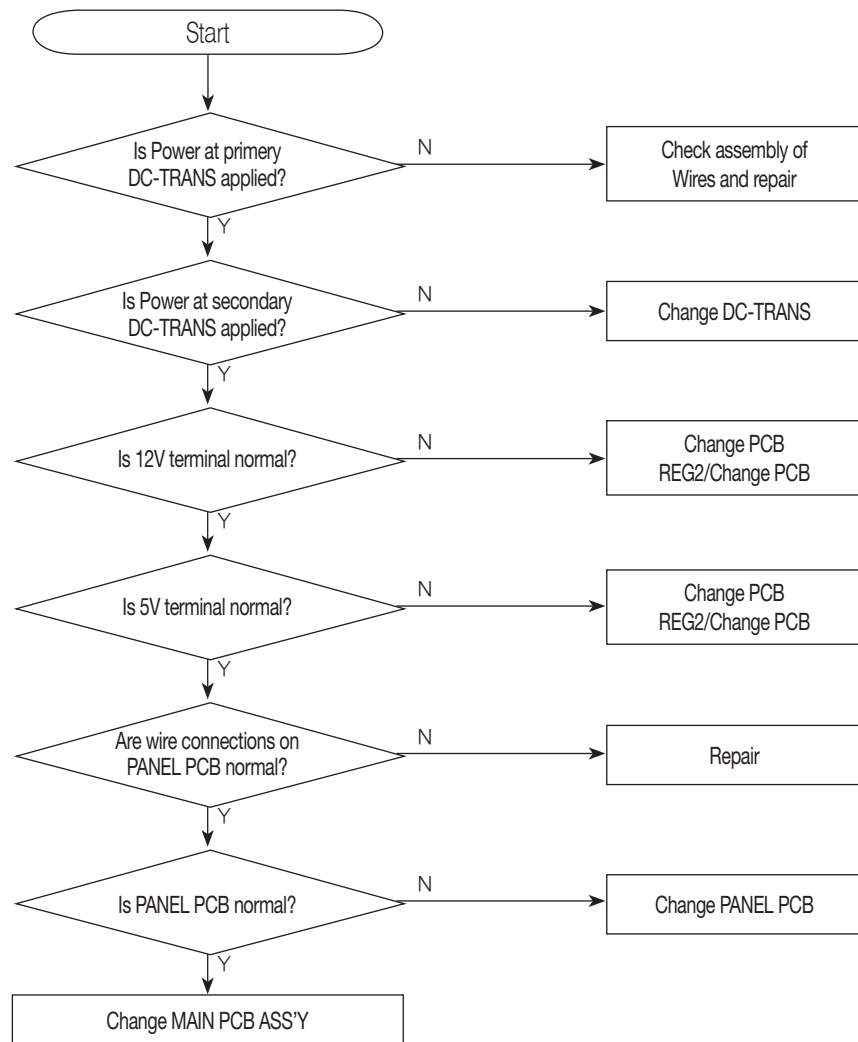
4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-4-5. When the power is not working

Caution

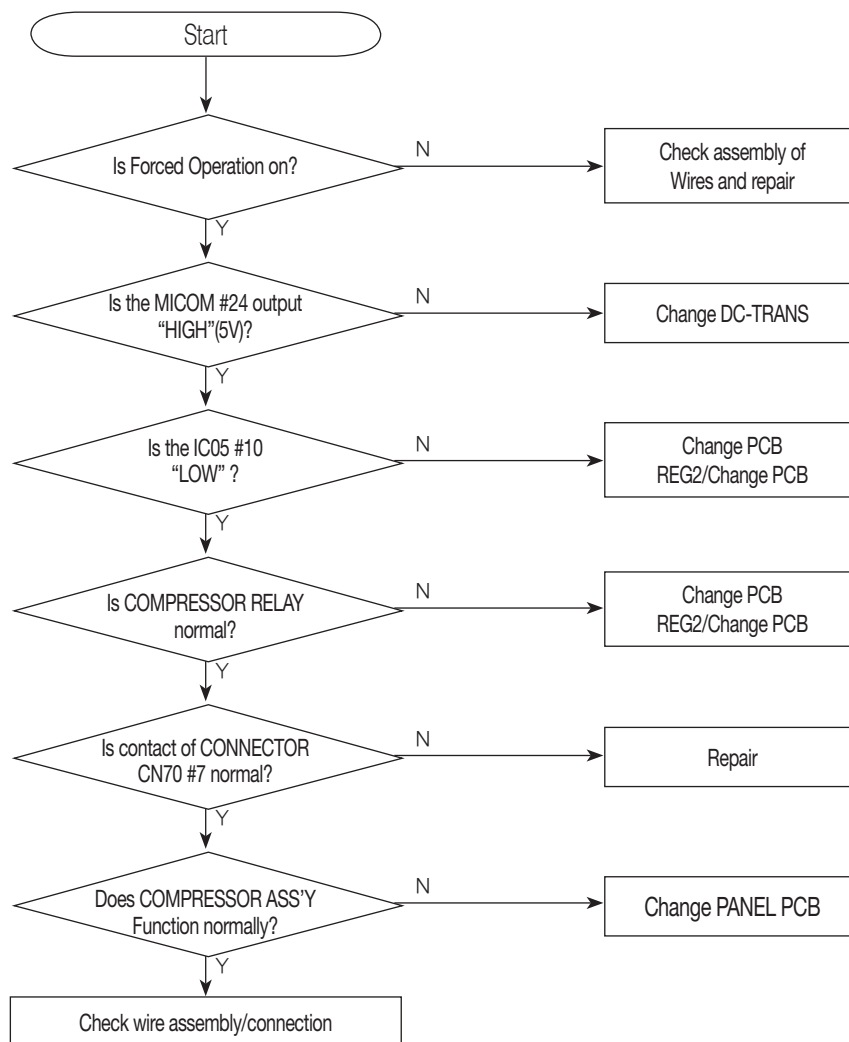
Because the main PCB power terminal generates AC 220V power and more than DC300V of high voltage, be careful during repair or measurement.

- When repairing the main PCB refer to the operating description and "Reference" part of this manual.



4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-4-6. When the power is not working



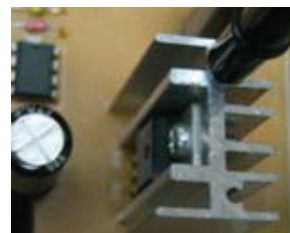
⚡ Voltage checking method PCB common ground REG2 heat emission plate and IC01 MICOM #24: Voltage high ($5V \pm 0.5V$) or IC05 MICOM #7 when the COMP is operating.



⚡ Voltage checking method PCB common ground REG2 heat emission plate and IC1 MICOM #10: Voltage low ($0.7V \pm 0.5V$) when the COMP is operating.



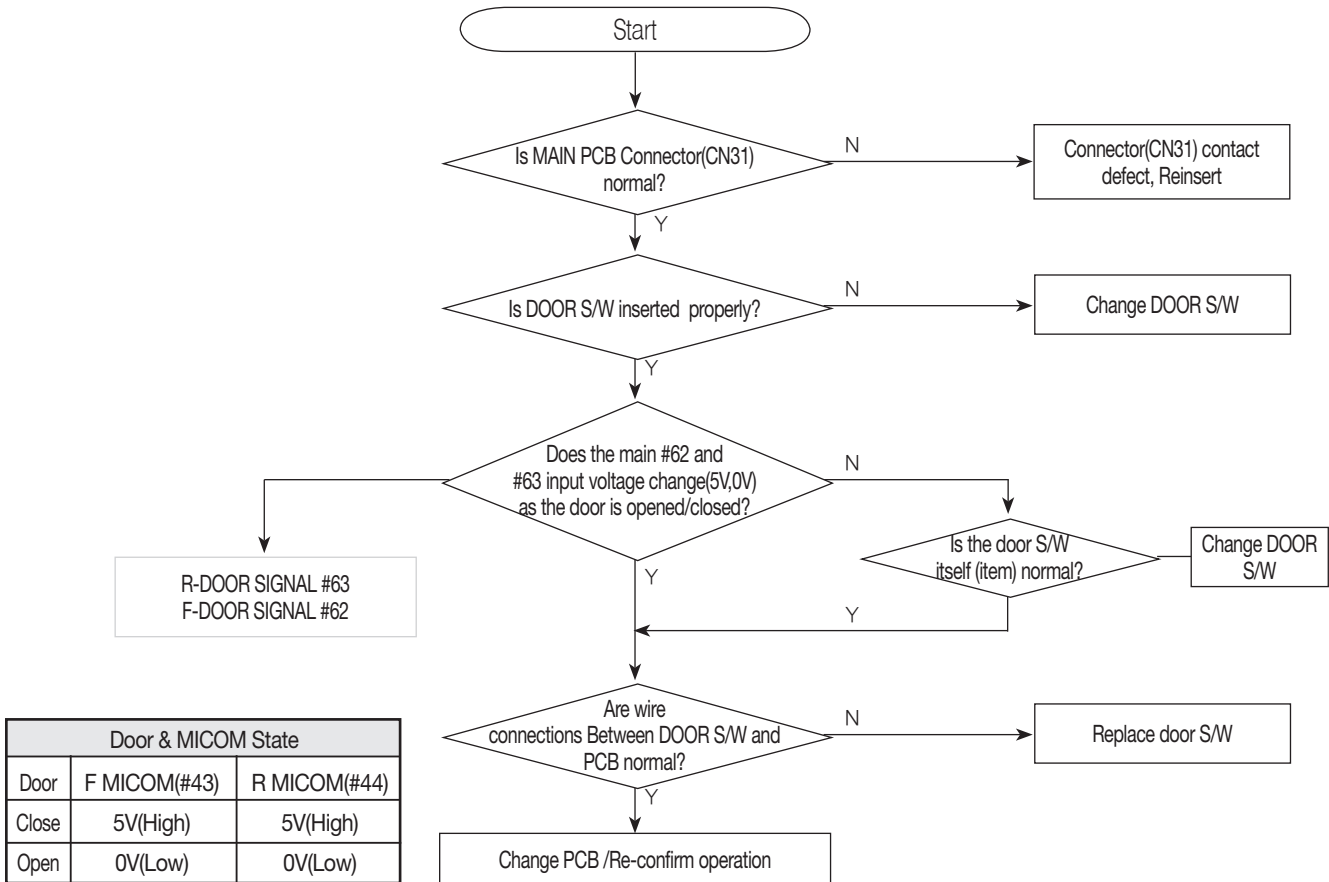
Common PCB ground REG2 heat emission plate.



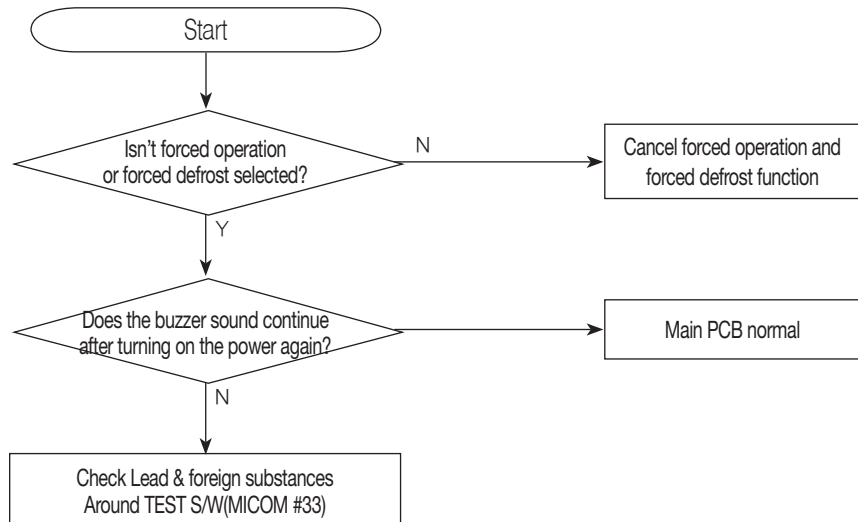
4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-4-7. When the alarm is generated continuously

① When the 'Ding Dong' sound is generated continuously



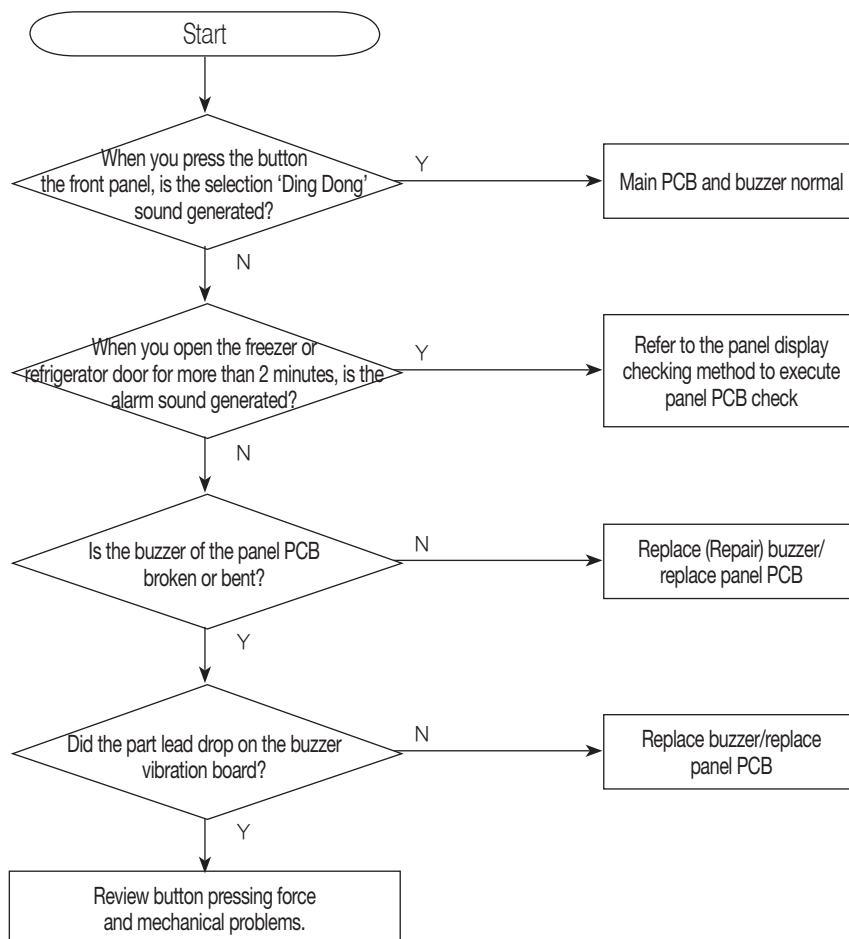
② When the 'Beep-Beep' sound is generated continuously



4. SELF DIAGNOSIS & TROUBLE SHOOTING

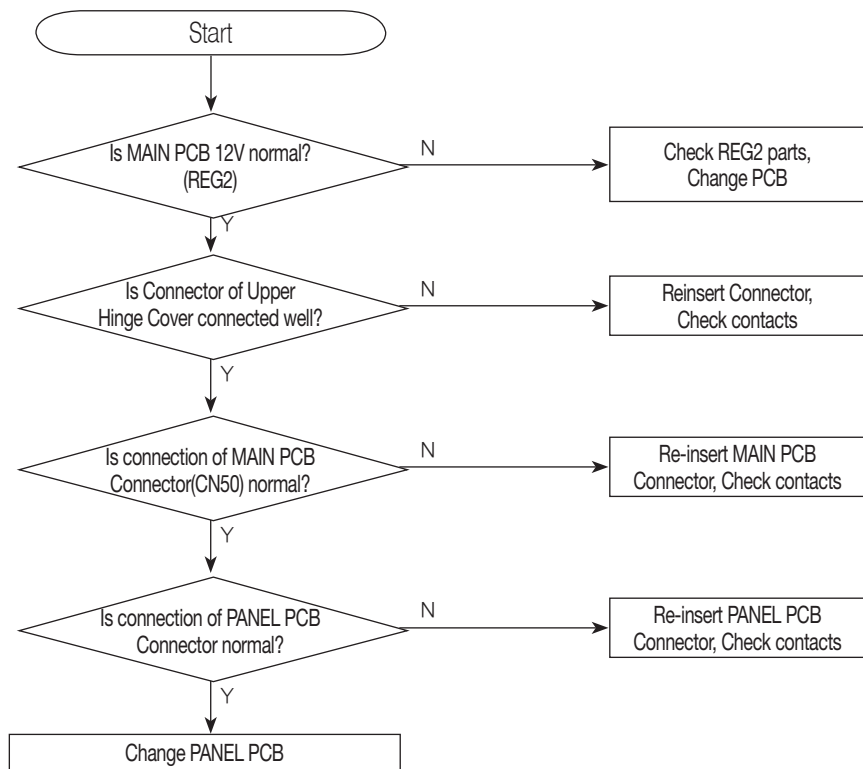
③ When there is no buzzer sound generated

This model has a buzzer installed (attached) on the main PCB. When the buzzer sound is not generated when the button is pressed, when forced operation is executed and when the door is opened, separate the panel PCB to first check for broken buzzer, soldering defect etc.



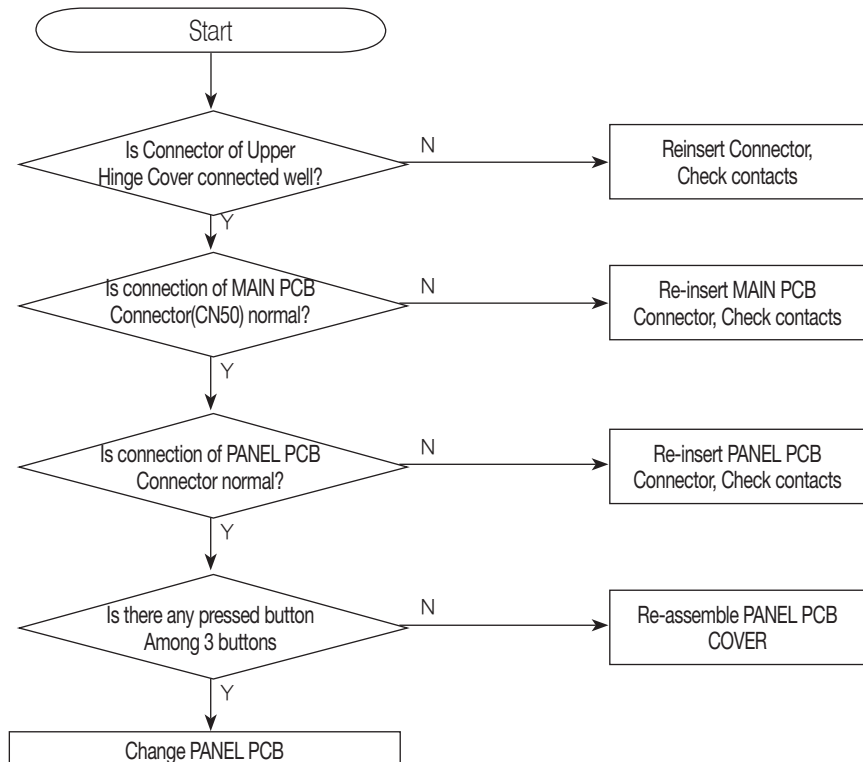
4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-4-8. When the panel PCB is abnormal



③ When the panel PCB key is not selected

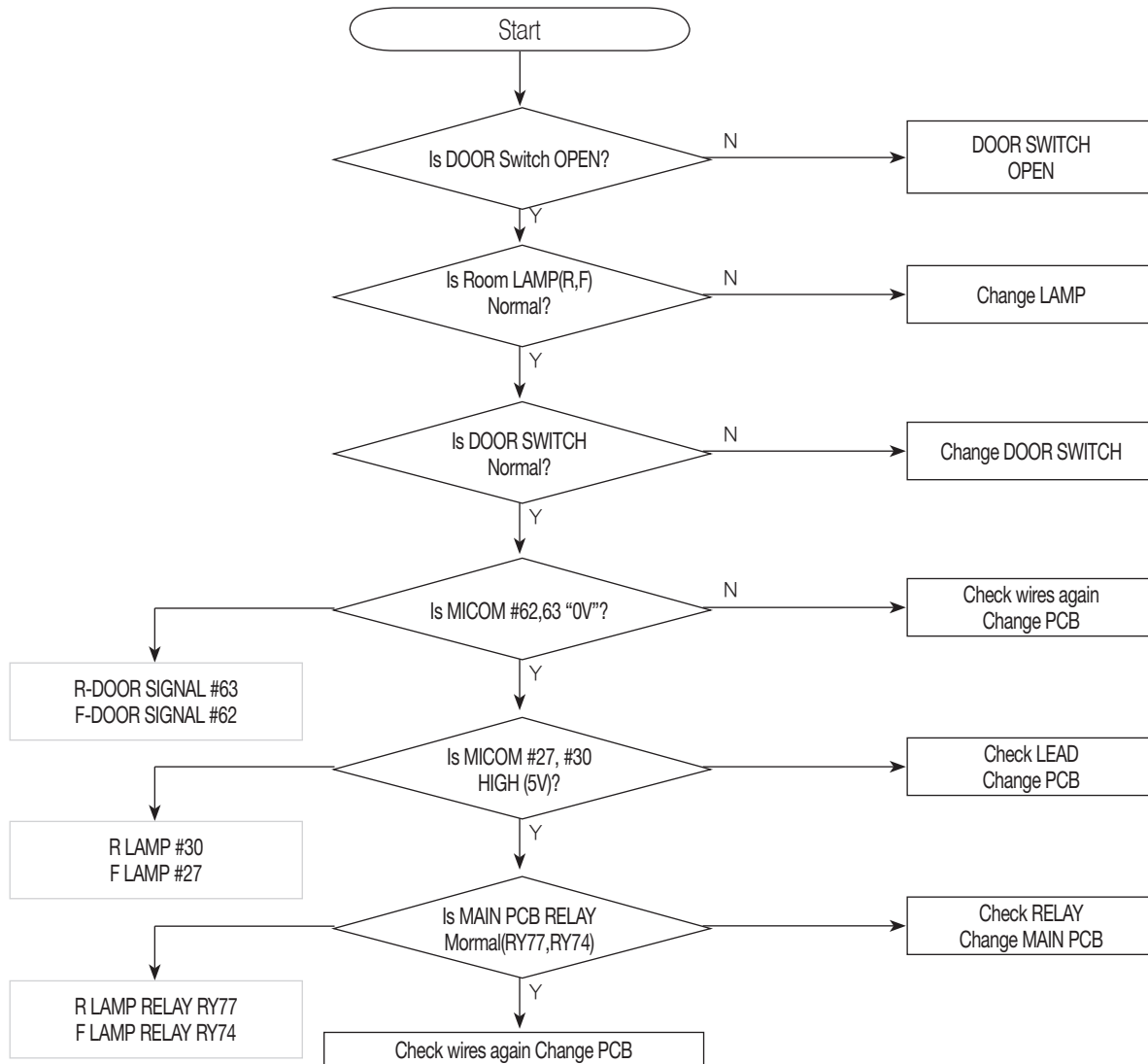
※ Basic checking method is for when it is not repaired after executing the above process.
Isn't the key continuously pressed?



4. SELF DIAGNOSIS & TROUBLE SHOOTING

4-4-9. When the room lamp of the refrigerator is not working

1. When replacing the room lamp of the freezer/refrigerator, there is a possibility of electric shock.
Therefore you must turn the power off before any replacement or repair.
2. For the light bulbs, be careful of heat emitted from the light bulbs.



