

## INTERIOR LAMP

861000

## GENERAL INFORMATION

## 1. SPECIFICATIONS

| Category                              | Type | Capacity | Quantity |
|---------------------------------------|------|----------|----------|
| Front room lamp<br>(overhead console) | Bulb | 10W      | 1EA × 2  |
|                                       | LED  | 1W       | 1EA × 2  |
| Center room lamp                      | Bulb | 10W      | 1EA × 1  |
|                                       | LED  | 1W       | 1EA × 1  |
| Sun visor lamp                        | Bulb | 5W       | 1EA × 2  |
| Glove box lamp                        | Bulb | 5W       | 1EA × 1  |
| Luggage compartment lamp              | Bulb | 5W       | 1EA X 1  |
| Front door courtesy lamp              | Lens | -        | 1EA × 2  |
|                                       | Bulb | 5W       | 1EA × 2  |
| Door mood lamp                        | LED  | 0.5W     | 1EA × 2  |
| IP mood lamp                          | LED  | 0.2W     | 1EA × 1  |

EXTERIOR  
LAMP  
INTERIOR  
LAMP  
FUSE  
SWITCH  
WIPER  
AND  
WPC

## 2. NOTES

### NOTE

#### ► LED

- The LED stands for "Light Emitting Diode" or "Luminescent Diode." LED is a semiconductor diode that emits incoherent narrow-spectrum light when electrically biased in the forward direction of the p-n junction, as in the common LED circuit. In short, it is an element that converts electric signals into light signals. Yellow, blue, red and white LEDs are currently available.
- The followings are the features of LED.
  - It is not glaring and doesn't have short circuit unlike the conventional lamps.
  - It is semi-permanent and doesn't generate heat.
  - Its power consumption is much lower than that of conventional bulbs.

#### ► Luminous intensity

- Luminous intensity is an expression of the amount of light power emanating from a point source within a solid angle of one steradian. That is, this indicates an amount of light that passes through the unit area for the unit time. The SI unit of luminous intensity is candela (cd).

#### ► Luminance

- Luminance describes the amount of light that passes through, is reflected, or emitted from an area, and falls within a given solid angle. It is measured in stilb (sb) or nit (nt).

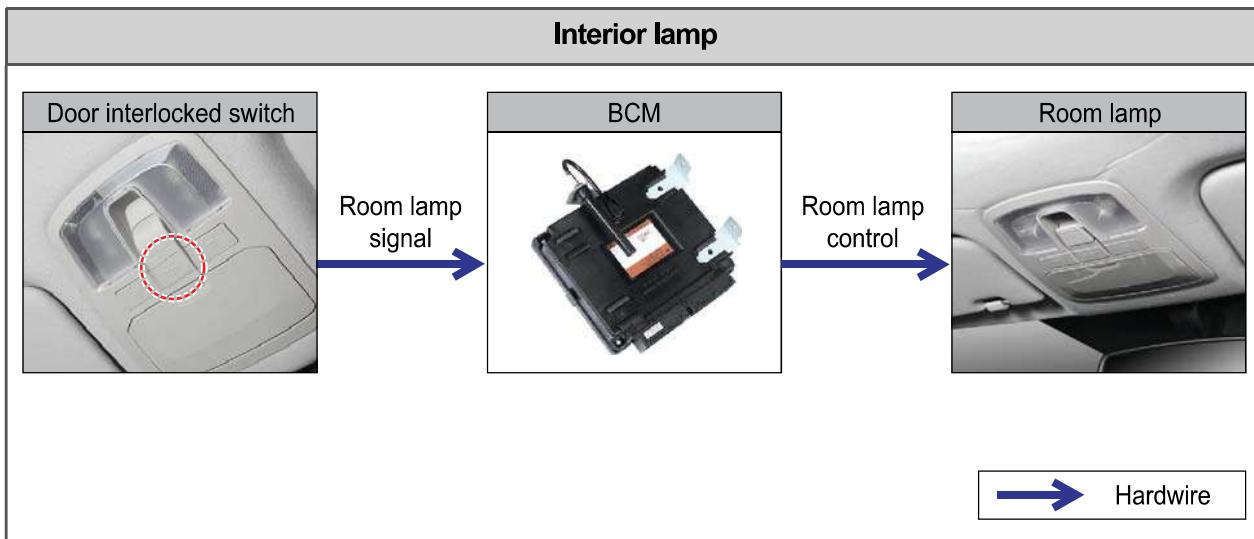
#### ► Illumination

- This indicates the amount of light reaching a given area. Measuring unit is lux (lx) and it is not directly proportional to the brightness of the area as the reflection rate is not included.