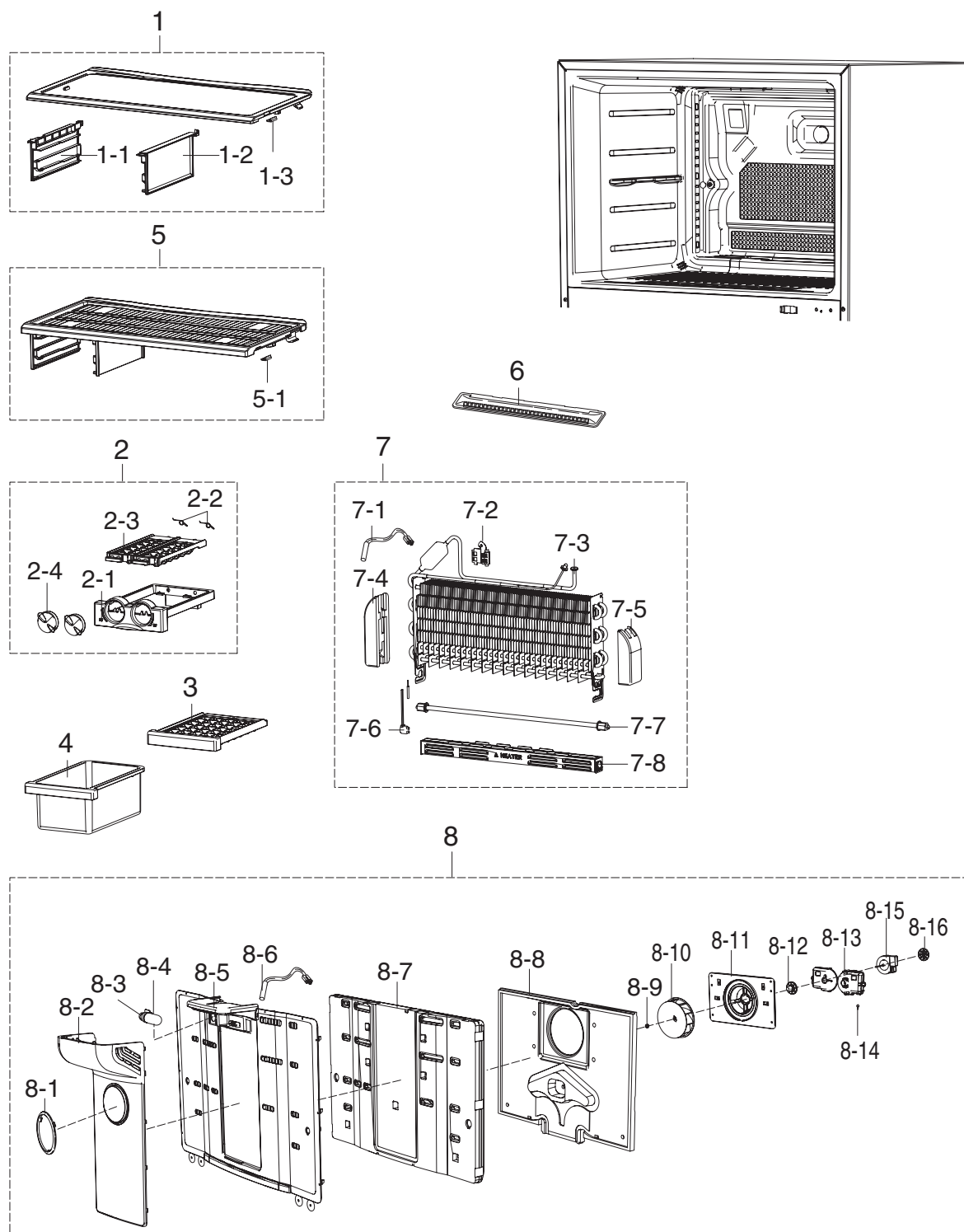
Reference When the door is open, the door S/W contact point becomes open to connect 5V to MICOM for detection.

- Door switch voltage checking method**
- Sensor check point on PCB: IC1 MICOM #62/63 or CN31-" 3" (Black) / " 1" (White) ↔ " 2" (Brown)
 - Compare with temperature table after measurement Measure CN31-" 3" (Black) / " 1" (White) ↔ " 2" (Brown) as shown below.



5.EXPLODED VIEW PART LIST

5-1. Freezer(Bulb type)



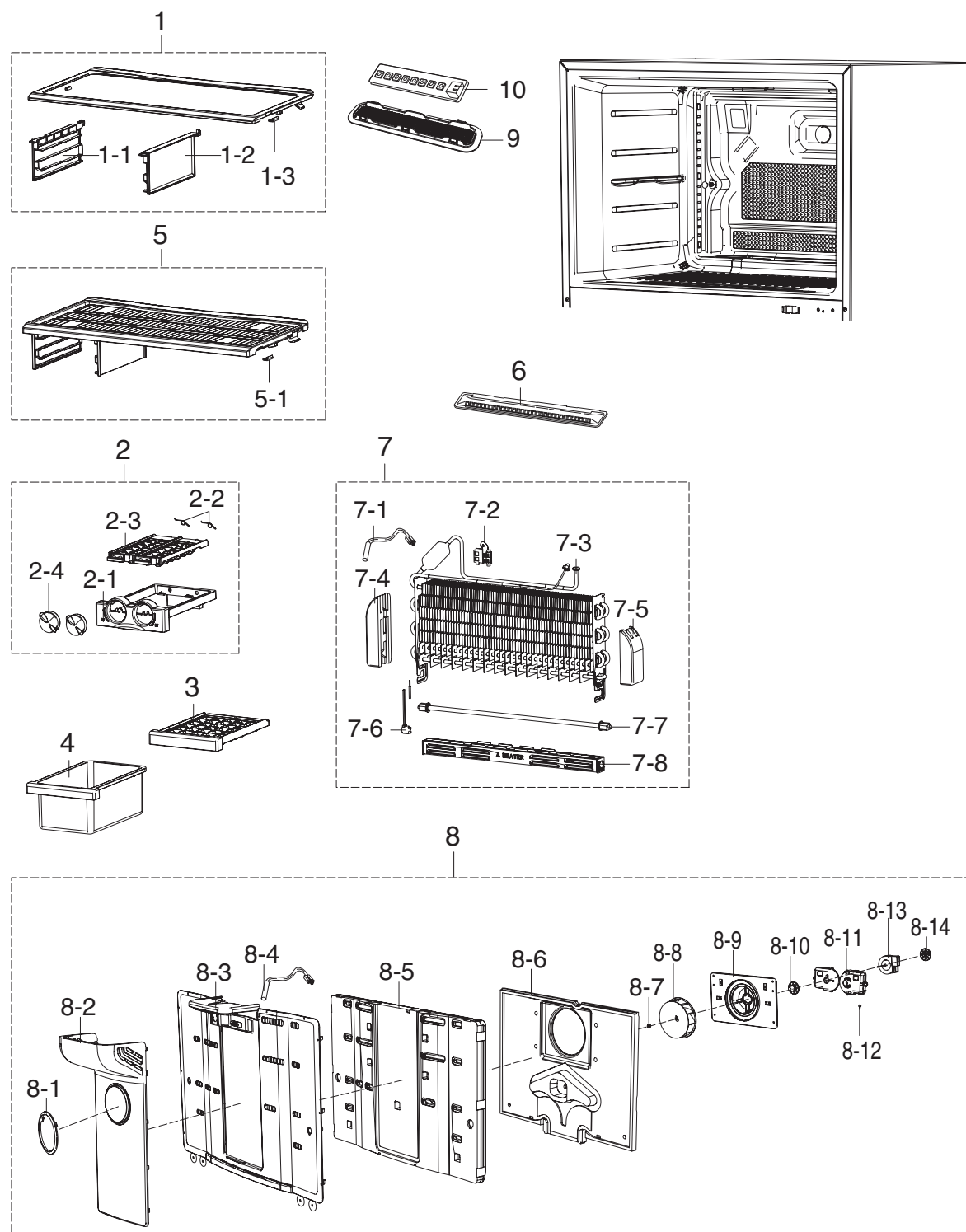
5.EXPLODED VIEW PART LIST

■ Parts List of Freezer-Bulb type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	DA97-05783A	ASSY SHELF FRE	MT,GLASS	1	SA	K*,BA
1-1	DA61-03985A	RAIL-TRAY FRE L	MT,HIPS,WHITE	1	SA	K*,BA
1-2	DA61-03986A	RAIL-TRAY FRE R	MT,HIPS,WHITE	1	SA	K*,BA
1-3	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
2	DA97-05743A	ASSY TRAY-ICE	MT,COOL WHITE	1	SA	K*,B*
2-1	DA61-03957A	CASE-TRAY ICE	MT,HIPS,COOL WHITE	1	SA	K*,B*
2-2	DA61-20136A	SPRING ETC-ICE MAKER	SR-53EA,STS304,PI10.5,ID1.0,ID1.0	2	SA	K*,B*
2-3	DA63-02169A	TRAY ICE-(BASIC)	ET,PP(BJ-500),Cool-white,SC-02740R	2	SA	K*,B*
2-4	DA64-00084B	KNOB-TRAY ICE	ET,HIPS,Cool-white,SC-02740R	2	SA	K*,B*
3	DA63-04105A	TRAY ICE	MT,PP,T1.0,COOL-WHITE(SC-02740R)	1	SA	S*
4	DA63-03982A	TRAY ICE CUBE	MT,PP	1	SA	
5	DA97-06231A	ASSY SHELF-FREÄ	MT,GPPS,NORMAL	1	SA	BB~BE,S*
5-1	DA67-01921A	SHELF FRE	MT,GPPS,T4.0,NTR	1	SA	
5-1	DA64-20194A	TRIM-SHELF	PE,L450,NTR	2	SA	BB~BE,S*
6	DA63-03182B	COVER-AIR FRE	TD,PP(BJ-730),W49.5,L422.5,COOL-WHT	1	SA	
7	DA 96-00417A	ASSY EVAP-FRE	MT ,PIN ,A1100P-H24,220V-240V	1	SA	
7-1	DA 32-00006D	SEN SOR TEM P-F DEF SEN SOR	PX-41C,EX PORT 10~35.5V,F DEF -SEN SOR ,YELLOW ,250mm	1	SA	
7-2	DA 61-00603A	FIXER -SEN SOR	n,PP	1	SA	
7-3	DA 59-00366A	EVAP FRE	PIN ,A1100P-H24,MT	1	SA	
7-4	DA 60-00190A	SPACER -EVAP L	MT ,FOAM -PS	1	SNA	
7-5	DA 60-00191A	SPACER -EVAP R	MT ,FOAM -PS	1	SNA	
7-6	DA 47-00243U	THERMO BIMETAL -PROTECTOR	CULLINAN ,BT -121-M, PW-5M1N,125V,250V,10A, 5A,60°C,40°C	1	SNA	
7-7	DA 47-00267J	HEATER DEFRO ST-GLA SS	MT ,220W,230V,240.45 [ohm],53mm	1	SNA	
7-8	DA 63-03927A	CO VER -GLA SS HEATER	MT ,GAL VANUME ,T0.3	1	SA	
8	DA 97-05817A	ASSY CO VER -EVAP FRONT (BLDC)	MT ,BLDC	1	SA	K*
	DA 97-06430A	ASSY CO VER -EVAP FRONT (AC)	MT ,AC	1	SA	B*,S*
8-1	DA 64-02414A	TRIM -CO VER EVAP	MT ,AB S,COOL WHITE	1	SNA	
8-2	DA 63-03979A	CO VER LAM P-FRE	MT ,PP,COL WHITE	1	SA	
8-3	DA 63-03978A	CO VER EVAP-FRONT	MT ,PP,COL WHITE	1	SA	
8-4	DA 32-00006C	SEN SOR TEM P	PX-41C,W2 PJT10°C ~ 35°C ,5V,R/F DEF -SEN SOR ,PUR PLE	1	SC	
8-5	DA 62-01693A	IN SULATION -EVAP FRONT	MT ,FOAM -PS,T10	1	SNA	
8-6	DA 62-01694A	IN SULATION -EVAP REAR	MT ,FOAM -PS,T10	1	SNA	
8-7	DA 61-20128A	SPRING ETC -FAN	STS304,PI7.8,OD 1.0,FD	1	SA	
8-8	DA 31-00212A	FAN	MT ,AB S,FW 110W11	1	SNA	
8-9	DA 61-03960A	SUPPORT -MOTOR FRE	MT ,PP,NTR	1	SA	
8-10	DA 63-01808A	GROMMET -MOTOR ,FRONT	BLDC ,NBR ,BLAC K,H20	1	SA	
8-11	DA 63-01809A	CO VER MOTOR -BLDC	BLDC -NEW ,PP,NTR ,BJ-730	1	SA	
8-12	DA 63-01283C	CO VER MOTOR	AD ,PP,NTR ,AC ,FH 21	1	SA	
8-13	DA 63-40167A	GROMMET -CO VER CHIL	T3.0,SILICON ,NTR	1	SA	K*
	DA 31-00146E	MOTOR FAN -BLDC	DRE P5020LB ,BLDC Motor,0.268,3.21,2520,DC 12V,29dB	1	SA	B*,S*
8-14	DA 31-00103L	MOTOR FAN -AC	IS-27210,MT ,50/60Hz,14/12,220~240V,1900,50,60Hz,AC 230V	1	SA	
8-15	DA 63-01146A	GROMMET -MOTOR ,REAR	A-TO P,NBR ,ID 6.5,OD 42,BL K,BLDC	1	SA	K*
	DA 31-00103L	MOTOR FAN -AC	IS-27210,MT ,50/60Hz,14/12,220~240V,1900,50,60Hz,AC 230V	1	SA	B*,S*
8-16	DA 63-01146A	GROMMET -MOTOR ,REAR	A-TO P,NBR ,ID 6.5,OD 42,BL K,BLDC	1	SA	

5.EXPLODED VIEW PART LIST

5-1. Freezer(LED type)



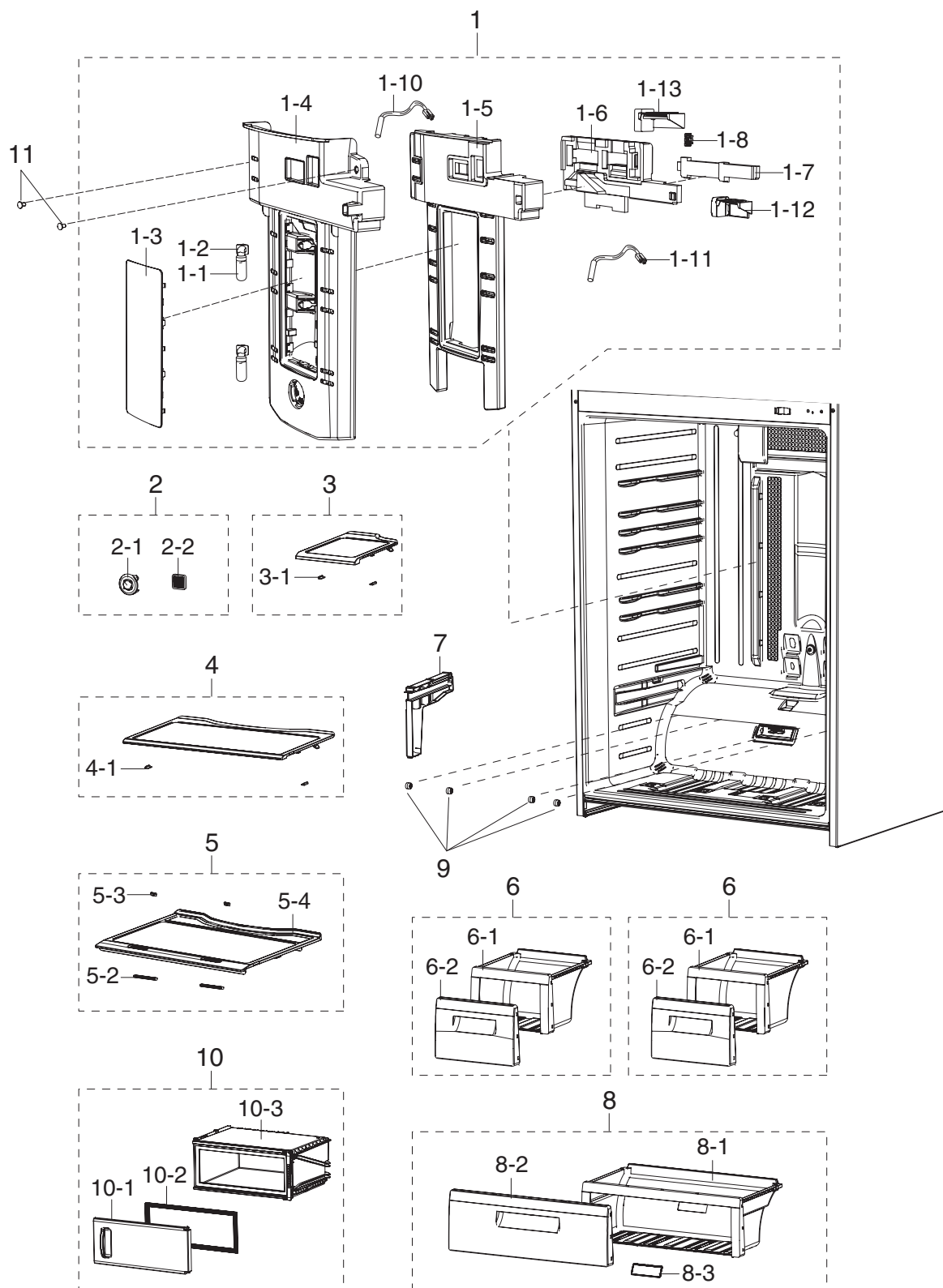
5.EXPLODED VIEW PART LIST

■ Parts List of Freezer -LED type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	97-05783A	ASSY SHELF FRE	MT, GLASS	1	SA	K*, BA
1-1	DA61-03985A	RAIL-TRAY FRE L	MT, HIPS, WHITE	1	SA	K*, BA
1-2	DA61-03986A	RAIL-TRAY FRE R	MT, HIPS, WHITE	1	SA	K*, BA
1-3	DA64-00090B	TRIM-SHELF	A-TOP, LDPE, WHITE	2	SA	
2	DA97-05743A	ASSY TRAY-ICE	MT, COOL WHITE	1	SA	K*, B*
2-1	DA61-03957A	CASE-TRAY ICE	MT, HIPS, COOL WHITE	1	SA	K*, B*
2-2	DA61-20136A	SPRING ETC-ICE MAKER	SR-53EA, STS304, P10.5, ID1.0, ID1.0	2	SA	K*, B*
2-3	DA63-02169A	TRAY ICE-(BASIC)	ET, PP(BJ-500), Cool-white, SC-02740R	2	SA	K*, B*
2-4	DA64-00084B	KNOB-TRAY ICE	ET, HIPS, Cool-white, SC-02740R	2	SA	K*, B*
3	DA63-04105A	TRAY ICE	MT, PP, T1.0, COOL-WHITE(SC-02740R)	1	SA	S*
4	DA63-03982A	TRAY ICE CUBE	MT, PP	1	SA	
5	DA97-06231A	ASSY SHELF-FREÄ	MT, GPPS, NORMAL	1	SA	BB~BE, S*
5-1	DA67-01921A	SHELF FRE	MT, GPPS, T4.0, NTR	1	SA	
5-1	DA64-20194A	TRIM-SHELF	PE, L450, NTR	2	SA	BB~BE, S*
6	DA63-03182B	COVER-AIR FRE	TD, PP(BJ-730), W49.5, L422.5, COOL-WHT	1	SA	
7	DA96-00417B	ASSY EVAP FRE	MT-PJT, PIN, 220V-240V, 220W	1	SA	2010.12.31/
	DA96-00417D	ASSY EVAP FRE	MT-PJT, PIN, 220V-240V, 220W		SA	2011.01.01
	DA96-00417C	ASSY EVAP FRE	MT-INVERT, PIN, 220V-240V, 220W	1	SA	2010.12.31/
	DA96-00417E	ASSY EVAP FRE	MT-INVERT, PIN, 220V-240V, 220W		SA	2011.01.01
7-1	DA32-00006D	SENSOR TEMP-F DEF SENSOR	PX-41C, EXPORT 10~35.5V, F DEF -SENSOR, YELLOW, 250mm	1	SA	
7-2	DA61-00603A	FIXER-SENSOR	n, PP	1	SA	
7-3	DA59-00366A	EVAP FRE	PIN, A1100P-H24, MT	1	SA	
7-4	DA60-00190A	SPACER-EVAP L	MT, FOAM-PS	1	SNA	
7-5	DA60-00191A	SPACER-EVAP R	MT, FOAM-PS	1	SNA	
7-6	DA47-00243P	THERMO BIMETAL-PROTECTOR	BT-121-M, PW-5M1N, 125/250V, 10/ 5A, 60, 40	1	SNA	
7-7	DA47-00267J	HEATOR DEFROST GLASS	MT, 220W, 230V, 240.45 [ohm], 53mm	1	SNA	2010.12.31/
	DA47-00267M	HEATOR DEFROST GLASS	MT, 220W, 230V, 240.45 [ohm], 53mm, housing 2ea	1	SNA	2011.01.01
7-8	DA63-03927A	COVER GLASS HEATER	MT, GALVANUM, T0.3	1	SA	
8	DA97-05817D	ASSY COVER EVAP FRONT(BLDC)	MT, BLDC, LED	1	SA	2010.12.31/
	DA97-05817E	ASSY COVER EVAP FRONT(BLDC)	MT, BLDC, LED	1	SA	2011.01.01
	DA97-06430E	ASSY COVER EVAP FRONT(AC)	MT, AC, LED	1	SA	2010.12.31/
	DA97-06430F	ASSY COVER EVAP FRONT(AC)	MT, AC, LED	1	SA	2011.01.01
8-1	DA64-02414A	TRIM -COVER EVAP	MT, ABS, COOLWHITE	1	SNA	
8-2	DA63-05912B	COVER -LAMP FRE	MT-PJT, PP, NTR	1	SA	
8-3	DA63-03978A	COVER EVAP-FRONT	MT, PP, COOLWHITE	1	SA	
8-4	DA32-00006C	SENSOR TEMP	PX-41C, W2PJT10 ~35.5V, R/DEF-SENSOR, PURPLE	1	SC	2010.12.31/
	DA32-00011E	SENSOR TEMP	PX-41C, TD-PJT, -40~110.5V, -, F SENSOR, YELLOW, 700MM	1	SC	2011.01.01
8-5	DA62-01693A	INSULATION -EVAP FRONT	MT, FOAM-PS, T10	1	SNA	
8-6	DA62-01694A	INSULATION -EVAP REAR	MT, FOAM-PS, T10	1	SNA	
8-7	DA61-20128A	SPRING ETC -FAN	STS304, P17.8, OD1.0, FD	1	SA	
8-8	DA31-00212A	FAN	MT, ABS, FW110W11	1	SNA	
8-9	DA61-03960A	SUPPORT-MOTOR FRE	MT, PP, NTR	1	SA	
8-10	DA63-01808A	GROMMET-MOTOR, FRONT	BLDC, NBR, BLACK, H20	1	SA	
8-11	DA63-01809A	COVER MOTOR-BLDC	BLDC-NEW, PP, NTR, BJ-730	1	SA	K*
	DA63-01283C	COVER MOTOR	AD, PP, NTR, AC, FH21	1	SA	B*, S*
8-12	DA63-40167A	GROMMET-COVER CHIL	T3.0, SILICON, NTR	1	SA	
8-13	DA31-00146E	MOTOR FAN-BLDC	DREP5020LB, BLDC Motor, 0.268, 3.21, 2520, DC12V, 29dB	1	SA	K*
	DA31-00103L	MOTOR FAN-AC	IS-27210, MT, 50/60Hz, 14/12, 220~240V, 1900, 50, 60Hz, AC230V	1	SA	B*, S*
8-14	DA63-01146A	GROMMET-MOTOR, REAR	A-TOP, NBR, ID6.5, OD42, BLK, BLDC	1	SA	
9	DA63-04119A	COVER LED LAMP	ABS NATURAL, T2.0	1	SA	
10	DA41-00519A	LED LAMP	FR-4, 100*20*1.6t, 3chip8EA, 12V, 50/60Hz	1	SA	