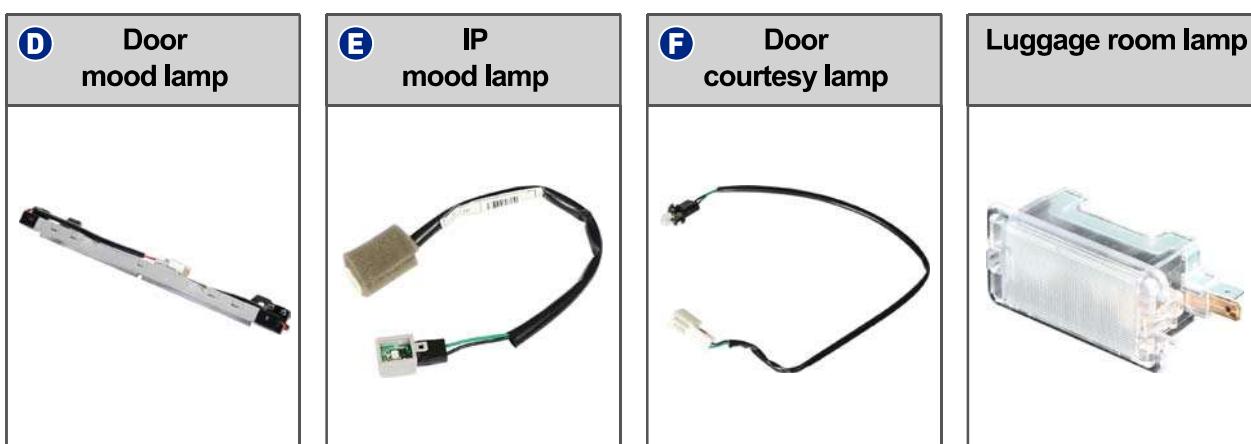
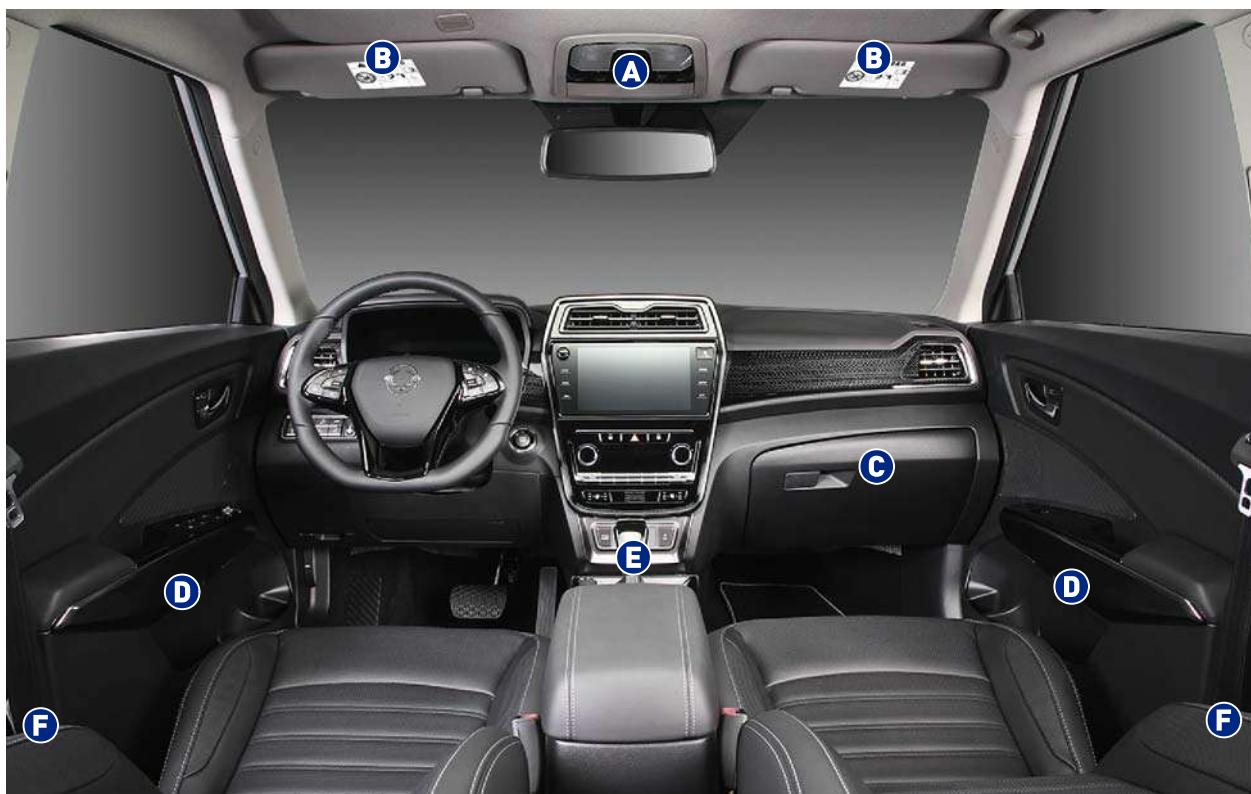
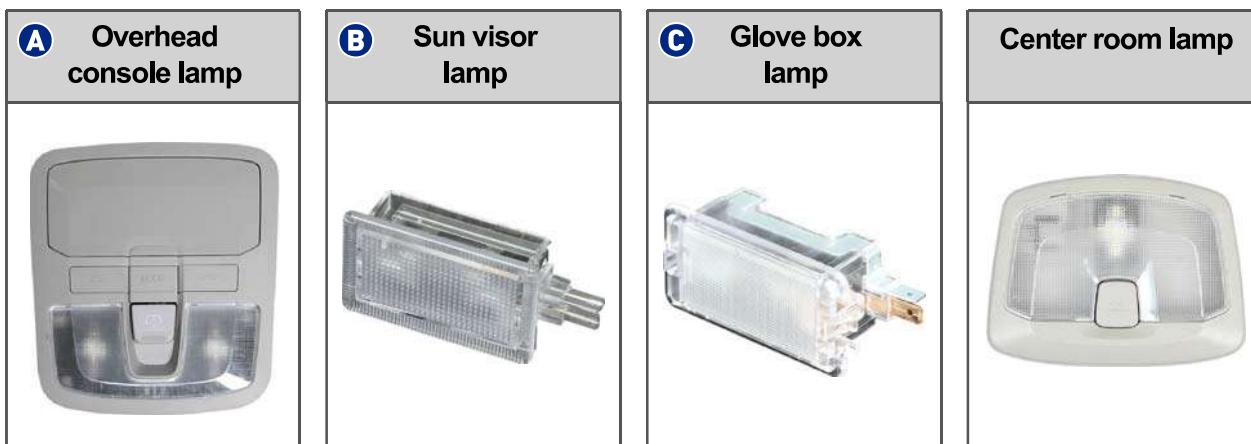
## OVERVIEW

## 1. OVERVIEW

The interior lamps include 2 front room lamps, a center room lamp, a glove box lamp, 2 sun visor lamps, a luggage room lamp, 2 door courtesy lamps (front door), 2 door mood lamps (front door), an IP center lower mood lamp. The BCM controls the lamps according to the signals with the front room lamp coupled switch in door coupled operation side.