5.EXPLODED VIEW PART LIST

5-2. Fridge - ELEC(Bulb type)



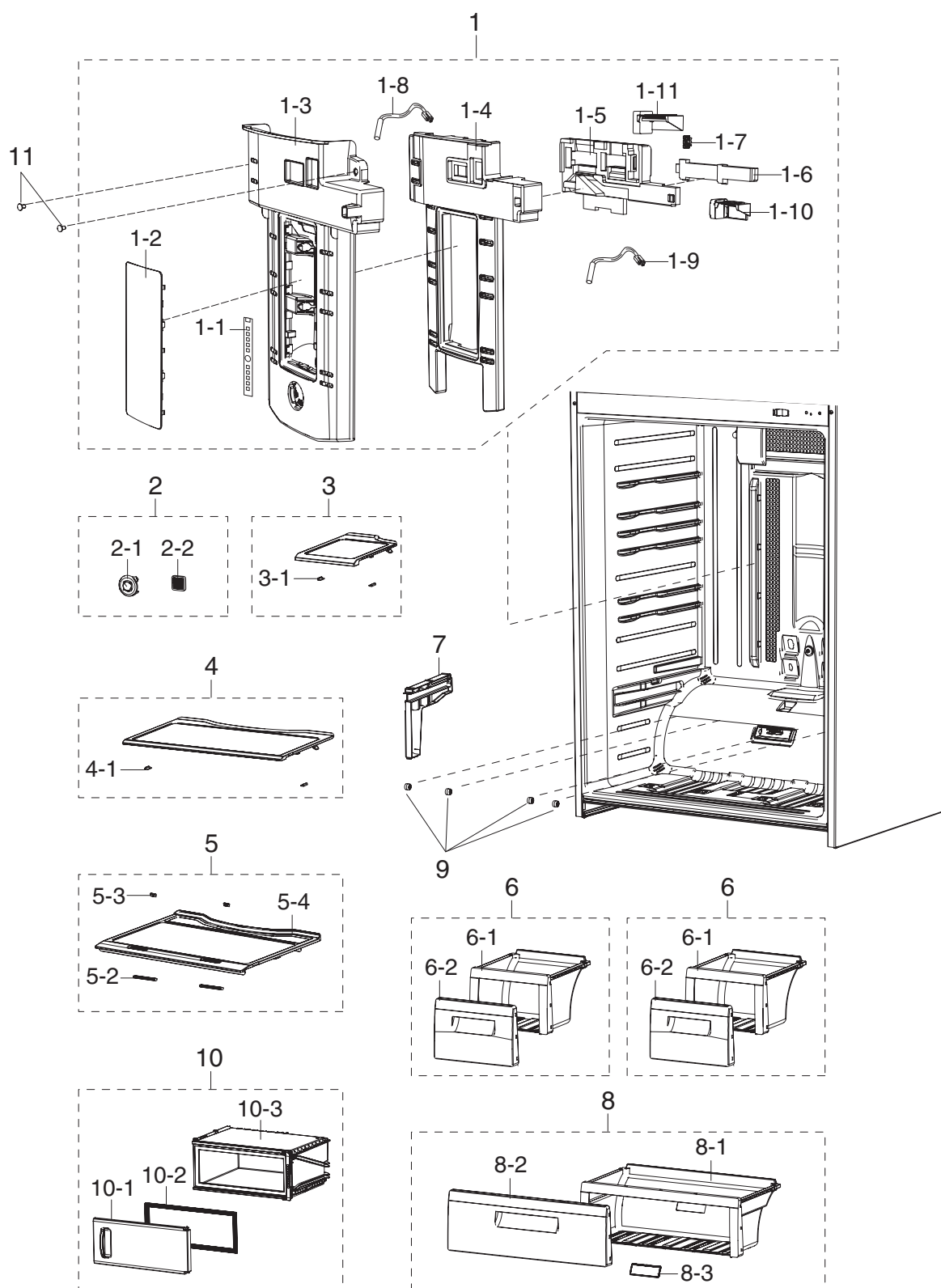
5.EXPLODED VIEW PART LIST

■ Parts List of Fridge(Electronic) - Bulb type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	DA97-05815A	ASSY COVER-DAMPER(E)	MT,ELEC,COOL WHITE	1	SA	
1-1	4713-001189	LAMP-INCANDESCENT	240V,30W,25x84mm	2	SA	
1-2	DA47-00265E	LAMP HOLDER	E14,250VAC / 75W,C5210S-EH,PBT,HVSF (550mm)	1	SNA	
1-3	DA63-03980A	COVER LAMP-REF	MT,PP	1	SA	
1-4	DA63-03976A	COVER-DAMPER(E)	MT,PPELEC,COOL WHITE	1	SNA	
1-5	DA62-01691A	INSULATION-DAMPER A	MT,FOAM-PS,T10	1	SNA	
1-6	DA62-01692A	INSULATION-DAMPER B	MT,FOAM-PS,T10	1	SNA	
1-7	DA62-01846A	INSULATION-DAMPER C	MT,FOAM-PS	1	SNA	
1-8	DA61-02901A	FIXER-SENSOR EVAP	CORE,PP,NTR	1	SA	
1-9	DA47-00273A	HEATER CORD-DUCT COVER	MT,230W,230V,17633[ohm]	1	SNA	
1-10	DA32-00011X	SENSOR TEMP	MT40~110℃,5V,R Sensor	1	SNA	
1-11	DA32-00011W	SENSOR TEMP	MT,40~110℃,5V,CoolSelectZone Sensor	1	SNA	
1-12	DA31-00071E	MOTOR DC-DAMPER	NSBY001TG1,DC 12V,MAX 60mA,MT,PRINTED-HEATER	1	SA	COOLSELECT
1-13	DA31-00043K	MOTOR DC-DAMPER	MT,max 60mA,DC 12[V]/60mA,DC 12V	1	SNA	FRIDGE
2	DA63-11150E	COVER-PURIFIER ASS'Y	OMEGA,PP,SC-94448	1	SA	
2-1	DA63-11135C	COVER-PURIFIER	OMEGA,PP,SC-94448	1	SA	
2-2	DA02-90106K	CATALYST-LTC	EXPORT,LTC,4,T10,W40,L40	1	SC	
3	DA97-05819A	ASSY SHELF-REF SUB	MT,GLASS	1	SA	
3-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
4	DA97-05784A	ASSY SHELF-REF MID	MT,GLASS	2	SA	
4-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
5	DA97-05878A	ASSY SHELF-REF LOW	MT	1	SA	
5-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
5-2	DA64-01114A	KNOB-HUMIDITY	QUEEN,ABS,GE-OEM	2	SA	
5-3	DA66-00321A	LEVER-HUMIDITY	EPEL,ABS,W30.0,L11.0,Ni + Cr	2	SA	
5-4	DA67-01882A	SHELF-REF LOW	MT,PP	1	SNA	
6	DA97-05936A	ASSY CASE-VEG	MT,2DRAW	2	SA	KA
6-1	DA61-04010A	CASE-VEG	MT,PP,2DRAW	1	SNA	KA
6-2	DA64-02454A	TRIM-CASE VEG	MT,GPPS,NTR,2DRAW	1	SNA	KA
7	DA61-03963A	RAIL-VEG	MT,HIPS,COOL WHITE	1	SA	KA
8	DA97-05937A	ASSY CASE-VEG	MT,1DRAW,DOM	1	SA	KB
8-1	DA61-04011A	CASE-VEG	MT,PP,1DRAW,DOM	1	SNA	KB
8-2	DA64-02447A	TRIM-CASE VEG	MT,GPPS	1	SNA	KB
8-3	DA67-01920A	CAP-CASE VEG	MT,GPPS	1	SA	KB
9	DA66-00276A	ROLLER-VEG	TD,POM	4	SA	KA
10	DA97-05875A	ASSY-CONVERTIBLE	MT-PJT	1	SA	
10-1	DA97-05876A	ASSY COVER-CONVERTIBLE	MT	1	SA	
10-2	DA63-01584Y	GASKET-CONVERTIBLE	MT,SF-PVC,409,154.6	1	SA	
10-3	DA97-05877A	ASSY CASE-CONVERTIBLE	MT	1	SA	
11	DA67-30266K	CAP-SCREW	A-TOP,PP,SC-02740R,-,-,Cool-white,-	3	SA	

5.EXPLODED VIEW PART LIST

5-2. Fridge - ELEC(LED type)



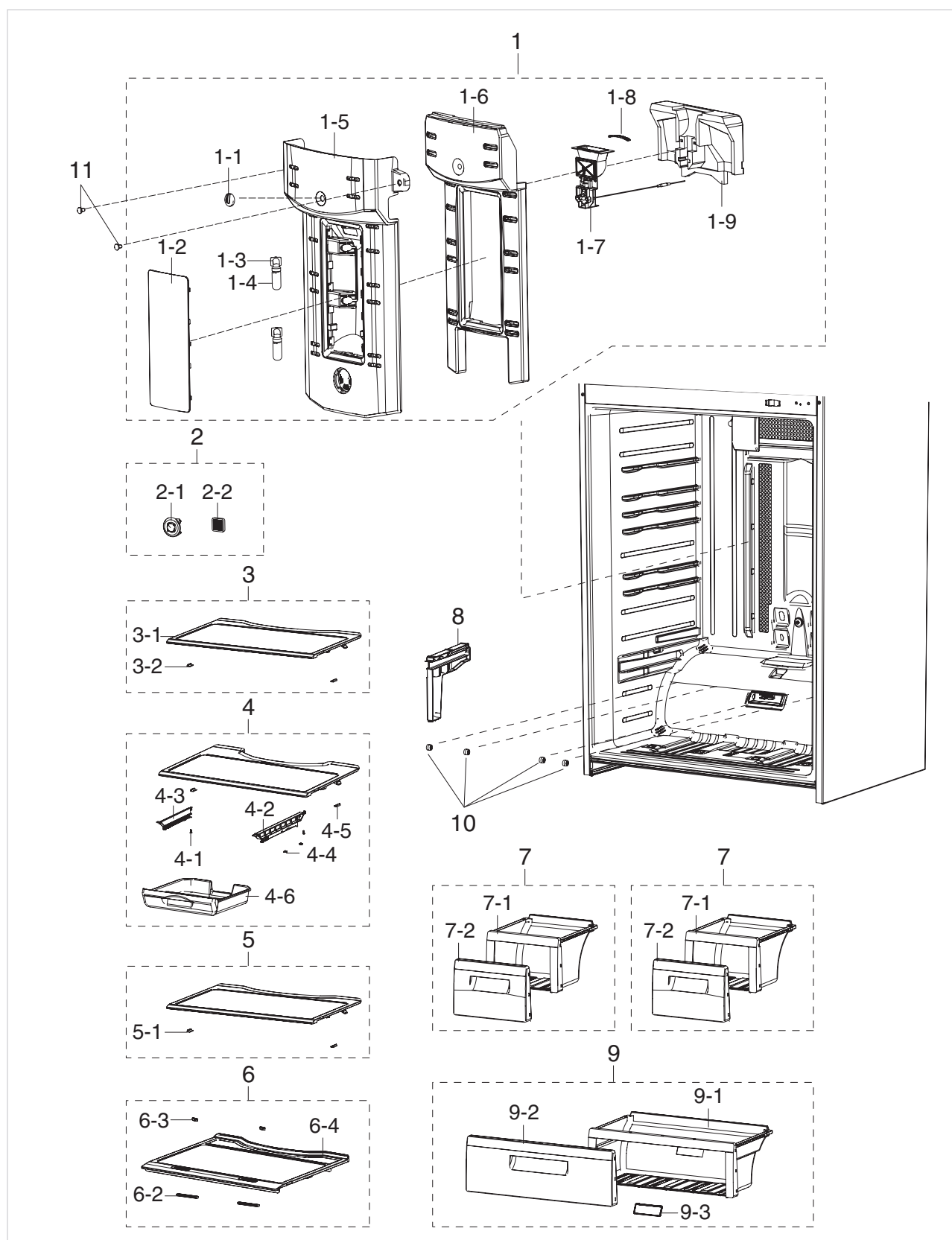
5.EXPLODED VIEW PART LIST

■ Parts List of Fridge(Electronic)-LED type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	DA97-05815C	ASSY COVER-DAMPER(E)	MT-PJT,ELEC,LED	1	SA	LED
1-1	DA41-00519H	PBA-LED LAMP	12EA,12V,DC	2	SA	LED
1-2	DA63-03980B	COVER LAMP-REF	MT-PJT,PP,NTR	1	SA	
1-3	DA63-03976A	COVER-DAMPER(E)	MT,PP,ELEC,COOL WHITE	1	SNA	
1-4	DA62-01691A	INSULATION-DAMPER A	MT,FOAM-PS,T10	1	SNA	
1-5	DA62-01692A	INSULATION-DAMPER B	MT,FOAM-PS,T10	1	SNA	
1-6	DA62-01846A	INSULATION-DAMPER C	MT,FOAM-PS	1	SNA	
1-7	DA61-02901A	FIXER-SENSOR EVAP	CORE,PP,NTR	1	SA	
1-8	DA47-00273A	HEATER CORD-DUCT COVER	MT,230W,230V,17633[ohm]	1	SNA	
1-9	DA32-00011X	SENSOR TEMP	MT40~110℃,5V,R Sensor	1	SNA	
1-10	DA32-00011W	SENSOR TEMP	MT,40~110℃,5V,CoolSelectZone Sensor	1	SNA	
1-11	DA31-00071E	MOTOR DC-DAMPER	NSBY001TG1,DC 12V,MAX 60mA,MT,PRINTED-HEATER	1	SA	
1-12	DA31-00043K	MOTOR DC-DAMPER	MT,max 60mA,DC 12[V]/60mA,DC 12V	1	SNA	
1-13	DA63-11150E	COVER-PURIFIER ASS'Y	OMEGA,PP,SC-94448	1	SA	
1-14	DA96-00424U	WIRE HARNESS LED	LED LAMP,12V,660mm, L	1	SA	LED
2	DA63-11150E	COVER-PURIFIER ASS'Y	OMEGA,PP,SC-94448	1	SA	
2-1	DA63-11135C	COVER-PURIFIER	OMEGA,PP,SC-94448	1	SA	
2-2	DA02-90106K	CATALYST-LTC	EXPORT,LTC,4,T10,W40,L40	1	SC	
3	DA97-05819A	ASSY SHELF-REF SUB	MT,GLASS	1	SA	
3-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
4	DA97-05784A	ASSY SHELF-REF MID	MT,GLASS	2	SA	
4-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
5	DA97-05878A	ASSY SHELF-REF LOW	MT	1	SA	
5-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
5-2	DA64-01114A	KNOB-HUMIDITY	QUEEN,ABS,GE-OEM	2	SA	
5-3	DA66-00321A	LEVER-HUMIDITY	EPEL,ABS,W30.0,L11.0,Ni + Cr	2	SA	
5-4	DA67-01882A	SHELF-REF LOW	MT,PP	1	SNA	
6	DA97-05936A	ASSY CASE-VEG	MT,2DRAW	2	SA	
6-1	DA61-04010A	CASE-VEG	MT,PP,2DRAW	1	SNA	
6-2	DA64-02454A	TRIM-CASE VEG	MT,GPPS,NTR,2DRAW	1	SNA	
7	DA61-03963A	RAIL-VEG	MT,HIPS,COOL WHITE	1	SA	
8	DA97-05937A	ASSY CASE-VEG	MT,1DRAW,DOM	1	SA	
8-1	DA61-04011A	CASE-VEG	MT,PP,1DRAW,DOM	1	SNA	
8-2	DA64-02447A	TRIM-CASE VEG	MT,GPPS	1	SNA	
8-3	DA67-01920A	CAP-CASE VEG	MT,GPPS	1	SA	
9	DA66-00276A	ROLLER-VEG	TD,POM	4	SA	
10	DA97-05875A	ASSY-CONVERTIBLE	MT-PJT	1	SA	
10-1	DA97-05876A	ASSY COVER-CONVERTIBLE	MT	1	SA	
10-2	DA63-01584Y	GASKET-CONVERTIBLE	MT,SF-PVC,409,154.6	1	SA	
10-3	DA97-05877A	ASSY CASE-CONVERTIBLE	MT	1	SA	
11	DA67-30266K	CAP-SCREW	A-TORPP,SC-02740R,-,-,Cool-white,-	3	SA	

5.EXPLODED VIEW PART LIST

5-3. Fridge - SEMI(Bulb type)



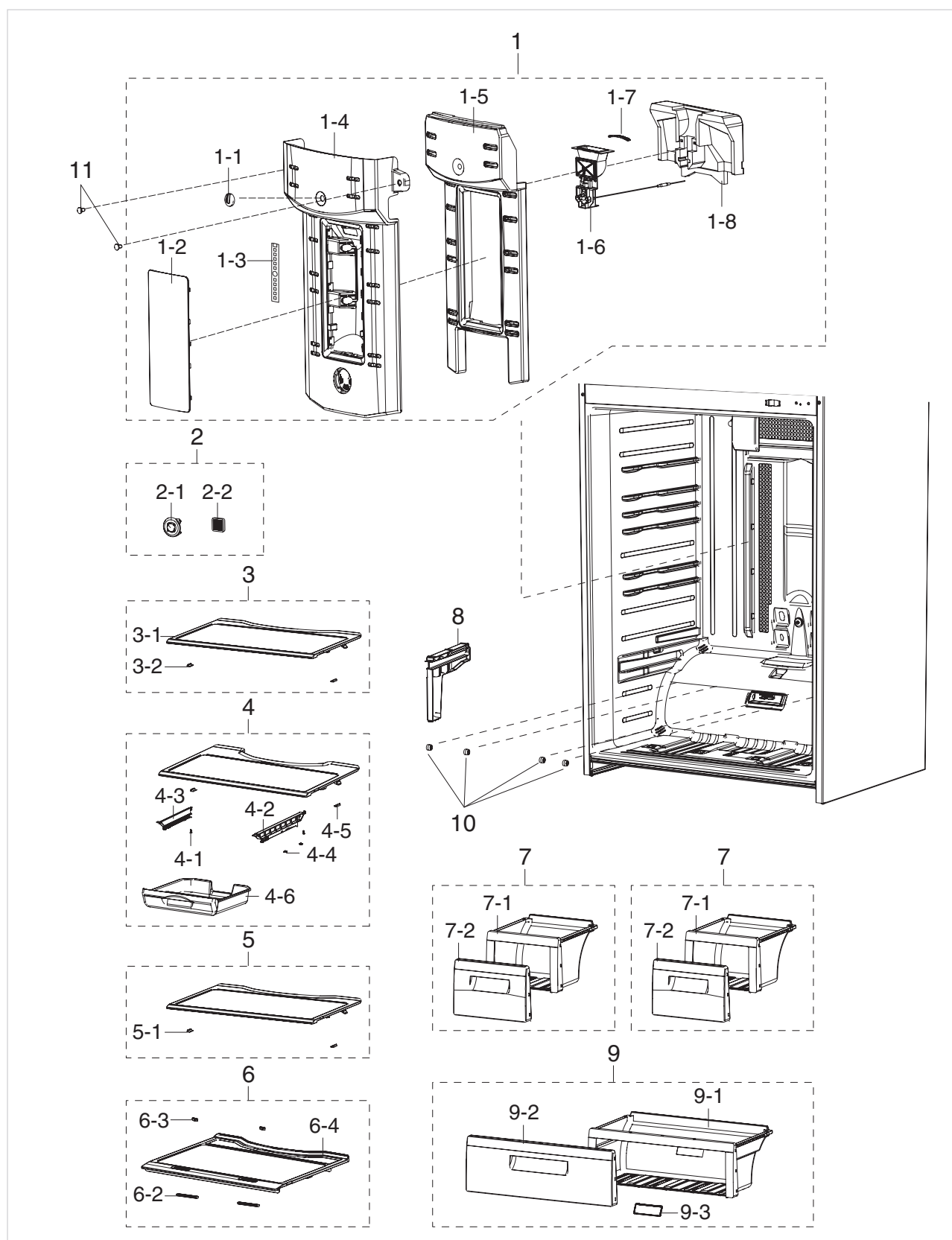
5.EXPLODED VIEW PART LIST

■ Parts List of Fridge(Semi Electronic)-Bulb type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	DA97-05816B	ASSY COVER DAMPER-(M)	MT,MM,COOL WHITE,220V~204V,LAMP1	1	SA	LED
1-1	DA64-01212A	KNOB-THERMO FRE	TD-PJT,HIPS(HG-1760S),SC-02740R,COOL WHITE	1	SA	LED
1-2	DA63-03980A	COVER LAMP-REF	MT-PJT,PP	2	SA	LED
1-3	DA47-00265C	LAMP HOLDER	E14,250VAC / 75W,C5210S-EH,PBT,HVSF (500mm/400mm)	2	SNA	LED
1-4	4713-000213	LAMP-INCANDESCENT	240V,70mA,15W,TRP,75LM,26x60	1	SA	LED
1-5	DA63-03977A	COVER-DAMPER(M)	MT,PP,ELEC,COOL WHITE	1	SNA	LED
1-6	DA62-01727A	INSULATION-DAMPER A	MT-PJT,FOAM-PS,M	1	SNA	LED
1-7	DA67-10264G	THERMO DAMPER	ASS,NONE,6°...5°...,168*127,WARM	1	SNA	LED
1-8	DA61-04145A	GUIDE WATER	MT-PJT,PP,T1.2,W82,L16,NTR	1	SNA	LED
1-9	DA62-01728A	INSULATION-DAMPER B	MT-PJT,FOAM-PS,M	1	SNA	LED
2	DA63-11150E	COVER-PURIFIER ASSY	OMEGA,PP,SC-94448	1	SA	
2-1	DA63-11135C	COVER-PURIFIER	OMEGA,PP,SC-94448	1	SA	
2-2	DA02-90106K	CATALYST-LTC	EXPORT,LTC,4,T10,W40,L40	1	SC	
3	DA97-06468A	ASSY SHELF-REF UPP	MT,GLASS	1	SA	BC,BE,SB,SD
3-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
4	DA97-05785A	ASSY SHELF-DELI BIN	MT,GLASS	1	SA	BA,BC,BD,BE
4-1	6002-001369	SCREW-TAPPING	BH,+2,M4,L12,ZPC(WHT),SWRCH18A,COOL WHITE	2	SNA	
4-2	DA61-03987A	RAIL-TRAY SUB R	MT,HIPS,COOL WHITE	1	SA	
4-3	DA61-60201B	RAIL-CASE L	SR-51,HIPS,SC-02740R,COOL WHT	1	SA	
4-4	DA63-40305A	GROMMET-RAIL	CHILLED,NY-6	4	SA	
4-5	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
4-6	DA67-40345C	TRAY-SUB	SR-5578,GPPS	1	SA	
5	DA97-05784A	ASSY SHELF-REF MID	MT,GLASS	2	SA	
5-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
6	DA97-05878A	ASSY SHELF-REF LOW	MT	1	SA	
6-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
6-2	DA64-01114A	KNOB-HUMIDITY	QUEEN,ABS,GE-OEM	2	SA	
6-3	DA66-00321A	LEVER-HUMIDITY	EPEL,ABS,W30.0,L11.0,Ni + Cr	2	SA	
6-4	DA67-01882A	SHELF-REF LOW	MT,PP	1	SNA	
7	DA97-05936A	ASSY CASE-VEG	MT,2DRAW	2	SA	BA,BB,BC,SA,SB
7-1	DA61-04010A	CASE-VEG	MT,PP,2DRAW	1	SNA	
7-2	DA64-02454A	TRIM-CASE VEG	MT,GPPS,NTR,2DRAW	1	SNA	
8	DA61-03963A	RAIL-VEG	MT,HIPS,COOL WHITE	1	SA	
9	DA97-05937A	ASSY CASE-VEG	MT,1DRAW,DOM	1	SA	BD,BE,SC,SD
9-1	DA61-04011A	CASE-VEG	MT,PP,1DRAW,DOM	1	SNA	
9-2	DA64-02447A	TRIM-CASE VEG	MT,GPPS	1	SNA	
9-3	DA67-01920A	CAP-CASE VEG	MT,GPPS	1	SA	
10	DA66-00276A	ROLLER-VEG	TD,POM	4	SA	
11	DA67-30266K	CAP-SCREW	A-TOP,PP,SC-02740R,-,-,Cool-white,-	3	SA	

5.EXPLODED VIEW PART LIST

5-3. Fridge - SEMI(LED type)



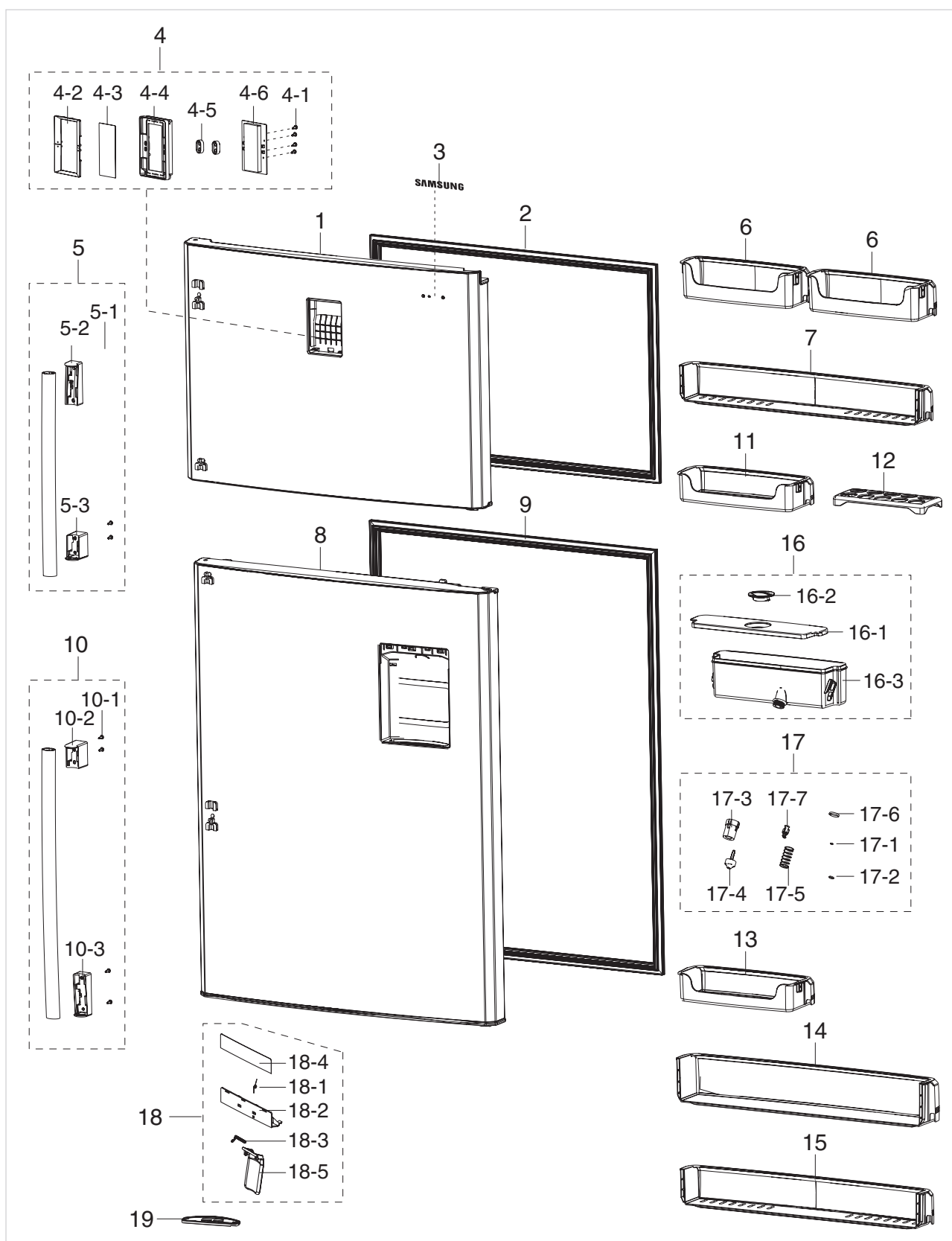
5.EXPLODED VIEW PART LIST

■ Parts List of Fridge(Semi Electronic)-LED type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	DA97-05816L	ASSY COVER-DAMPER-(M)	MT-PJT,SEMI,LED	1	SA	LED
1-1	DA64-01212B	KNOB-THERMO FRE	COOL-WHITE,ABS	1	SA	LED
1-2	DA63-03980B	COVER LAMP-REF	MT-PJT,PP,NTR	2	SA	LED
1-3	DA41-00519H	PBA-LED LAMP	12EA,12V,DC	1	SA	LED
1-4	DA63-03977C	COVER-DAMPER(M)	MT-PJT,PP	1	SA	LED
1-5	DA62-01727A	INSULATION-DAMPER A	MT-PJT,FOAM-PS,M	1	SNA	LED
1-6	DA67-10264J	CASE THERMO-DAMPER	MT-PJT,ABS	1	SNA	LED
1-7	DA61-04145A	GUIDE WATER	MT-PJT,PP,T1.2,W82,L16,NTR	1	SNA	LED
1-8	DA62-01728A	INSULATION-DAMPER B	MT-PJT,FOAM-PS,M	1	SNA	LED
2	DA63-11150E	COVER-PURIFIER ASSY	OMEGA,PP,SC-94448	1	SA	
2-1	DA63-11135C	COVER-PURIFIER	OMEGA,PP,SC-94448	1	SA	
2-2	DA02-90106K	CATALYST-LTC	EXPORT,LTC,4,T10,W40,L40	1	SC	
3	DA97-06468A	ASSY SHELF-REF UPP	MT,GLASS	1	SA	BC,BE,SB,SD
3-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
4	DA97-05785A	ASSY SHELF-DELI BIN	MT,GLASS	1	SA	BA,BC,BD,BE
4-1	6002-001369	SCREW-TAPPING	BH,+,2,M4,L12,ZPC(WHT),SWRCH18A,COOL WHITE	2	SNA	
4-2	DA61-03987A	RAIL-TRAY SUB R	MT,HIPS,COOL WHITE	1	SA	
4-3	DA61-60201B	RAIL-CASE L	SR-51,HIPS,SC-02740R,COOL WHT	1	SA	
4-4	DA63-40305A	GROMMET-RAIL	CHILLED,NY-6	4	SA	
4-5	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
4-6	DA67-40345C	TRAY-SUB	SR-5578,GPPS	1	SA	
5	DA97-05784A	ASSY SHELF-REF MID	MT,GLASS	2	SA	
5-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
6	DA97-05878A	ASSY SHELF-REF LOW	MT	1	SA	
6-1	DA64-00090B	TRIM-SHELF	A-TOP,LDPE,WHITE	2	SA	
6-2	DA64-01114A	KNOB-HUMIDITY	QUEEN,ABS,GE-OEM	2	SA	
6-3	DA66-00321A	LEVER-HUMIDITY	EPEL,ABS,W30.0,L11.0,Ni + Cr	2	SA	
6-4	DA67-01882A	SHELF-REF LOW	MT,PP	1	SNA	
7	DA97-05936A	ASSY CASE-VEG	MT,2DRAW	2	SA	BA,BB,BC,SA,SB
7-1	DA61-04010A	CASE-VEG	MT,PP,2DRAW	1	SNA	
7-2	DA64-02454A	TRIM-CASE VEG	MT,GPPS,NTR,2DRAW	1	SNA	
8	DA61-03963A	RAIL-VEG	MT,HIPS,COOL WHITE	1	SA	
9	DA97-05937A	ASSY CASE-VEG	MT,1DRAW,DOM	1	SA	BD,BE,SC,SD
9-1	DA61-04011A	CASE-VEG	MT,PP,1DRAW,DOM	1	SNA	
9-2	DA64-02447A	TRIM-CASE VEG	MT,GPPS	1	SNA	
9-3	DA67-01920A	CAP-CASE VEG	MT,GPPS	1	SA	
10	DA66-00276A	ROLLER-VEG	TD,POM	4	SA	
11	DA67-30266K	CAP-SCREW	A-TOP,PP,SC-02740R,-,-,Cool-white,-	3	SA	

5.EXPLODED VIEW PART LIST

5-4. Door - With Dispenser



5.EXPLODED VIEW PART LIST

■ Parts List of Door(With Dispenser)

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	DA91-02637A	ASSY DOOR FOAM FRE	MT55,SNOW WHITE,EMBO,ELEC	1	SA	RT72
	DA91-02637B		MT55,SNOW WHITE,PCM,ELEC	1	SA	RT72
	DA91-02637C		MT55,STAINLESS SILVER,PET,ELEC	1	SA	RT72
	DA91-02637D		MT55,STAINLESS PLATINUM,PET,ELEC	1	SA	RT72
	DA91-02637E		MT55,MARBLE BEIGE,PET,ELEC	1	SA	RT72
	DA91-02637F		MT55,CREAM WHITE,EMBO,ELEC	1	SA	RT72
	DA91-02637G		MT55,SNOW WHITE,EMBO,SEMI ELEC	1	SA	RT72
	DA91-02637H		MT55,SNOW WHITE,PCM,SEMI ELEC	1	SA	RT72
	DA91-02637J		MT55,STAINLESS SILVER,PET,SEMI ELEC	1	SA	RT72
	DA91-02637K		MT55,STAINLESS PLATINUM,PET,SEMI ELEC	1	SA	RT72
	DA91-02637L		MT55,MARBLE BEIGE,PET,SEMI ELEC	1	SA	RT72
	DA91-02637M		MT55,CREAM WHITE,EMBO,SEMI ELEC	1	SA	RT72
	DA91-02637N		MT59,SNOW WHITE,EMBO,ELEC	1	SA	RT77
	DA91-02637P		MT59,SNOW WHITE,PCM,ELEC	1	SA	RT77
	DA91-02637Q		MT59,STAINLESS SILVER,PET,ELEC	1	SA	RT77
	DA91-02637R		MT59,STAINLESS PLATINUM,PET,ELEC	1	SA	RT77
	DA91-02637S		MT59,MARBLE BEIGE,PET,ELEC	1	SA	RT77
	DA91-02637T		MT59,CREAM WHITE,EMBO,ELEC	1	SA	RT77
	DA91-02637U		MT59,SNOW WHITE,EMBO,SEMI ELEC	1	SA	RT77
	DA91-02637V		MT59,SNOW WHITE,PCM,SEMI ELEC	1	SA	RT77
	DA91-02637W		MT59,STAINLESS SILVER,PET,SEMI ELEC	1	SA	RT77
	DA91-02637X		MT59,STAINLESS PLATINUM,PET,SEMI ELEC	1	SA	RT77
	DA91-02637Y		MT59,MARBLE BEIGE,PET,SEMI ELEC	1	SA	RT77
	DA91-02637Z		MT59,CREAM WHITE,EMBO,SEMI ELEC	1	SA	RT77
2	DA97-03764M	ASSY-GASKET DOOR FRE	MT,W780,L523	1	SA	
3	DA64-01985A	MASCOT	SBS,AL,T1.6,L90,Siver,forging	1	SC	
4	DA97-05820A	ASSY COVER-DISPLAY	MT,ELEC	1	SA	K*
	DA97-05821A		MT,SEMI	1	SA	B*,S*
4-1	6002-000466	SCREW-TAPPING	PH,+,2S,M3.O,L8,ZPC(WHT),MSWR10	4	SNA	
4-2	DA64-02403A	BUTTON-DISPLAY	MT,ABS,SPRAY	2	SNA	
4-3	DA64-02402A	WINDOW-DISPLAY	MT,PC,HALF MIRROR	1	SNA	
4-4	DA63-03984A	COVER-DISPLAY	MT,ABS	1	SNA	
4-5	DA63-03990A	GASKET-DISPLAY	MT,SILICON	2	SNA	
4-6	DA41-00516A	PBA PANEL	MT,DOOR REF,FR-4,88*155.5*1.6T,YELLOW-GREEN,BEST,12V,5V	1	SA	K*
	DA41-00517A		MT,DOOR REF,FR-1,88*155.5*1.6T,YELLOW-GREEN,SEMI,12V,5V	1	SA	B*,S*
5	DA97-05869A	ASSY HANDLE FRE	MT,SNOW WHITE,SC-97527R	1	SA	
	DA97-05869B		MT,CREAM WHITE,SC-01625R	1	SA	
	DA97-05869C		MT,STAINLESS SILVER,SC-04126S	1	SA	
	DA97-05869D		MT,STAINLESS PLATINUM,SC-04126S	1	SA	
	DA97-05869E		MT,DAISY BEIGE,SC-98456R	1	SA	
5-1	6002-001364	SCREW-TAPPING	FH,+,1,M4,L14,CR PLT,SWRCH18A	4	SNA	
5-2	DA67-01876A	CAP-HANDLE FRE UPP	MT,ABS,SNOW WHITE	1	SNA	
5-3	DA67-01877A	CAP-HANDLE FRE LOW	MT,ABS,SNOW WHITE	1	SNA	
6	DA63-03969A	GUARD FRE-UPP	MT,GPPS	2	SA	

5.EXPLODED VIEW PART LIST

■ Parts List of Door(With Dispenser)

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
7	DA63-03973A	GUARD FRE-LOW	MT,GPPS,REF LOW	1	SA	
8	DA91-02638G	ASSY DOOR FOAM REF	MT59,SNOW WHITE,EMBO,DISP	1	SA	RT77
	DA91-02638H		MT59,SNOW WHITE,PCM,DISP	1	SA	RT77
	DA91-02638J		MT59,STAINLESS SILVER,PET,DISP	1	SA	RT77
	DA91-02638K		MT59,STAINLESS PLATINUM,PET,DISP	1	SA	RT77
	DA91-02638L		MT59,MARBLE BEIGE,PET,DISP	1	SA	RT77
	DA91-02636G		MT55,SNOW WHITE,EMBO,DISP	1	SA	RT72
	DA91-02636H		MT55,SNOW WHITE,PCM,DISP	1	SA	RT72
	DA91-02636J		MT55,STAINLESS SILVER,PET,DISP	1	SA	RT72
	DA91-02636K		MT55,STAINLESS PLATINUM,PET,DISP	1	SA	RT72
	DA91-02636L		MT55,MARBLE BEIGE,PET,DISP	1	SA	RT72
9	DA97-03764P	ASSY-GASKET DOOR REF	MT59,W780,L1109.5	1	SA	RT77
	DA97-03764N		MT55,W780,L1044.5	1	SA	RT72
10	DA97-05868A	ASSY HANDLE REF	MT,SNOW WHITE,SC-97527R	1	SA	
	DA97-05868B		MT,CREAM WHITE,SC-01625R	1	SA	
	DA97-05868C		MT,STAINLESS SILVER,SC-04433S	1	SA	
	DA97-05868D		MT,STAINLESS PLATINUM,SC-04126S	1	SA	
	DA97-05868E		MT,DAISY BEIGE,SC-98456R	1	SA	
10-1	6002-001364	SCREW-TAPPING	FH,+,1,M4,L14,CR PLT,SWRCH18A	4	SNA	
10-2	DA64-02399A	HANDLE BAR-REF	MT,ABS,SNOW WHITE,SC-97527R	1	SNA	
10-3	DA67-01878A	CAP-HANDLE REF UPP	MT,ABS,SNOW WHITE	1	SNA	
10-4	DA67-01879A	CAP-HANDLE REF LOW	MT,ABS,SNOW WHITE	1	SNA	
11	DA63-03970A	GUARD EGG	MT,GPPS	2	SA	
12	DA67-40297A	TRAY-EGG	SR-5056,GPPS,T2.5	1	SA	
13	DA63-03971A	GUARD-DISPENSER	MT,GPPS	1	SA	
14	DA63-03972A	GUARD BOTTLE	MT,GPPS	1	SA	
15	DA63-03973B	GUARD FRE-LOW	MT,GPPS,REF LOW	1	SA	
16	DA97-05812A	ASSY TANK WATER	MT,COOL WHITE	1	SA	
16-1	DA63-03975A	COVER-WATER TANK	MT,LDPE,COOL WHITE	1	SA	
16-2	DA67-01054B	CAP-WATER TANK	MT,PP,MIND BLUE,SC-02738R	1	SA	
16-3	DA67-01874A	TANK WATER	MT,PP,COOL WHITE	1	SA	
17	DA97-05813A	ASSY-COCK DISPENSER	MT,COOL WHITE	1	SA	
17-1	DA60-90103A	RING-O	SILICON,OD5.0	1	SNA	
17-2	DA60-90103B	RING-O	SILICON,OD11	1	SNA	
17-3	DA61-03958A	CASE-COCK	MT,ABS,COOL WHITE	1	SNA	
17-4	DA61-03959A	GUIDE-PIN DISP	MT,ABS,COOL WHITE	1	SNA	
17-5	DA61-03991A	SPRING ETC-DISPENSER	MT,STS304	1	SNA	
17-6	DA63-04067A	GASKET-WATER TANK	MT,SILICON,2.7,DARK GRAY	1	SNA	
17-7	DA71-70159A	GUIDE-PUSH	SR-5066,PC	1	SNA	
18	DA97-05778A	ASSY COVER-DISPENSER	MT,POM,SNOW WHITE	1	SA	
	DA97-05778B		MT,POM,TITAN GRAY	1	SA	
	DA97-05778C		MT,POM,DAISY BEIGE	1	SA	
	DA97-05778D		MT,POM,CREAM WHITE	1	SA	
18-1	DA61-03990A	SPRING ETC-LEVER	MT,STS304	1	SNA	

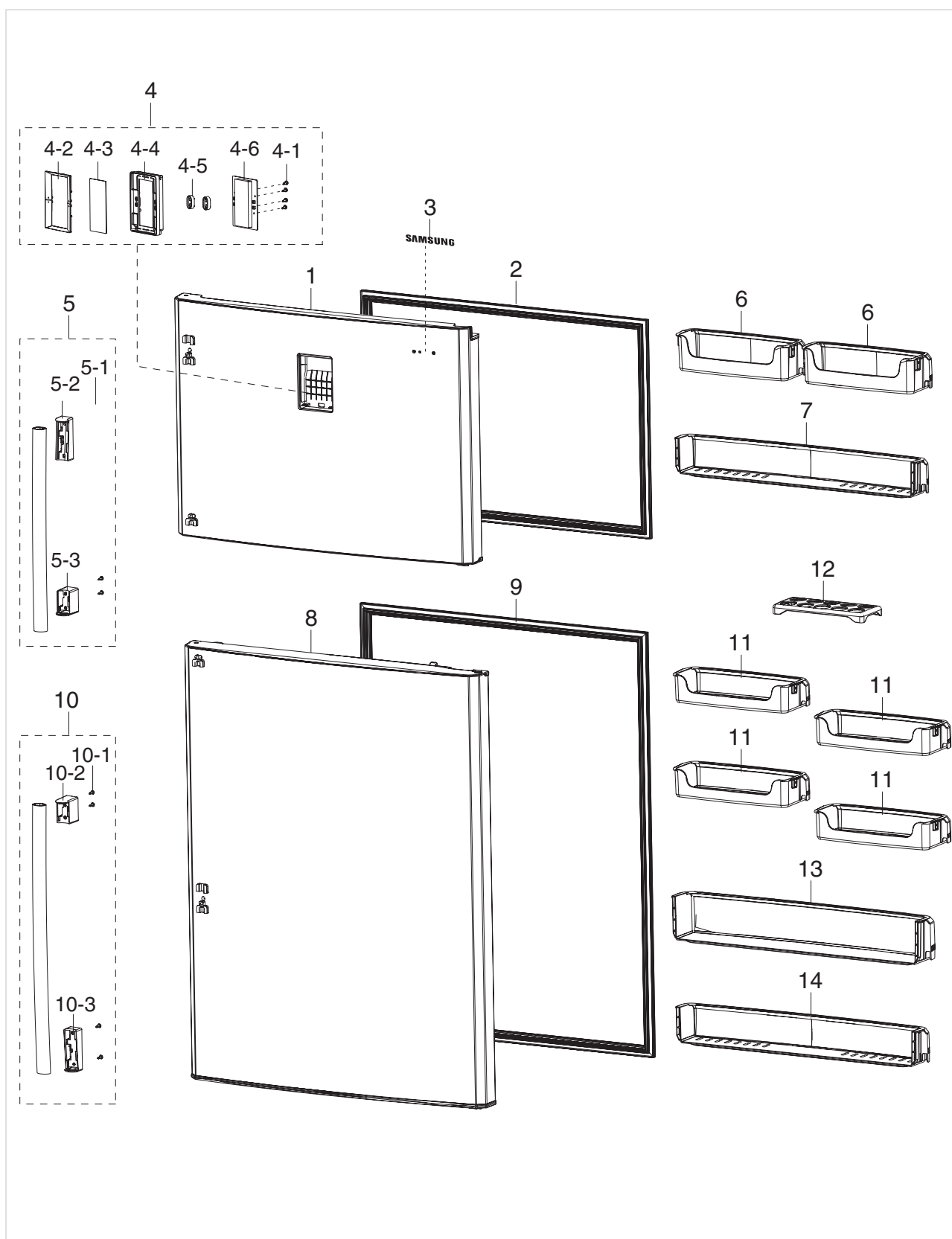
5.EXPLODED VIEW PART LIST

■ Parts List of Door(With Dispenser)

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
18-2	DA63-03968B	COVER DISPENSER	MT,ABS,TITAN GRAY,SC-03186R	1	SNA	
18-3	DA64-02391A	KEY-LEVER	MT,POM	1	SNA	
18-4	DA64-02401A	WINDOW-DISPENSER	MT,PC,HALF MIRROR	1	SNA	
18-5	DA66-00530A	LEVER-DISPENSER	MT,SAN	1	SNA	
19	DA63-03966A	TRAY DISPENSER	MT,ABS,SNOW WHITE,SC-97527R	1	SA	
	DA63-03966B		MT,ABS,TITAN GRAY,SC-03186R	1	SA	
	DA63-03966C		MT,ABS,DAISY BEIGE,SC-98456R	1	SA	
	DA63-03966D		MT,ABS,CREAM WHITE,SC-01625R	1	SA	

5.EXPLODED VIEW PART LIST

5-5. Door - Without Dispenser



5.EXPLODED VIEW PART LIST

■ Parts List of Door(Without Dispenser)

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	DA91-02637A	ASSY DOOR FOAM FRE	MT55,SNOW WHITE,EMBO,ELEC	1	SA	RT72
	DA91-02637B		MT55,SNOW WHITE,PCM,ELEC	1	SA	RT72
	DA91-02637C		MT55,STAINLESS SILVER,PET,ELEC	1	SA	RT72
	DA91-02637D		MT55,STAINLESS PLATINUM,PET,ELEC	1	SA	RT72
	DA91-02637E		MT55,MARBLE BEIGE,PET,ELEC	1	SA	RT72
	DA91-02637F		MT55,CREAM WHITE,EMBO,ELEC	1	SA	RT72
	DA91-02637G		MT55,SNOW WHITE,EMBO,SEMI ELEC	1	SA	RT72
	DA91-02637H		MT55,SNOW WHITE,PCM,SEMI ELEC	1	SA	RT72
	DA91-02637J		MT55,STAINLESS SILVER,PET,SEMI ELEC	1	SA	RT72
	DA91-02637K		MT55,STAINLESS PLATINUM,PET,SEMI ELEC	1	SA	RT72
	DA91-02637L		MT55,MARBLE BEIGE,PET,SEMI ELEC	1	SA	RT72
	DA91-02637M		MT55,CREAM WHITE,EMBO,SEMI ELEC	1	SA	RT72
	DA91-02637N		MT59,SNOW WHITE,EMBO,ELEC	1	SA	RT77
	DA91-02637P		MT59,SNOW WHITE,PCM,ELEC	1	SA	RT77
	DA91-02637Q		MT59,STAINLESS SILVER,PET,ELEC	1	SA	RT77
	DA91-02637R		MT59,STAINLESS PLATINUM,PET,ELEC	1	SA	RT77
	DA91-02637S		MT59,MARBLE BEIGE,PET,ELEC	1	SA	RT77
	DA91-02637T		MT59,CREAM WHITE,EMBO,ELEC	1	SA	RT77
	DA91-02637U		MT59,SNOW WHITE,EMBO,SEMI ELEC	1	SA	RT77
	DA91-02637V		MT59,SNOW WHITE,PCM,SEMI ELEC	1	SA	RT77
	DA91-02637W		MT59,STAINLESS SILVER,PET,SEMI ELEC	1	SA	RT77
	DA91-02637X		MT59,STAINLESS PLATINUM,PET,SEMI ELEC	1	SA	RT77
	DA91-02637Y		MT59,MARBLE BEIGE,PET,SEMI ELEC	1	SA	RT77
	DA91-02637Z		MT59,CREAM WHITE,EMBO,SEMI ELEC	1	SA	RT77
2	DA97-03764M	ASSY-GASKET DOOR FRE	MT,W780,L523	1	SA	
3	DA64-01985A	MASCOT	SBS,AL,T1.6,L90,Siver,forging	1	SC	
4	DA97-05820A	ASSY COVER-DISPLAY	MT,ELEC	1	SA	K*
	DA97-05821A		MT,SEMI	1	SA	B*,S*
4-1	6002-000466	SCREW-TAPPING	PH,+,2S,M3.0,L8,ZPC(WHT),MSWR10	4	SNA	ALL
4-2	DA64-02403A	BUTTON-DISPLAY	MT,ABS,SPRAY	2	SNA	
4-3	DA64-02402A	WINDOW-DISPLAY	MT,PC,HALF MIRROR	1	SNA	
4-4	DA63-03984A	COVER-DISPLAY	MT,ABS	1	SNA	
4-5	DA63-03990A	GASKET-DISPLAY	MT,SILICON	2	SNA	
4-6	DA41-00516A	PBA PANEL	MT,DOOR REF,FR-4,88*155.5*1.6T,YELLOW-GREEN,BEST,12V,5V	1	SA	K*
	DA41-00517A		MT,DOOR REF,FR-1,88*155.5*1.6T,YELLOW-GREEN,SEMI,12V,5V	1	SA	B*,S*
5	DA97-05869A	ASSY HANDLE FRE	MT,SNOW WHITE,SC-97527R	1	SA	
	DA97-05869B		MT,CREAM WHITE,SC-01625R	1	SA	
	DA97-05869C		MT,STAINLESS SILVER,SC-04126S	1	SA	
	DA97-05869D		MT,STAINLESS PLATINUM,SC-04126S	1	SA	
	DA97-05869E		MT,DAISY BEIGE,SC-98456R	1	SA	
5-1	6002-001364	SCREW-TAPPING	FH,+,1,M4,L14,CR PLT,SWRCH18A	4	SNA	
5-2	DA67-01876A	CAP-HANDLE FRE UPP	MT,ABS,SNOW WHITE	1	SNA	
5-3	DA67-01877A	CAP-HANDLE FRE LOW	MT,ABS,SNOW WHITE	1	SNA	
6	DA63-03969A	GUARD FRE-UPP	MT,GPPS	2	SA	

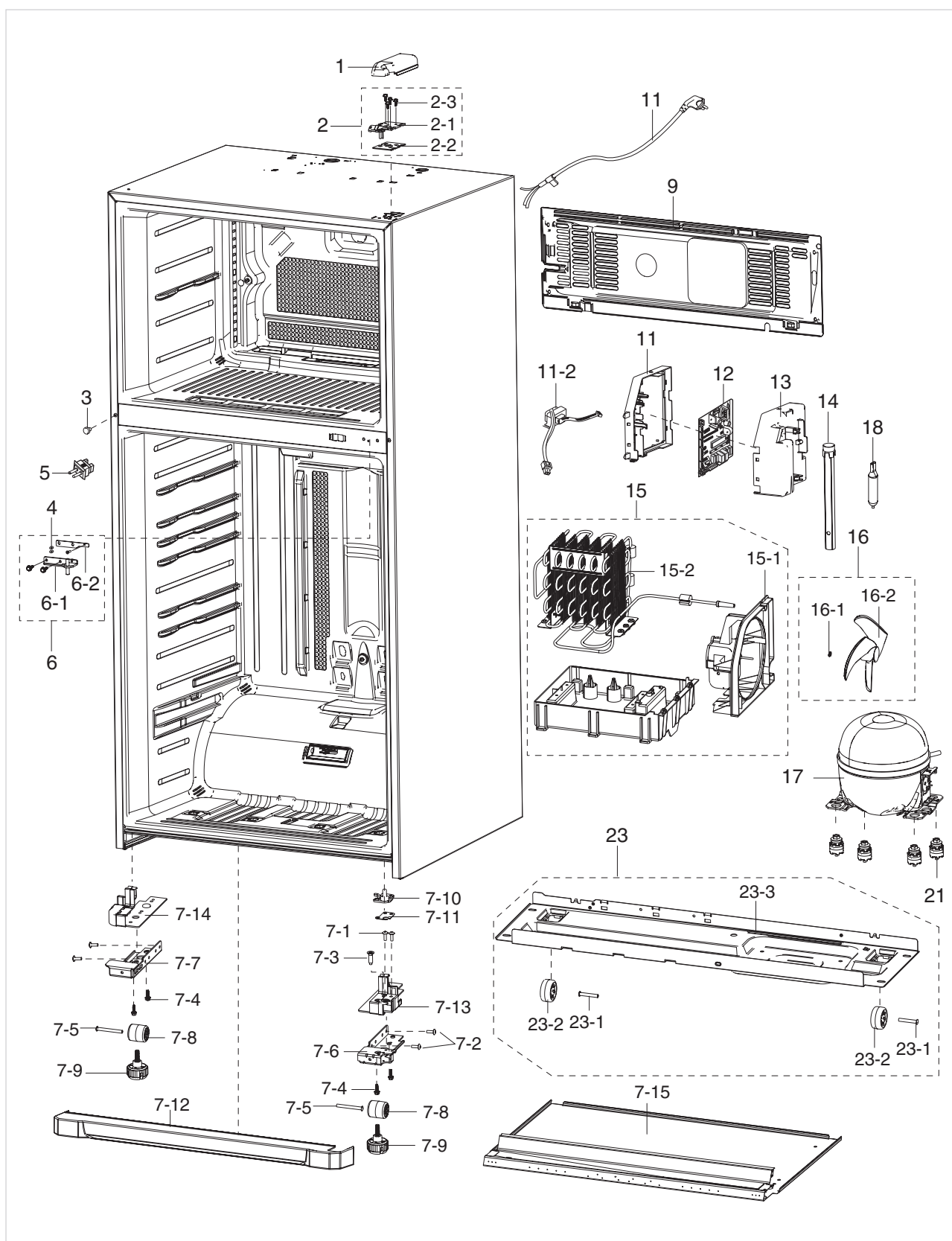
5.EXPLODED VIEW PART LIST

■ Parts List of Door(Without Dispenser)

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
7	DA63-03973A	GUARD FRE-LOW	MT,GPPS,REF LOW	1	SA	
8	DA91-02638B	ASSY DOOR FOAM REF	MT59,SNOW WHITE,PCM	1	SA	RT77
	DA91-02638A		MT59,SNOW WHITE,EMBO	1	SA	RT77
	DA91-02638B		MT59,SNOW WHITE,PCM	1	SA	RT77
	DA91-02638C		MT59,STAINLESS SILVER,PET	1	SA	RT77
	DA91-02638D		MT59,STAINLESS PLATINUM,PET	1	SA	RT77
	DA91-02638E		MT59,MARBLE BEIGE,PET	1	SA	RT77
	DA91-02638F		MT59,CERAM WHITE,EMBO	1	SA	RT77
	DA91-02636A		MT55,SNOW WHITE,EMBO	1	SA	RT72
	DA91-02636B		MT55,SNOW WHITE,PCM	1	SA	RT72
	DA91-02636C		MT55,STAINLESS SILVER,PET	1	SA	RT72
	DA91-02636D		MT55,STAINLESS PLATINUM,PET	1	SA	RT72
	DA91-02636E		MT55,MARBLE BEIGE,PET	1	SA	RT72
	DA91-02636F		MT55,CREAM WHITE,EMBO	1	SA	RT72
9	DA97-03764P	ASSY-GASKET DOOR REF	MT59,W780,L1109.5	1	SA	RT77
	DA97-03764N		MT55,W780,L1044.5	1	SA	RT72
10	DA97-05868A	ASSY HANDLE REF	MT,SNOW WHITE,SC-97527R	1	SA	
	DA97-05868B		MT,CREAM WHITE,SC-01625R	1	SA	
	DA97-05868C		MT,STAINLESS SILVER,SC-04433S	1	SA	
	DA97-05868D		MT,STAINLESS PLATINUM,SC-04126S	1	SA	
	DA97-05868E		MT,DAISY BEIGE,SC-98456R	1	SA	
10-1	6002-001364	SCREW-TAPPING	FH,+,1,M4,L14,CR PLT,SWRCH18A	4	SNA	
10-2	DA64-02399A	HANDLE BAR-REF	MT,ABS,SNOW WHITE,SC-97527R	1	SNA	
10-3	DA67-01878A	CAP-HANDLE REF UPP	MT,ABS,SNOW WHITE	1	SNA	
10-4	DA67-01879A	CAP-HANDLE REF LOW	MT,ABS,SNOW WHITE	1	SNA	
11	DA63-03970A	GUARD EGG	MT,GPPS	2	SA	
12	DA67-40297A	TRAY-EGG	SR-5056,GPPS,T2.5	1	SA	
13	DA63-03971A	GUARD-DISPENSER	MT,GPPS	1	SA	
14	DA63-03972A	GUARD BOTTLE	MT,GPPS	1	SA	
15	DA63-03973B	GUARD FRE-LOW	MT,GPPS,REF LOW	1	SA	

5.EXPLODED VIEW PART LIST

5-6. Cabinet (Bulb type)



5.EXPLODED VIEW PART LIST

■ Parts List of Fridge(Cabinet)-Bulb type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	DA67-00967A	CAP-HINGE,UPP	S3,ABS,SC-97527R	1	SC	
2	DA61-10251D	HINGE-UPP ASS'Y	SR51~55,SCP1	1	SA	
2-1	DA61-10205A	HINGE-UPP	M,SCP1,T3.2,DEEPIG	1	SNA	
2-2	DA63-50145B	SHIM-HINGE UPP	RD-PVC,T2.0,WHT	1	SA	
3	DA67-30218R	CAP-SCREW	PP,SC-97527R,SNOW WHITE	1	SA	
4	6031-001617	WASHER-PLAIN	STS304,ID9.0,OD16,T0.5	2	SNA	
5	DA34-00006C	SWITCH DOOR	2 BUTTON,PE-PC-PBT,125/250VAC,1.5/0.7A,4 PIN,0-50°C,ON-OFF,SC93437R,60, 120 mohm MAX,100MOHM	1	SA	
6	DA97-02400B	ASSY HINGE MID	MT,T4.0,SHIM(HIPS,T1.0)	1	SA	
6-1	DA61-10147F	HINGE-MID	TD,SHP1,T4	1	SNA	
6-2	DA63-50141E	SHIM HINGE-MID	MT,HIPS,T1.0	1	SNA	
7	DA97-01200X	ASSY CABINET-BOTTOM FRONT	MT,STAINLESS SILVER,PLATINUM	1	SNA	
7-1	6001-000715	SCREW-MACHINE	TH,+,M5,L16,ZPC(WHT),SWRCH18A	2	SNA	
7-2	6002-000613	SCREW-TAPPING	TH,+,2,M5,L16,ZPC(WHT),SWRCH18A	4	SNA	
7-3	DA60-10110B	SCREW-SPECIAL	M5,L18,ZPC(WHT),SWRCH18A,SR-50	1	SNA	
7-4	DA60-10122C	SCREW-HEX	HH,M5,L16,ZPC(WHT),SWRCH18A,1018K	4	SNA	
7-5	DA60-90124A	RIVET	MSWR10,OD6.0,L56	2	SNA	
7-6	DA61-00174B	SUPPORT-LEG R	OMEGA-P/J,SHP1,T2.5	1	SNA	
7-7	DA61-00175B	SUPPORT-LEG L	OMEGA-P/J,SHP1,T2.5	1	SNA	
7-8	DA61-00176A	CASTER-FRONT	PP,OD40,NTR	2	SNA	
7-9	DA61-01051B	FOOT-FRONT	T3,OMEGA,W2,PP,SC-93437R	2	SA	
7-10	DA61-04097A	HINGE-LOW	MT,SHP1,3.6	1	SA	
7-11	DA63-50146A	SHIM-HINGE LOW	RD-PVC,T1.0	1	SA	
7-12	DA63-03983B	COVER LEG-FRONT	MT,PP,TITAN GRAY	1	SA	
	DA63-03983B	COVER LEG-FRONT	MT,PP,TITAN GRAY	1	SA	
	DA63-03983C	COVER LEG-FRONT	MT,PP,DAISY BEIGE	1	SA	
	DA63-03983D	COVER LEG-FRONT	MT,PP,CREAM WHITE	1	SA	
	DA63-03983E	COVER LEG-FRONT	MT,PP,CREAM WHITE	1	SA	
7-13	DA67-00371F	CAP LEG FRONT-R	OMEGA-P/J,ABS,PAPER WHITE	1	SNA	
7-14	DA67-00372H	CAP LEG FRONT-L	OMEGA-P/J,ABS,PAPER WHITE	1	SNA	
7-15	DA70-00292L	CABINET-BOTT FRONT	SR-514,590,SECC1,T0.4,SC-93437T,PAPER WHITE	1	SNA	
8	DA39-10115E	CBF-POWER CORD	ET,UCP-2,UCP-2,250V,10A,L=2300,GRAY,CE,	1	SA	
9	DA63-10243U	COVER-COMP ASS'Y	P,SBHG1,T0.4	1	SC	
10	DA26-00021F	TRANS POWER	220V,MT,220V,9.0V/14.0V,0.13A/0.31A,50,60Hz,48,MT SEMI TRANS	1	SNA	B*,S*
11	DA61-00261A	CASE PCB-PANEL	A-TOP,N-ABS	1	SA	
12	DA41-00514A	PBA MAIN	MT,ASSY CYCLE,FR-1,197*148*1.6T,BEST,12V,5V,50Hz	1	SA	K*
	DA41-00515A	PBA MAIN	MT,ASSY CYCLE,FR-1,197*123*1.6T,SEMI,12V,5V,60HZ	1	SA	B*,S*
13	DA63-00783A	COVER PCB-PANEL	A-TOP, N-ABS	1	SC	LED
14	DA97-04048A	ASSY TRAY-DRAIN WATER	TD,SOFT-PVC	1	SA	
15	DA97-05737A	ASSY SUPPORT-CIRCUIT MOTOR	MT	1	SA	K*
	DA97-05980A	ASSY SUPPORT-CIRCUIT MOTOR	MT,AC	1	SA	B*,S*
15-1	DA97-01283N	ASSY PIPE-SUB COND	MT,BLDC(DRCP5030LA)	1	SNA	K*
	DA61-00129C	FAN-ASS'Y	ET EXP,ASSY	1	SC	B*,S*
15-2	DA97-05867A	FAN-TURBO	MT	1	SA	
16	DA31-00010F	SPRING ETC-FAN	SBS,ABS+GLASS FIBER(GR-4010),•150,3-wings	1	SA	

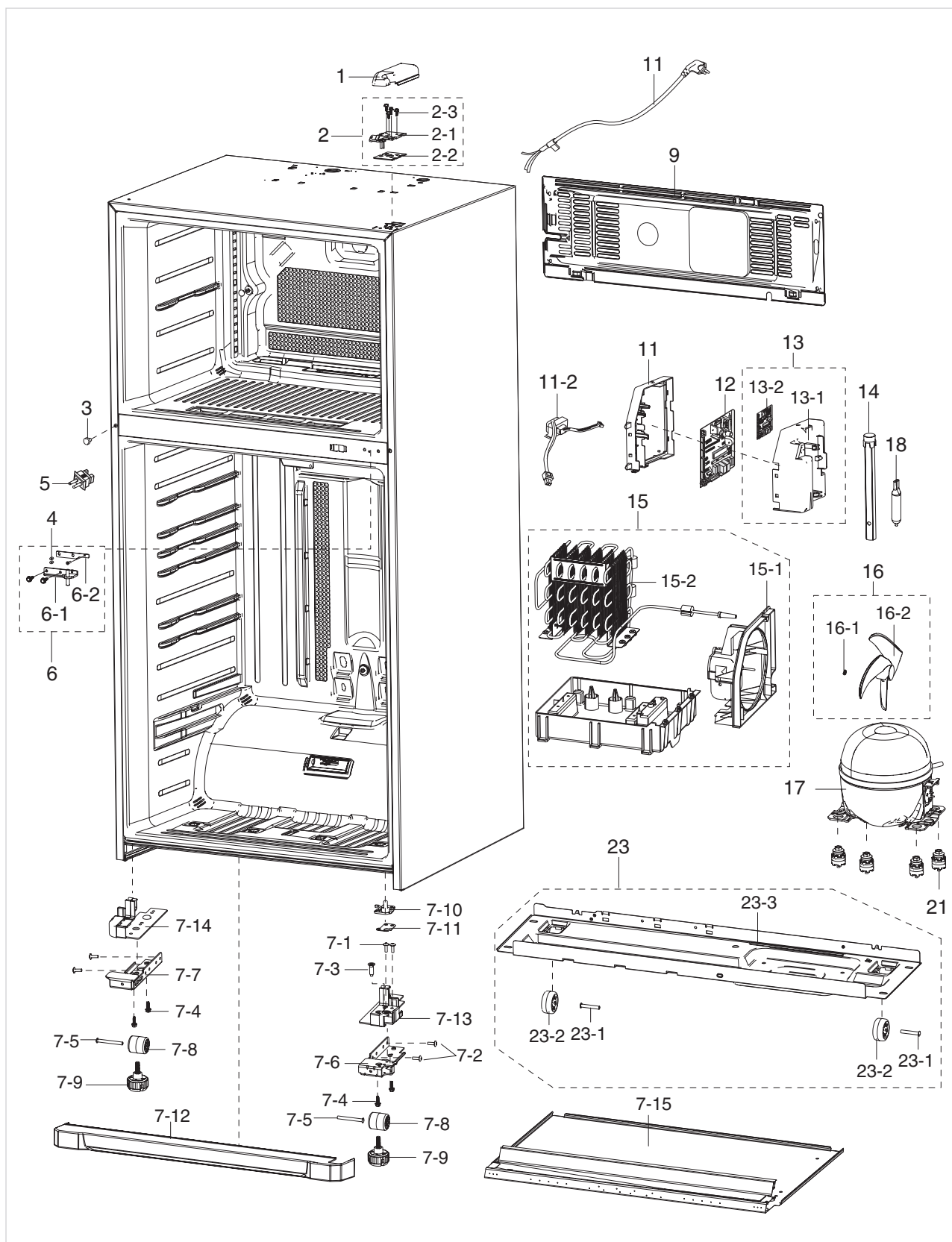
5.EXPLODED VIEW PART LIST

■ Parts List of Fridge(Cabinet)-Bulb type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
16-1	DA31-00015C	COMPRESSOR	ET,ABS+GLASS FIBE,GR-4010	1	SNA	
16-2	DA61-03139A	DRYER	STS304,CD1.0,L3.0,3 Turns	1	SNA	
17	MK183GL2U/E08	ASSY-RELAY-PTC	200-240V~50HZ,220V~60HZ,RSCR,	1	-	240V/50-60HZ
18	DA62-01514A	WIRE HARNESS-EARTH	REF-ALL,C1220T,OD18.70,L114	1	SA	
19	DA96-00270F	GROMMET-COMP	12SP17A293SH220,135/69°...,228Y	1	SNA	
20	DA39-20389L	BOLT-HEX	TMF/LMF,AWG #18,150mm	1	SA	
21	DA63-02017A	ASSY CHASSIS-COMP	QUEEN,EPDM	4	SA	
22	DA60-20008A	PIN-CASTER	S25C,L42.6	4	SA	
23	DA97-01180C	CASTER-REAR	OMEGA,SBHG1,T1.0	1	SNA	
23-1	DA60-90146A	CHASSIS COMP	MSWR10,OD6.0,L40,ZPC2,SR-289-4	2	SA	
23-2	DA61-40126B	ASSY-COMP SUB	REF-ALL,PP,PI 44,NTR,W22	2	SC	
23-3	DA71-60122D	C-FILM,LEAD	OMEGA,SBHG1,T1.0	1	SNA	
24	DA97-02895H	ASSY-HARNESS COMP	MT,MK183G	1	SNA	
24-1	2301-001848		5000nF5/10%,450V,Bulk,50x25x36	1	SA	
24-2	DA96-00174A		EPEL,WIRE-HARNESS MAIN,A	1	SA	

5.EXPLODED VIEW PART LIST

5-6. Cabinet (LED type)



5.EXPLODED VIEW PART LIST

■ Parts List of Fridge(Cabinet)-Led type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
1	DA67-00967A	CAP-HINGE,UPP	S3,ABS,SC-97527R	1	SC	
2	DA61-10251D	HINGE-UPP ASS'Y	SR51-55,SCP1	1	SA	
2-1	DA61-10205A	HINGE-UPP	M,SCP1,T3.2,DEEPIG	1	SNA	
2-2	DA63-50145B	SHIM-HINGE UPP	RD-PVC,T2.0,WHT	1	SA	
3	DA67-30218R	CAP-SCREW	PP,SC-97527R,SNOW WHITE	1	SA	
4	6031-001617	WASHER-PLAIN	STS304,ID9.0,OD16,T0.5	2	SNA	
5	DA34-00006C	SWITCH DOOR	2 BUTTON,PE-PC-PBT,125/250VAC,1.5/0.7A,4 PIN,0-50°C,ON-OFF,SC93437R,60, 120 mohm MAX,100MOHM	1	SA	
6	DA97-02400B	ASSY HINGE MID	MT,T4.0,SHIM(HIPS,T1.0)	1	SA	
6-1	DA61-10147F	HINGE-MID	TD,SHP1,T4	1	SNA	
6-2	DA63-50141E	SHIM HINGE-MID	MT,HIPS,T1.0	1	SNA	
7	DA97-01200X	ASSY CABINET-BOTTOM FRONT	MT,STAINLESS SILVER,PLATINUM	1	SNA	
7-1	6001-000715	SCREW-MACHINE	TH,+,M5,L16,ZPC(WHT),SWRCH18A	2	SNA	
7-2	6002-000613	SCREW-TAPPING	TH,+,2,M5,L16,ZPC(WHT),SWRCH18A	4	SNA	
7-3	DA60-10110B	SCREW-SPECIAL	M5,L18,ZPC(WHT),SWRCH18A,SR-50	1	SNA	
7-4	DA60-10122C	SCREW-HEX	HH,M5,L16,ZPC(WHT),SWRCH18A,1018K	4	SNA	
7-5	DA60-90124A	RIVET	MSWR10,OD6.0,L56	2	SNA	
7-6	DA61-00174B	SUPPORT-LEG R	OMEGA-P/J,SHP1,T2.5	1	SNA	
7-7	DA61-00175B	SUPPORT-LEG L	OMEGA-P/J,SHP1,T2.5	1	SNA	
7-8	DA61-00176A	CASTER-FRONT	PP,OD40,NTR	2	SNA	
7-9	DA61-01051B	FOOT-FRONT	T3,OMEGA,W2,PP,SC-93437R	2	SA	
7-10	DA61-04097A	HINGE-LOW	MT,SHP1,3.6	1	SA	
7-11	DA63-50146A	SHIM-HINGE LOW	RD-PVC,T1.0	1	SA	
7-12	DA63-03983B	COVER LEG-FRONT	MT,PP,TITAN GRAY	1	SA	
	DA63-03983B	COVER LEG-FRONT	MT,PP,TITAN GRAY	1	SA	
	DA63-03983C	COVER LEG-FRONT	MT,PP,DAISY BEIGE	1	SA	
	DA63-03983D	COVER LEG-FRONT	MT,PP,CREAM WHITE	1	SA	
	DA63-03983E	COVER LEG-FRONT	MT,PP,CREAM WHITE	1	SA	
7-13	DA67-00371F	CAP LEG FRONT-R	OMEGA-P/J,ABS,PAPER WHITE	1	SNA	
7-14	DA67-00372H	CAP LEG FRONT-L	OMEGA-P/J,ABS,PAPER WHITE	1	SNA	
7-15	DA70-00292L	CABINET-BOTT FRONT	SR-514,590,SECC1,T0.4,SC-93437T,PAPER WHITE	1	SNA	
8	DA39-10115E	CBF-POWER CORD	ET,UCP-2,UCP-2,250V,10A,L=2300,GRAY,CE,	1	SA	
9	DA63-10243U	COVER-COMP ASS'Y	P,SBHG1,T0.4	1	SC	
10	DA26-00021F	TRANS POWER	220V,MT,220V,9.0V/14.0V,0.13A/0.31A,50,60Hz,48,MT SEMI TRANS	1	SNA	B*,S*
11	DA61-00261A	CASE PCB-PANEL	A-TOP,N-ABS	1	SA	
12	DA41-00514A	PBA MAIN	MT,ASSY CYCLE,FR-1,197*148*1.6T,BEST,12V,5V,50Hz	1	SA	K*
	DA41-00515A	PBA MAIN	MT,ASSY CYCLE,FR-1,197*123*1.6T,SEMI,12V,5V,60HZ	1	SA	B*,S*
13	DA97-10668A	ASSY COVER PCB PANEL	MT-PJT,LED	1	SA	LED
13-1	DA63-05907A	COVER PCB-PANEL	MT-PJT,ABS,NTR	1	SA	LED
13-2	DA92-00062A	ASSY PCB LED SMPS	LED LAMP-SMPS,LED LAMP-SMPS,LED LAMP	1	SA	LED
14	DA97-04048A	ASSY TUBE-DRAIN	TD,SOFT-PVC	1	SA	
15	DA97-05737A	ASSY TRAY-DRAIN WATER	MT	1	SA	K*
	DA97-05980A	ASSY TRAY-DRAIN WATER	MT,AC	1	SA	B*,S*
15-1	DA97-01283N	ASSY SUPPORT-CIRCUIT MOTOR	MT,BLDC(DRCP5030LA)	1	SNA	K*
	DA61-00129C	ASSY SUPPORT-CIRCUIT MOTOR	ET EXPASSY	1	SC	B*,S*

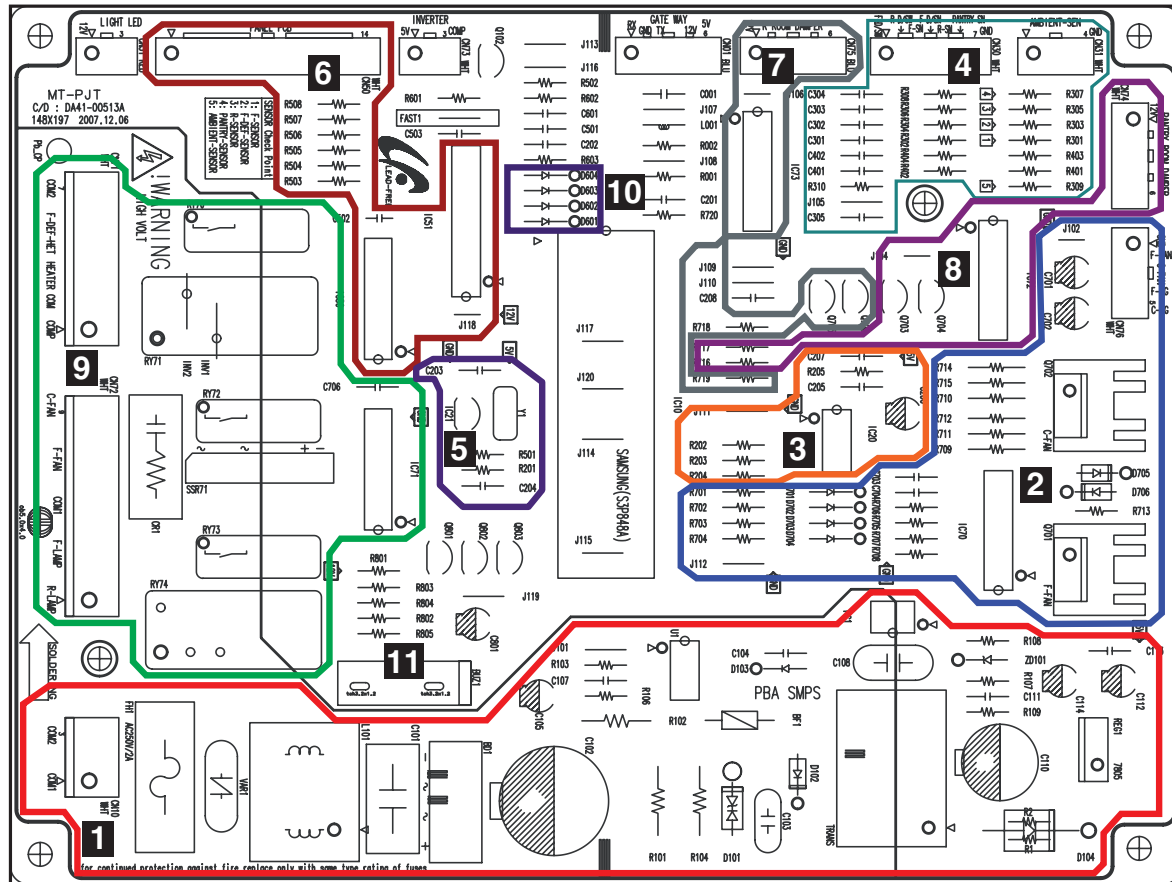
5.EXPLODED VIEW PART LIST

■ Parts List of Fridge(Cabinet)-Led type

NO	CODE-NO	PART NAME	SPECIFICATION	QUANTITY	SA/SNA	REMARK
15-2	DA97-05867A	ASSY PIPE-SUB COND	MT	1	SA	
16	DA31-00010F	FAN-ASS'Y	SBS,ABS+GLASS FIBER(GR-4010),•'150,3-wings	1	SA	
16-1	DA31-00015C	FAN-TURBO	ET,ABS+GLASS FIBE,GR-4010	1	SNA	
16-2	DA61-03139A	SPRING ETC-FAN	STS304,CD1.0,L3.0,3 Turns	1	SNA	
17	MK183GL2U/E08	COMPRESSOR	200-240V~50HZ,220V~60HZ,RSCR,	1	-	240V/50-60HZ
18	DA62-01514A	DRYER	REF-ALL,C1220T,OD18.70,L114	1	SA	
19	DA96-00270F	ASSY-RELAY-PTC	12SP17A293SH220,135/69°...,22BŸ	1	SNA	
20	DA39-20389L	WIRE HARNESS-EARTH	TMF/LMF,AWG #18,150mm	1	SA	
21	DA63-02017A	GROMMET-COMP	QUEEN,EPDM	4	SA	
22	DA60-20008A	BOLT-HEX	S25C,L42.6	4	SA	
23	DA97-01180C	ASSY CHASSIS-COMP	OMEGA,SBHG1,T1.0	1	SNA	
23-1	DA60-90146A	PIN-CASTER	MSWR10,OD6.0,L40,ZPC2,SR-289-4	2	SA	
23-2	DA61-40126B	CASTER-REAR	REF-ALL,PP,PI 44,NTR,W22	2	SC	
23-3	DA71-60122D	CHASSIS COMP	OMEGA,SBHG1,T1.0	1	SNA	
24	DA97-02895H	ASSY-COMP SUB	MT,MK183G	1	SNA	
24-1	2301-001848	C-FILM,LEAD	5000nF5/10%,450V,Bulk,50x25x36	1	SA	
24-2	DA96-00174A	ASSY-HARNESS COMP	EPEL,WIRE-HARNESS MAIN,A	1	SA	

6. PCB DIAGRAM

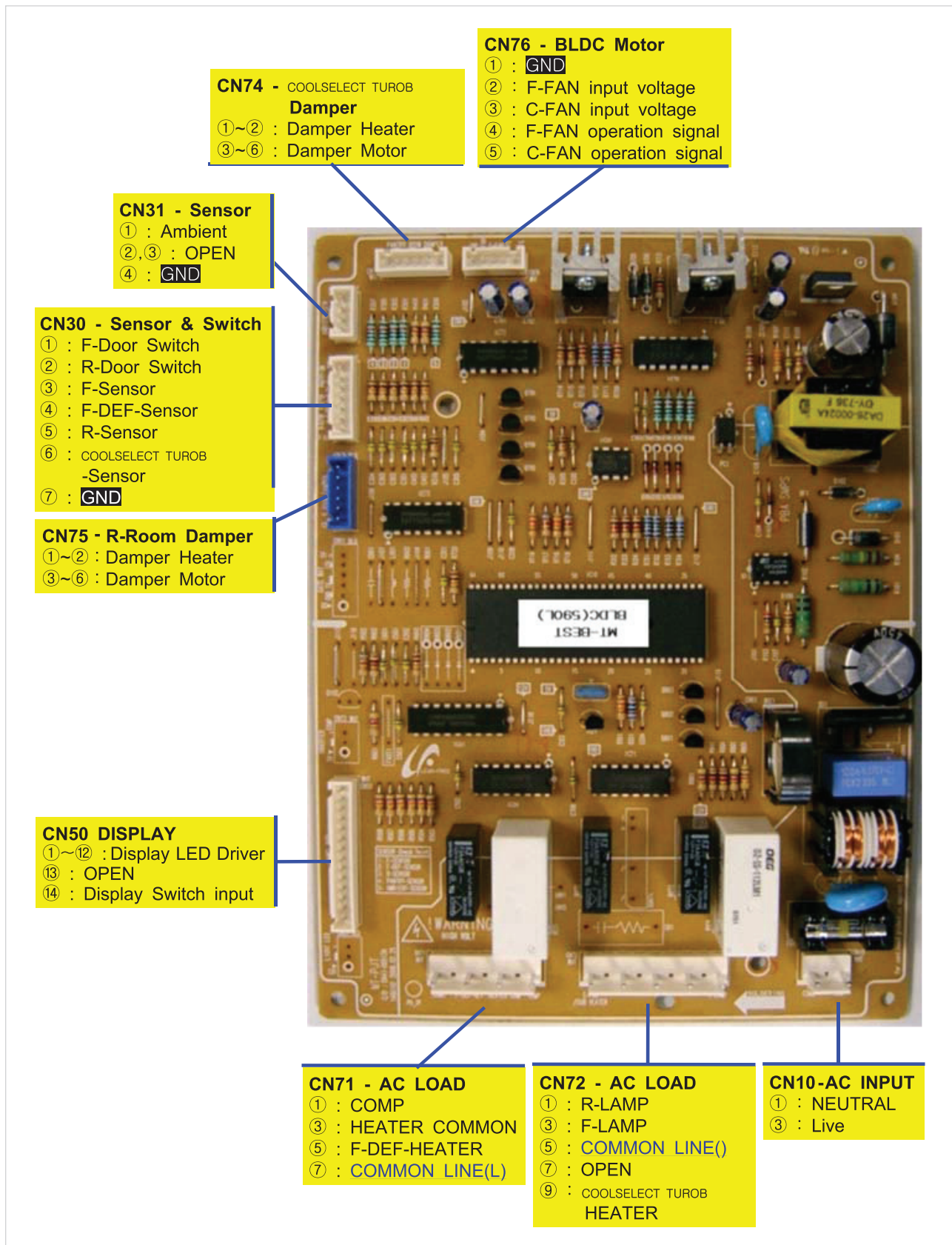
6-1. Part Arrangement (Main Board)-ELEC



1. DC Voltage SUPPLY PART : From the Noise Filter, AC Voltage is supplied and the Power generated from DC 12V,5V is sent to Electronic or Electric PART
2. Supply Power to MOTOR by Types of MOTOR TILL 10-12V of FAN MOTOR Driving Part
3. EEPROM : SAVE/WRITE EVERY DATA
4. Transfer to MICOM by Removing Noise as Receiving Inputs of Every SENSOR Signals and Sense Door Open of COLD ROOM
5. Occurrence of MICOM and CLOCK & Software RESET PART
6. Perform the Role of Managing Interface in PANEL ↔ MAIN PCB Communication Signal (Key Input and Display Indication)
7. Operating Role of R ROOM DAMPER
8. Operating Role of COOLSELECTZONE DAMPER
9. Operate Receiving Driving Signal of MICOM through Sink IC by Controlling AC LOAD to RELAY PART
10. DIODE Option Setting PART for Option Setup
11. BUZZER ALARM PART

6. PCB DIAGRAM

6-2. Connector Arrangement (Main Board)-ELEC



6. PCB DIAGRAM

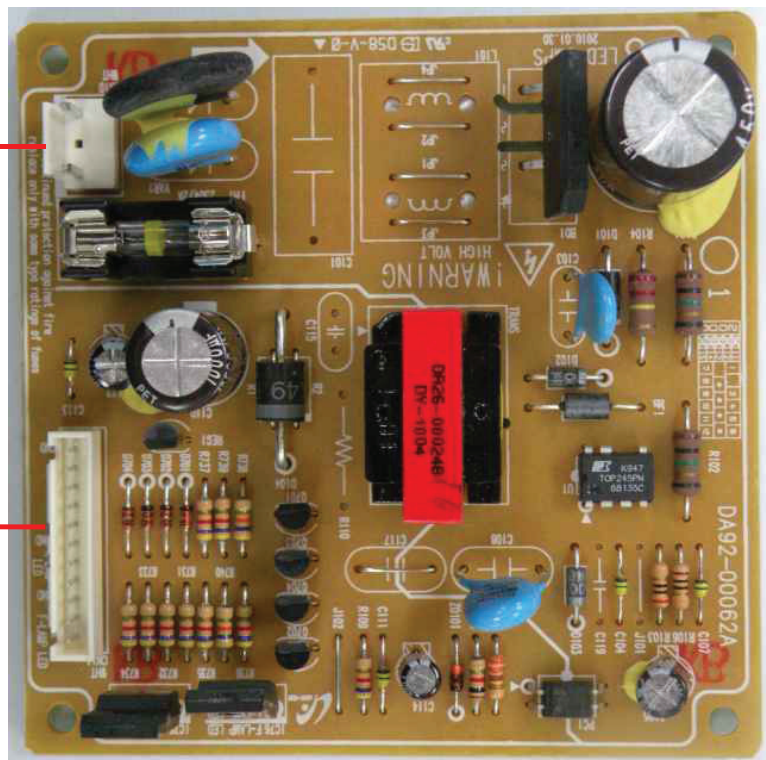
6-2. Connector Arrangement (Main Board)-LED-MODEL

CN10 - AC INPUT

- ① : LIVE
- ③ : NEUTRAL

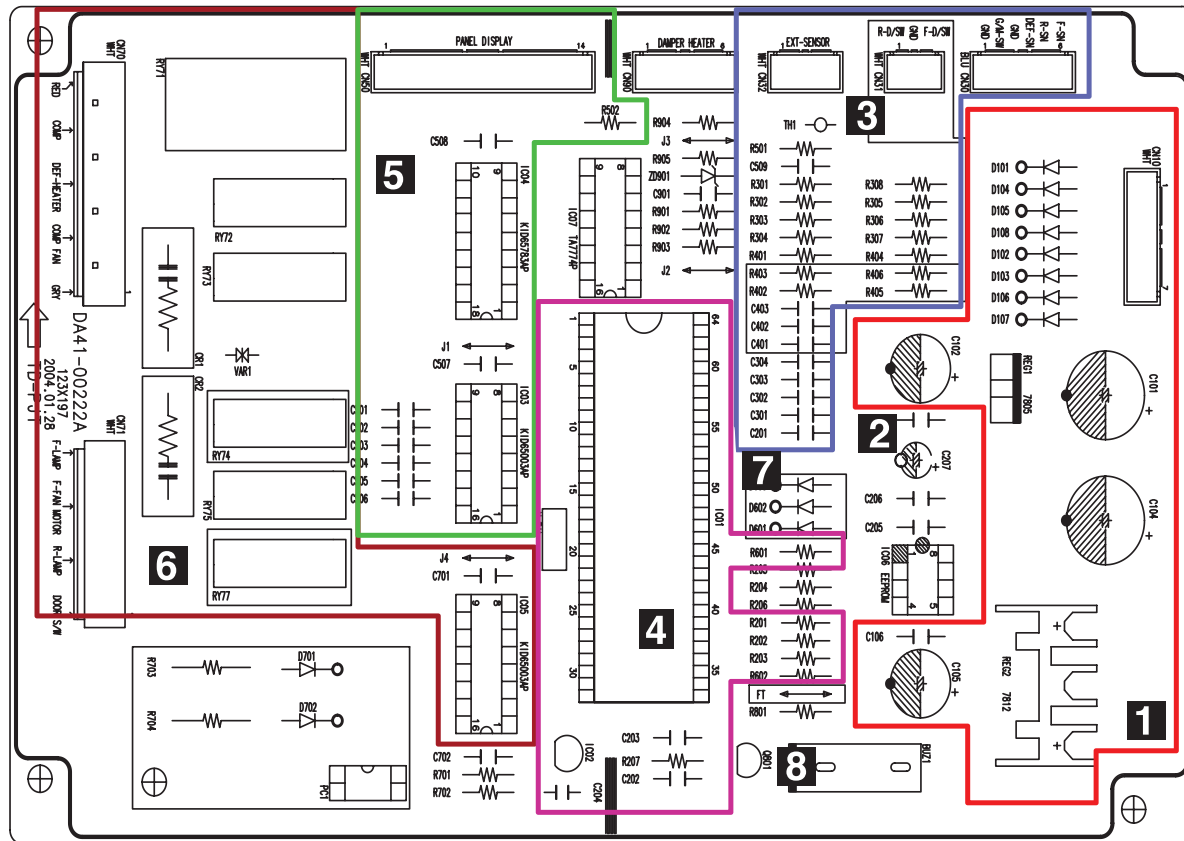
CN11 - Room LED Lamp & Switch

- ① : +12V
- ② : Open
- ③ : GND
- ④ : +12V
- ⑤ : Open
- ⑥, ⑦ : GND
- ⑧ : FZ-Door Switch
- ⑨ : GND
- ⑩ : FF-Door Switch
- ⑪ : GND



6. PCB DIAGRAM

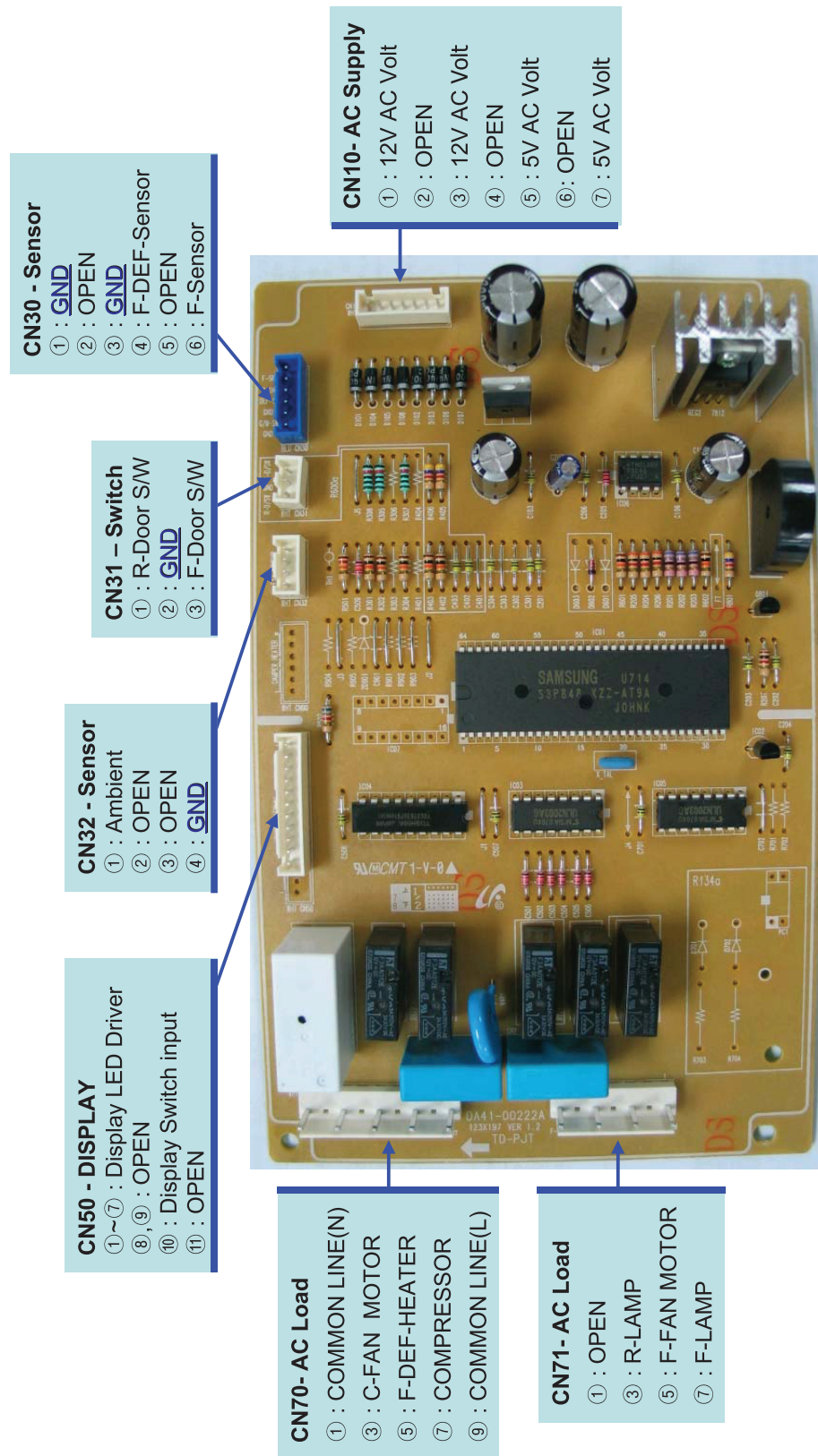
6-3. Part Arrangement (Main Board)-SEMI



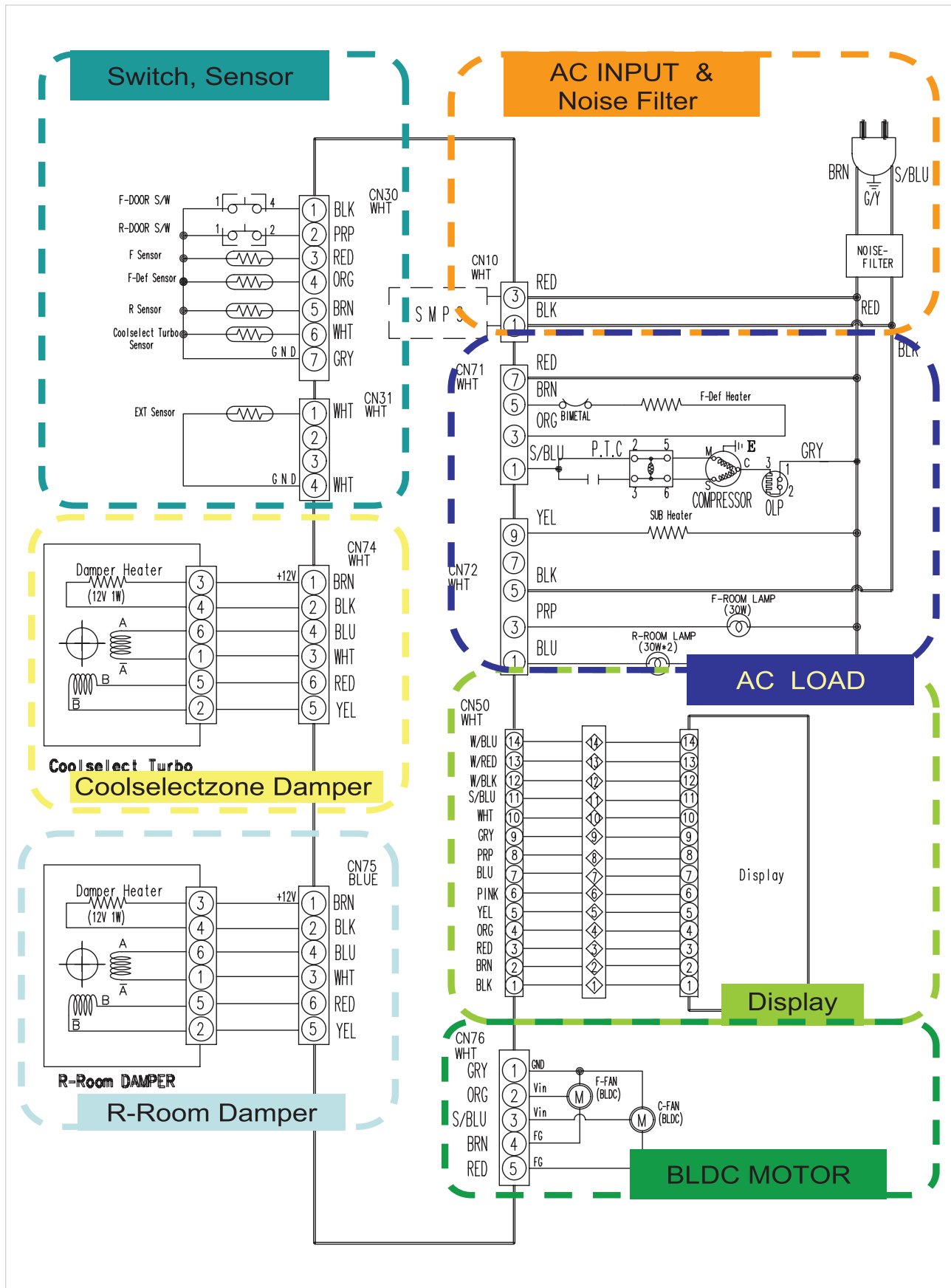
1. DC Voltage SUPPLY PART : From the Noise Filter, AC Voltage is supplied and the Power generated from DC 12V,5V is sent to Electronic or Electric PART
2. EEPROM : SAVE/WRITE EVERY DATA
3. Transfer to MICOM by Removing Noise as Receiving Inputs of Every SENSOR Signals and Sense Door Open of COLD ROOM
4. Occurrence of MICOM and CLOCK & Software RESET PART
5. Perform the Role of Managing Interface in PANEL ↔ MAIN PCB Communication Signal (Key Input and Display Indication)
6. Operate Receiving Driving Signal of MICOM through Sink IC by Controlling AC LOAD to RELAY PART
7. DIODE Option Setting PART for Option Setup
8. BUZZER ALARM PART

6. PCB DIAGRAM

6-4. Connector Arrangement (Main Board)-SEMI

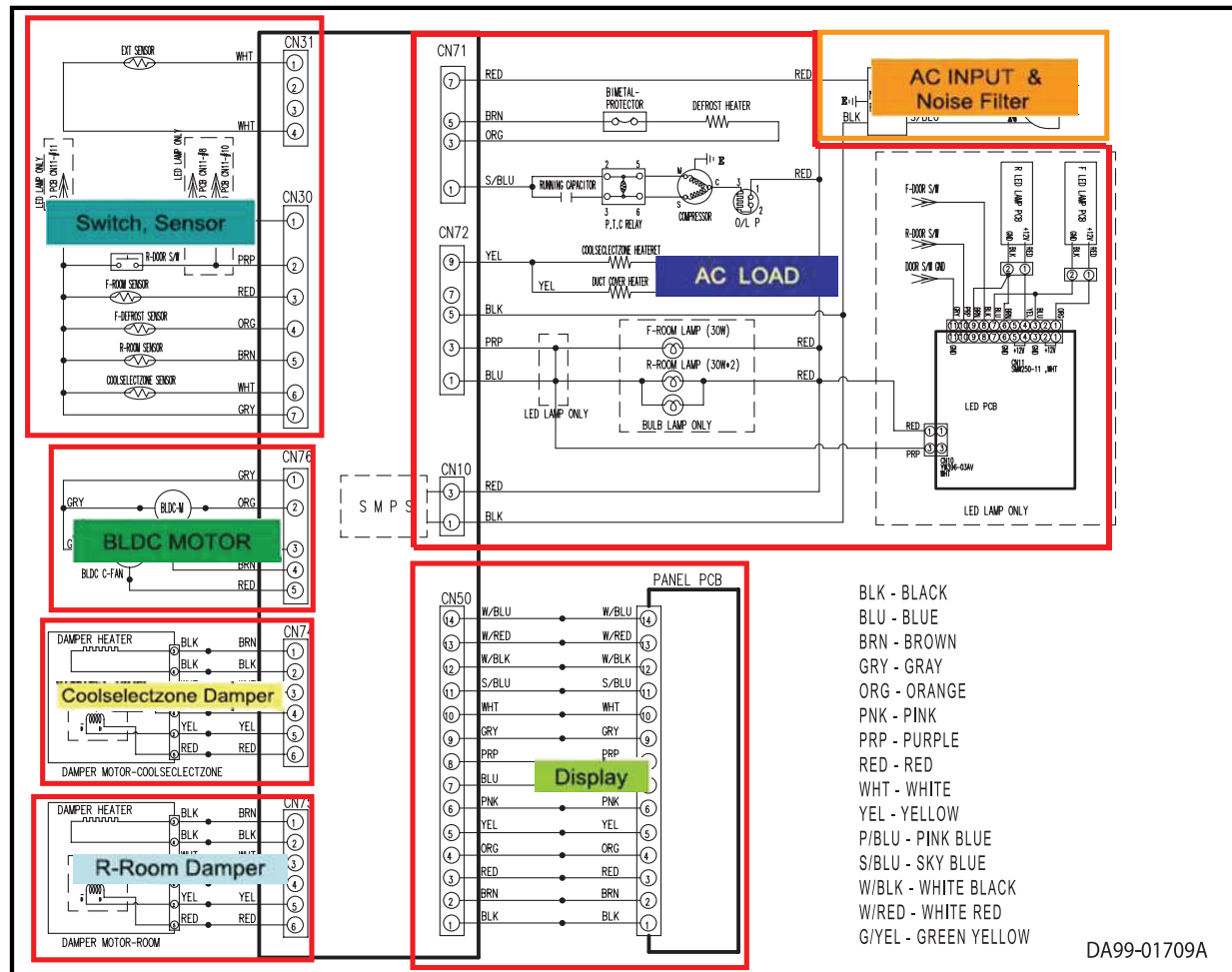


7. WIRING DIAGRAM-ELEC



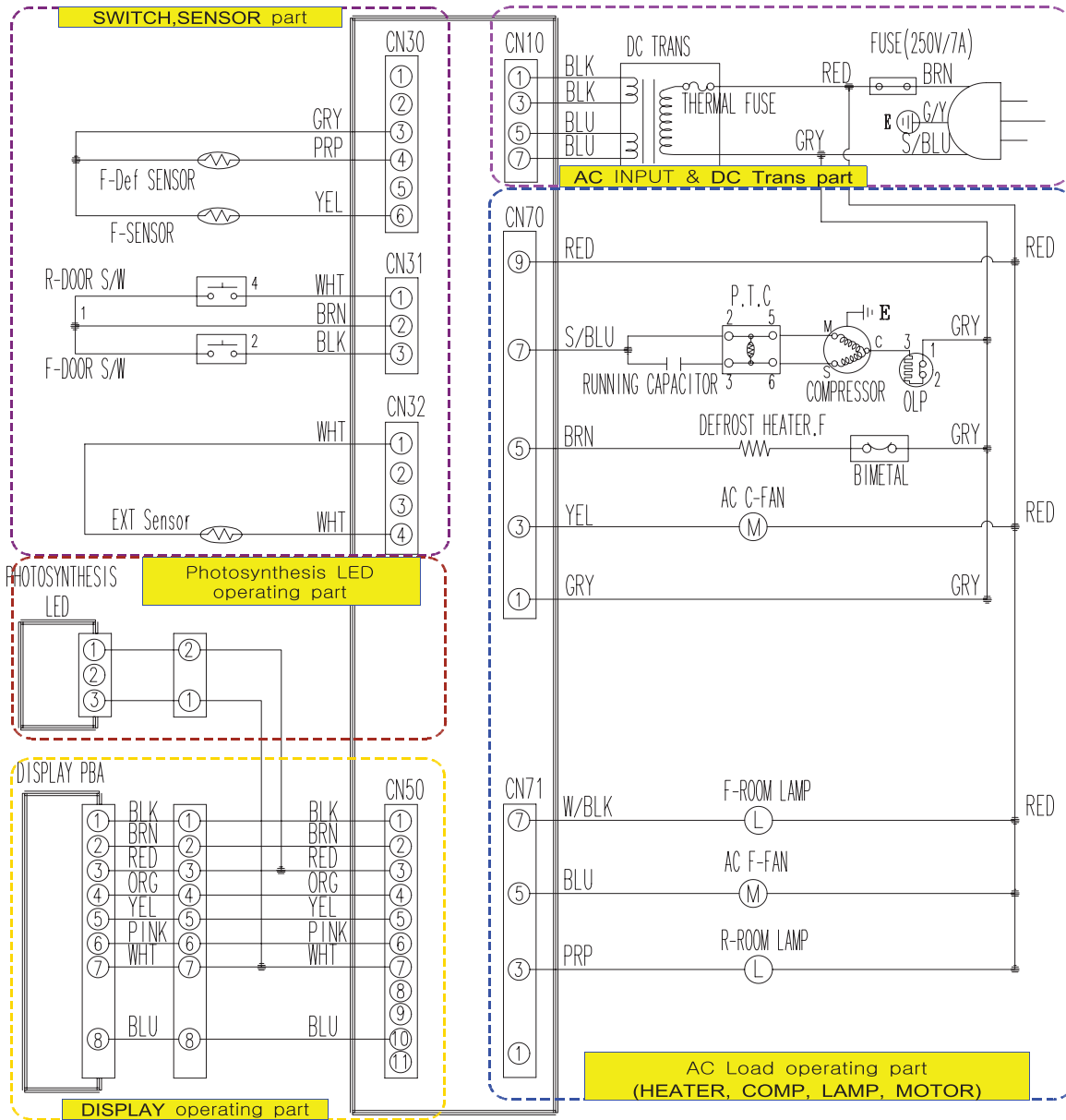
7. WIRING DIAGRAM-SEMI

5-?. ?



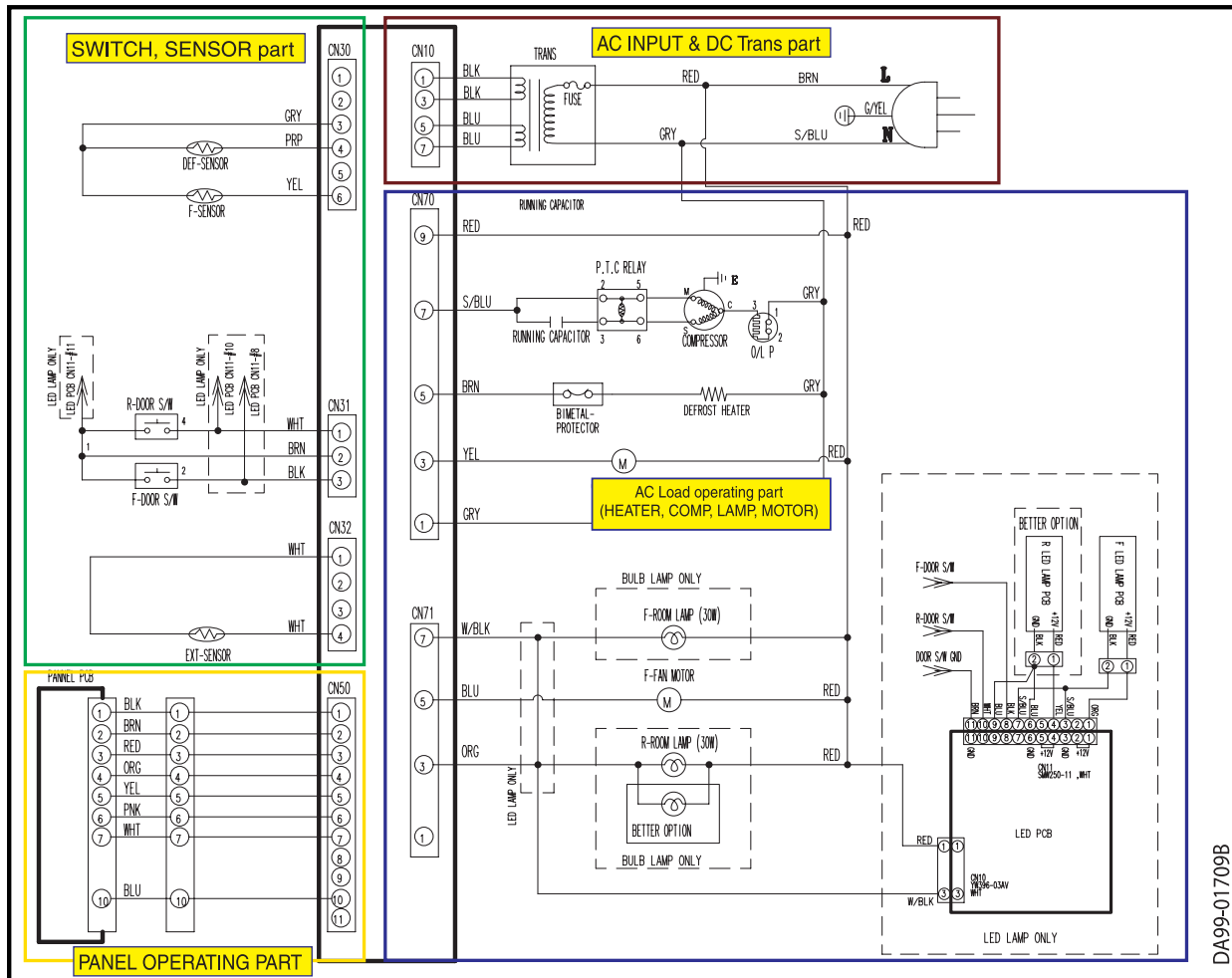
7. WIRING DIAGRAM-SEMI

5-?. ?



7. WIRING DIAGRAM-SEMI

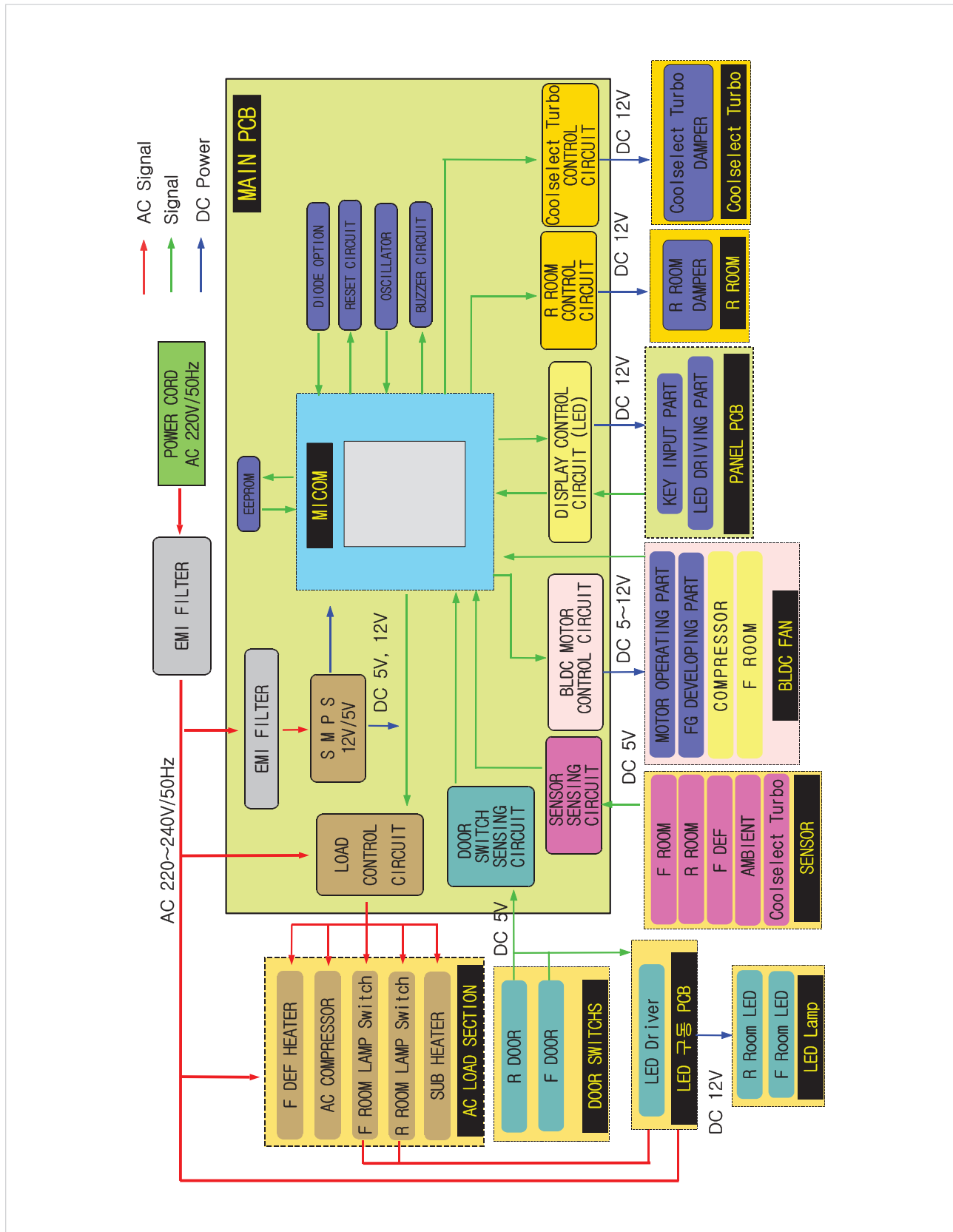
5-?. ?



DA99-01709B

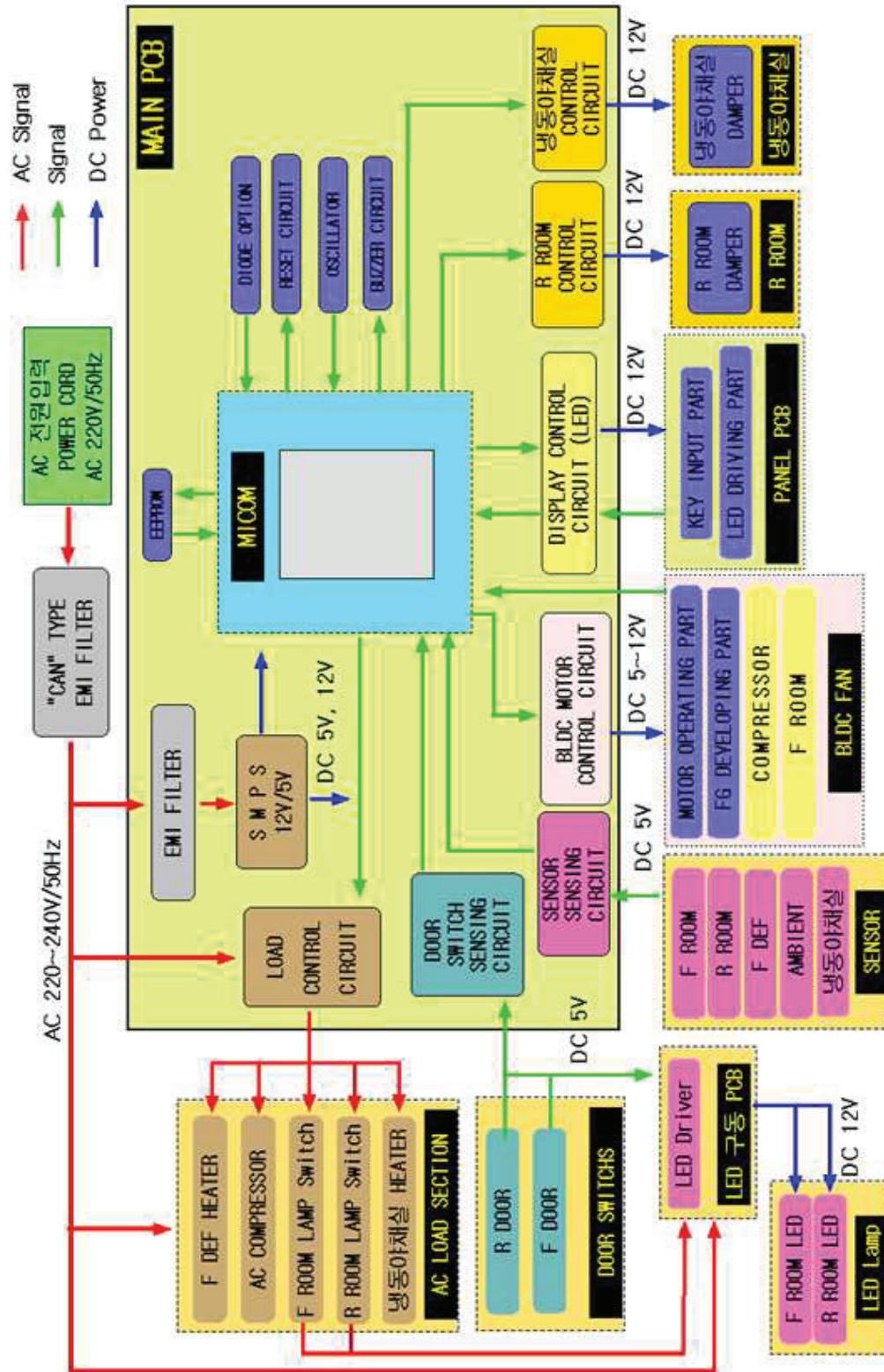
8. SCHEMATIC DIAGRAM

8-1. BLOCK DIAGRAM - ELEC



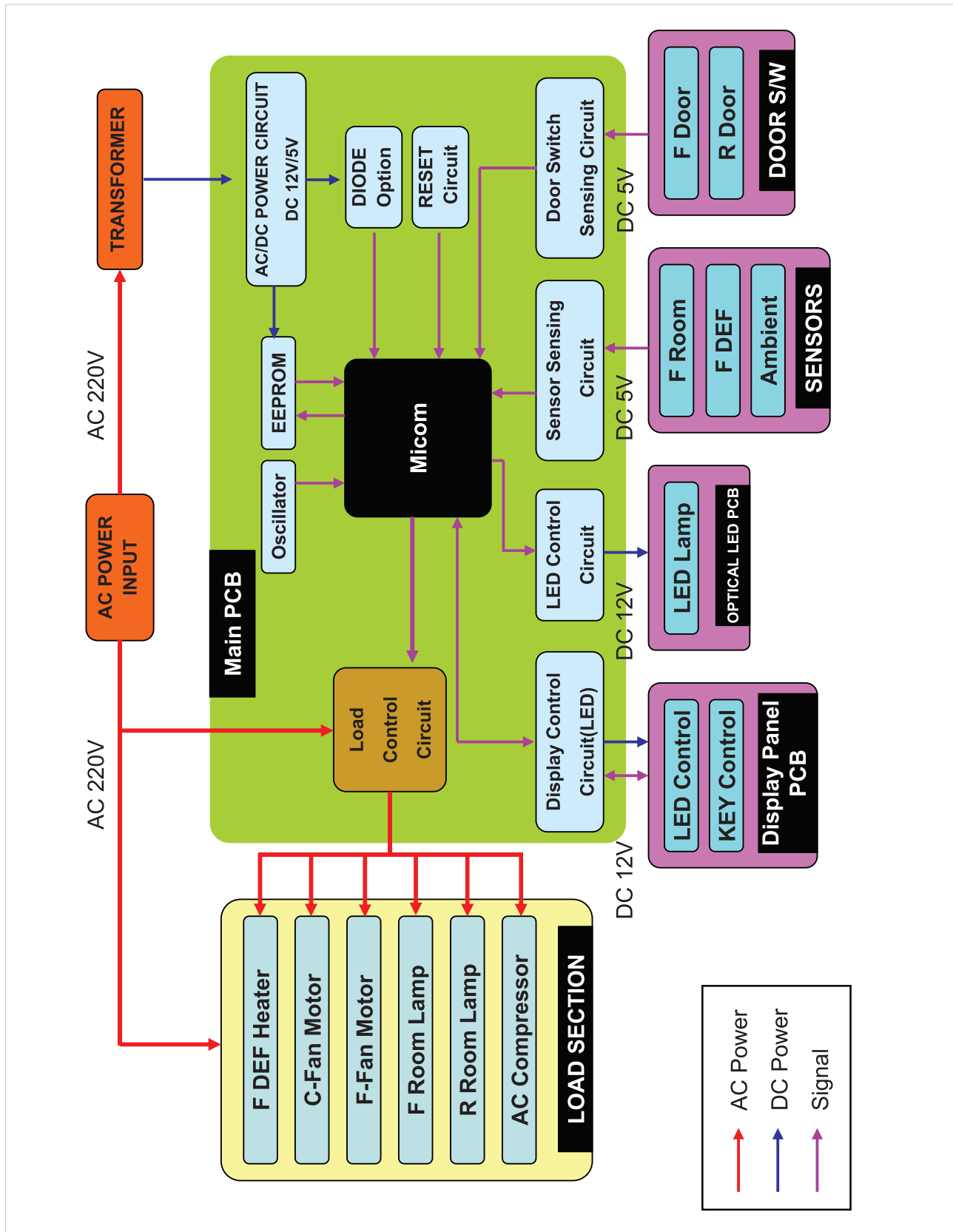
8. SCHEMATIC DIAGRAM

8-2. BLOCK DIAGRAM - LED



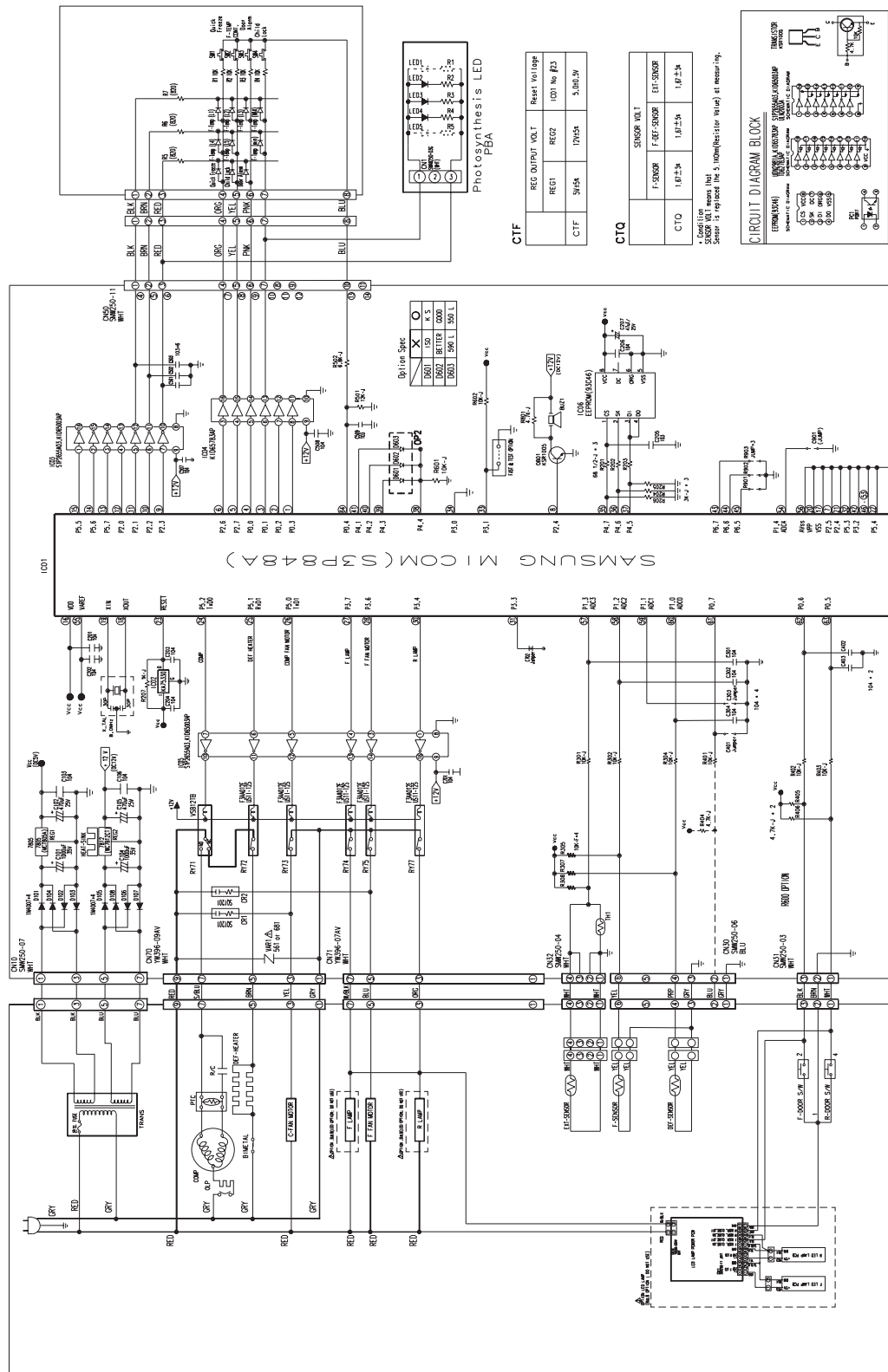
8. SCHEMATIC DIAGRAM

8-3. BLOCK DIAGRAM - SEMI



8. SCHEMATIC DIAGRAM

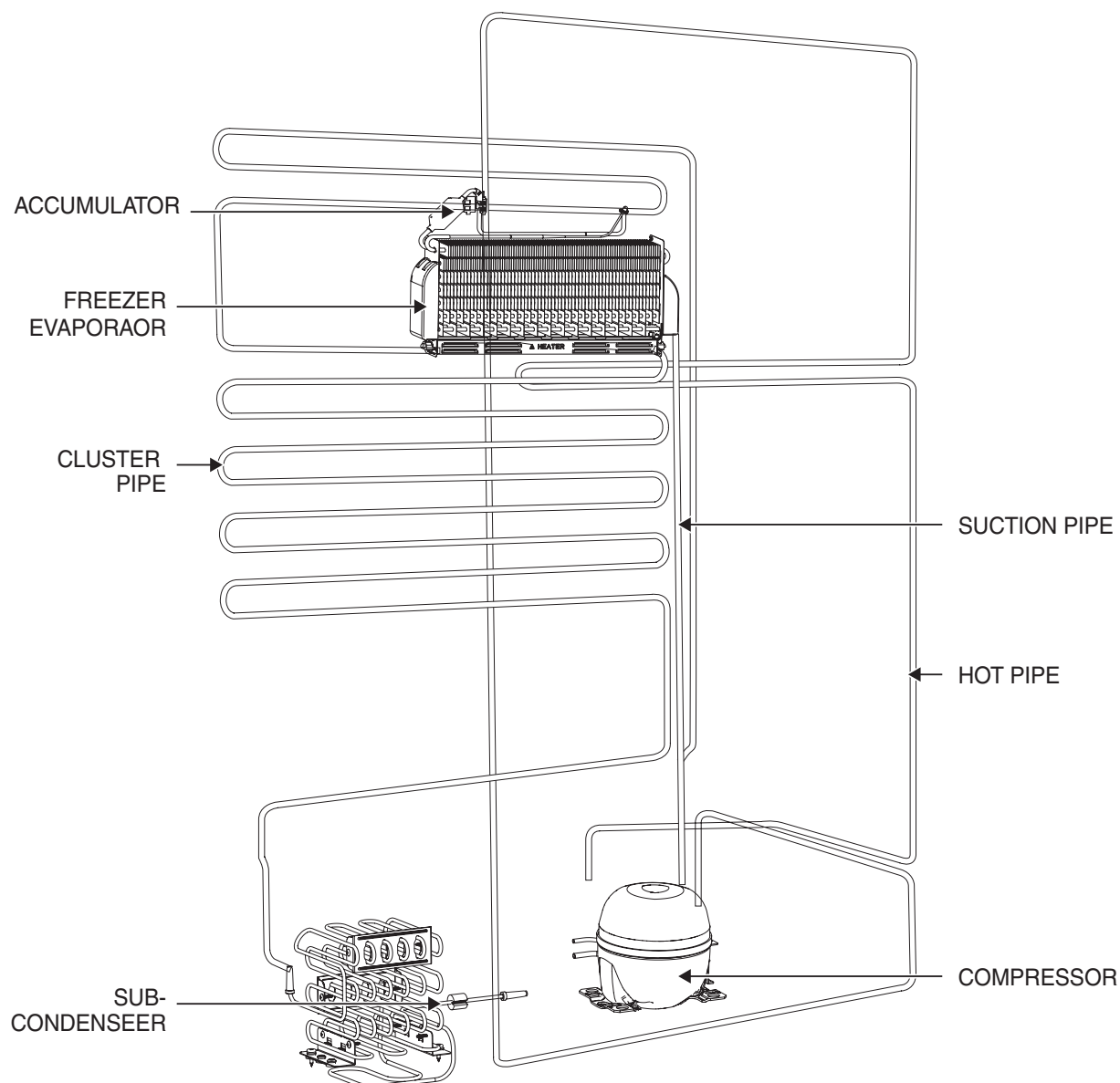
8-7. CIRCUIT DIAGRAM - SEMI



9. REFERENCE INFORMATION

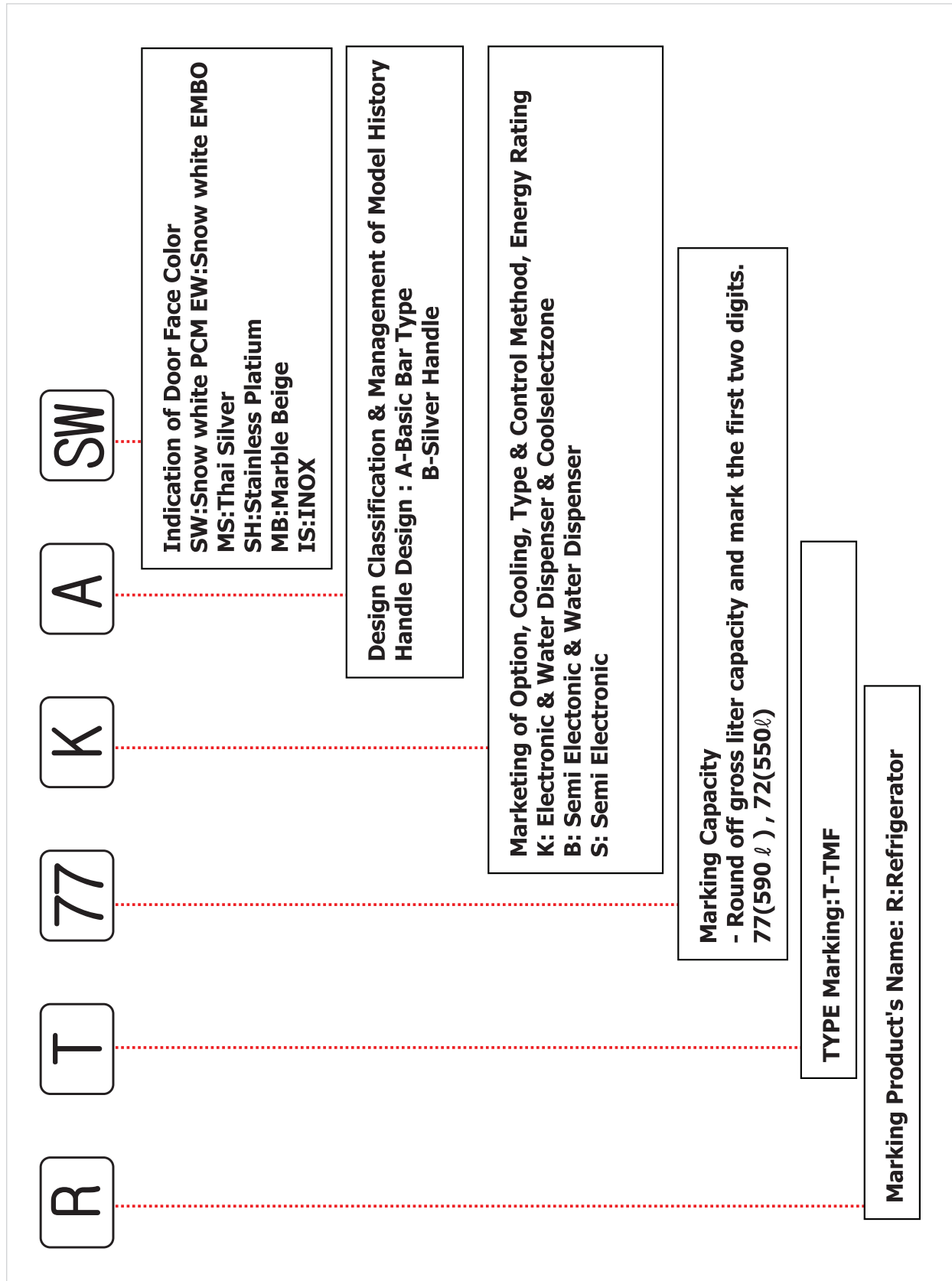
9-1. Refrigeration Cycle

Compressor → Sub → condenser → Cluster Pipe → Hot Pipe → Dryer → Capillary Tube
→ Freezer Evaporator → Accumulator → Suction Pipe → Compressor



9. REFERENCE INFORMATION

9-2. Nomenclature



9. REFERENCE INFORMATION

9-3. Q&A

Descriptions of symptoms	Check Points	Corrective Measures
Noise (resonance) problems on even though the noise generating BLDC motors for both of the compartments are replaced several times. What does generate the resonance and how can it be settled down?	When the BLDC fan motor rotates in low RPM, The friction with air is quite high and it generates “grinding” noises.	If you replace the ambient thermistor with a 2.7K resistance (detecting 43°C), the BLDC fan motor rotates in high RPM, which reduces friction with air resulting in reduction of the ‘grinding’ resonance.
What causes the “knocking” noises? How to solve it?	It makes ‘knocking’ or “branch breaking” noises when the liner and the shelves hit each other due to the fluctuation of the inside air pressure upon door open/close. Also, these noises occur when the liners and the shelves hit each other as the liners expand and contract due to the temperature change in both of the compartments.	Check the clearance between the selves and the liners. ① Freezer Shelves: Remove the trim shelves already attached and replace them with those supplied for service. ② Fridge Shelves: Because noise preventing trim selves are not attached, it needs attaching.
What is the solution if the same problem occurs even though the counter action in the service bulletin has been implemented already for the “knocking” noises?	Check if the selves wobble. If they do, have shelves sit firmly on their places.	
What causes the liquid passing noises from the back of the refrigerator?	Refrigerant goes into the evaporator via the capillary tube in which the refrigerant expands as it circulates the cooling cycle. At this time, the refrigerant is in its liquid state and it starts evaporating as it reaches at the inlet of the evaporator with a bigger diameter, which causes the refrigerant noises. And, it gets worse when the refrigerant does not flow freely.	
What is the solution for the compressor noises?	For new refrigerators	
	Check if the refrigerator is leveled.	Check if the refrigerator wobbles by shaking with hands.
	Check if there is enough clearance at the back of the refrigerator for the ventilation of the machine compartment.	If there is not enough clearance or it is blocked by things such as newspaper, there could be resonance noises.

9. REFERENCE INFORMATION

Descriptions of symptoms	Check Points	Corrective Measures
What is the solution for the compressor noises?	Required clearance around the product.	More than 5cm from the back, 30cm from the top and 10cm from its sides.
What is the solution for the compressor noises?	For old refrigerators	
	Dust could get built-up in the machine compartment. Then, its ventilation would get restricted which makes the refrigerator overheated resulting in the increase of the noise level.	Explain it to customers and let them clean dust or any other foreign substances in the machine compartment.
	As the vibration proof rubbers get hardened, noises generate during the comp operation. (The noise level is quite high.) → Replace the vibration proof rubbers.	Explain it to customers and let them clean dust or any other foreign substances in the machine compartment.
During the comp start-up, iron friction noises occur. What causes them?	The reciprocation piston could get worn out or inner components could get dislocated.	
What can be checked when the unit sends out noises?	1. Check its symptoms and patterns. 2. Check if the unit is installed on a firm and leveled floor. 3. Check if the unit is installed close to the customer's living area. 4. Check if the panel on the machine compartment hits on the rear wall and the unit has enough clearance with the rear wall. 5. Check if the refrigerant pipes are shaped as normal.	
Why is the fridge compartment not cool? (Not a defect)	Advise customers to adjust its temperature level to one or two step higher. For example, when the ambient temperature is low such as in winter (especially, when you use it in the morning with the door not being opened or closed during the night), the compartment temperature could get increased by 1~2°C. So, advise customers to shift its temperature level and explain to them that it does not affect its power consumption that much when its temperature setting is adjusted to one or two step lower.	
Why is the food melt even though the display of the freezer compartment shows -20 C?	Check the compartment temperature with a thermometer.	If it is considered to be low cooling, When the BLDC motor fan does not rotate because its restriction is not picked up. When the evap-orator is frozen-up (defrost it) Temp detection error according to the characteristic change of the ther-mistor (set the compartment tem-perature or replace the thermistor)

9. REFERENCE INFORMATION

Descriptions of symptoms	Check Points	Corrective Measures
Why is the fridge compartment not cool? (Not a defect)	Advise customers to adjust its temperature level to one or two step higher. For example, when the ambient temperature is low such as in winter (especially, when you use it in the morning with the door not being opened or closed during the night), the compartment temperature could get increased by 1~2°C So, advise customers to shift its temperature level and explain to them that it does not affect its power consumption that much when its temperature setting is adjusted to one or two step lower.	
Why is the food melt even though the display of the freezer compartment shows -20 C?	Check the compartment temperature with a thermometer.	If it is considered to be low cooling, When the BLDC motor fan does not rotate because its restriction is not picked up. When the evaporator is frozen-up (defrost it) Temp detection error according to the characteristic change of the thermistor (set the compartment temperature or replace the thermistor)
What is the reason that vegetables get frozen even though the fridge compartment is set to MIN?	Replace the fridge thermistor because it could be faulty. 1st: Check if the thermistor works after referring to the self-diagnosis checklist on the MAIN-PCB cover. If the over-cooling keeps on even though there is no problem with the above, replace it.	
What can be done when frozen food gets melt in the freezer compartment or it does not cool down?	Defrost it by using hot water and check the defrost system for any fault. And then, eliminate the root causes so as to prevent it from reoccurring.	
Why doesn't the compressor operate upon power supply?	Upon the initial power on, the compressor starts operating after a five minute delay to protect the compressor. So, please wait until it starts operating.	
Why does it send out "Ding Dong" or alarm sounds with the doors closed?	Check if the food sticks out preventing the doors from closing properly. If it send out the above sounds with the door closed well, the door switch may not have been pressed down completely. So, make sure for the door switches to be pressed completely. Still, if it does not stop going off, check the wiring connections because the door switch signals may not be inputted into the PCB. And, when the door switch is faulty or it is not pressed down completely, the fan does not rotate and it causes low-cooling advancing to a defrost problem.	
	Note : When it comes to automatic models, the fan motor does not operate right on with the door closed after being opened. The fan motor for dual-evaporator refrigerators starts after a 10 second delay and when the ambient temperature is higher than 33°C , it starts after a minute.	

9. REFERENCE INFORMATION

Descriptions of symptoms	Check Points	Corrective Measures
What can be done when it sends out much smell in the fridge and the freezer compartments after 2 months?	When the stored food sends out much smell. ☞ Check if there is any food sending out sustaining smells. Dried squid, dried laver : Hold on them Pounded garlic : Put it in an airtight container - Medical herbs : Make sure they are packed airtight. Replace the old packing or wrap with a new one. - Others : Check if the container is sealed or the food is packed airtight. ☞ Check if the compartment temperature is normal and the food is contaminated. ☞ Check if there are any overflow of side dishes on the shelves or the bottom of the compartments. ☞ Put the food sending out much smell in an airtight bag or container. ☞ Open the door and ventilate it. Also, clean liners, shelves, containers and door bins.	
What is the cause and its counter action for chemical smells with new products?	During its delivery to customers, chemical smells from various components could build up inside of the compartments. So, please let the doors open for some time to use the unit.	
	Precautions : Smells tend to get soaked into the liners or other components. If food generating much smell is stored inside, it would stick onto the liners and other components and it is so difficult to remove the smell. Especially, customers should take care in storing smelly food properly with its sealing being tight during the early period of the product's use.	
What can be done when the smell keeps on even though the deodorizers are cleaned?	1) Turn off the refrigerator (unplug the unit) and remain the door opened. 2) Take out the food stored in the refrigerator. And then, take out all the shelves, door bins and containers, and put them in warm water. After cleaning them by using dish detergents and drying them, put them back to their locations. 3) Remove the deodorizer and soak it in warm water more than 4 hours. After drying it in sunlight, put it back to its location. 4) Throw away the smell-soaked plastic bags and put the food in new ones.	



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