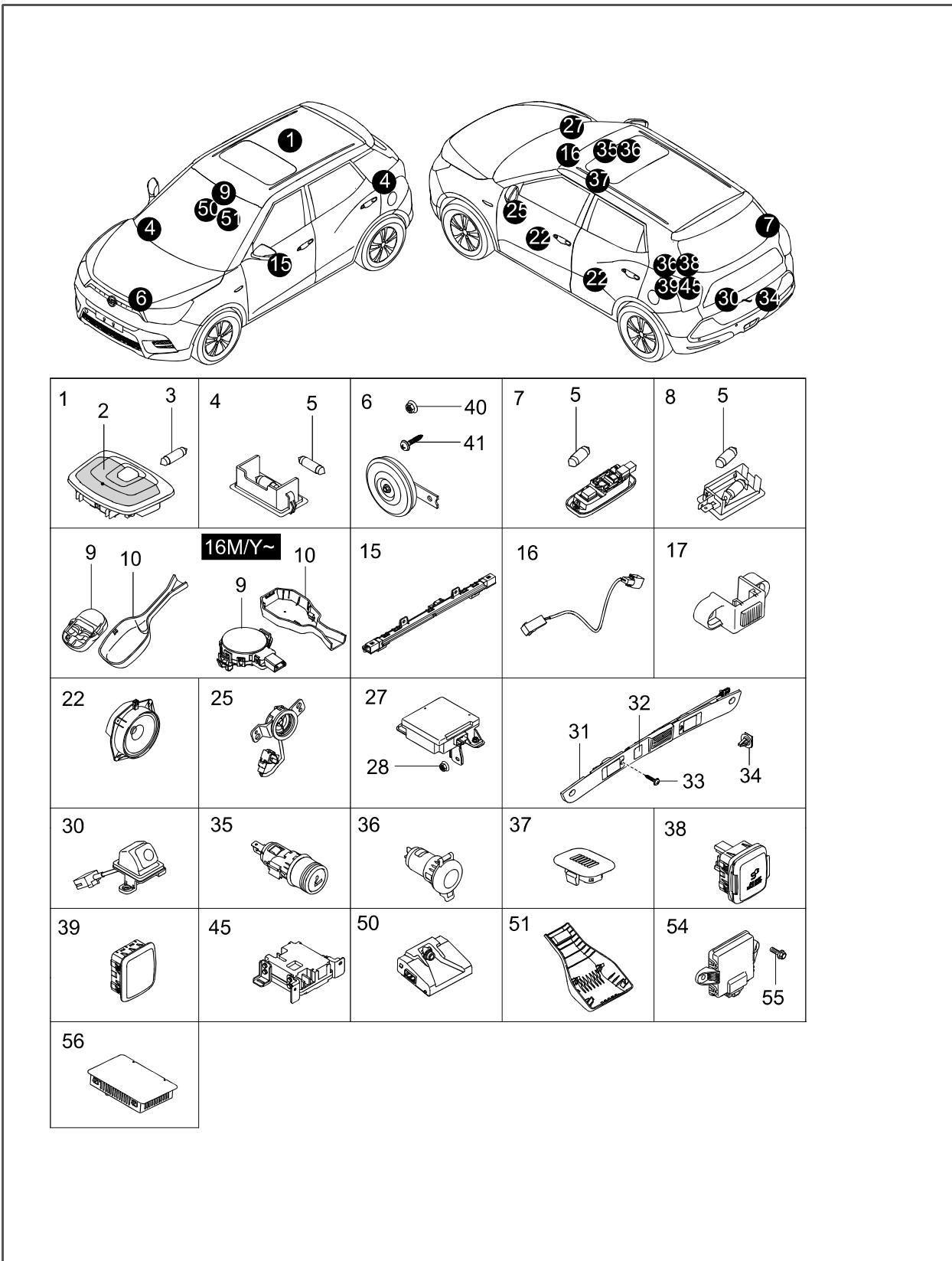


## 2. COMPONENTS



### 3. EPC

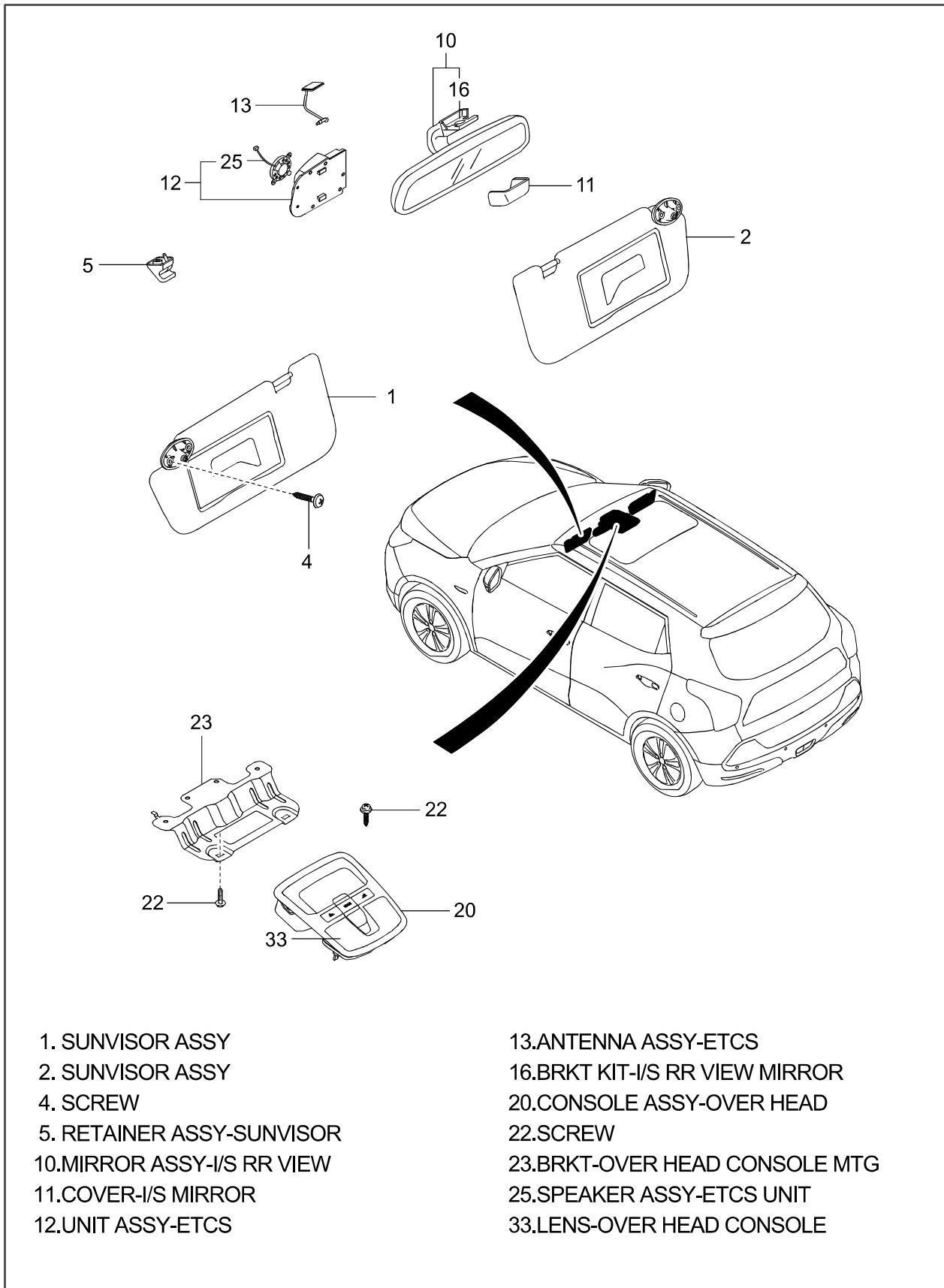
#### ► 8610 Application component (1)



EXTERIOR LAMP  
 INTERIOR LAMP  
 FUSE  
 SWITCH  
 WIPER AND  
 WPC

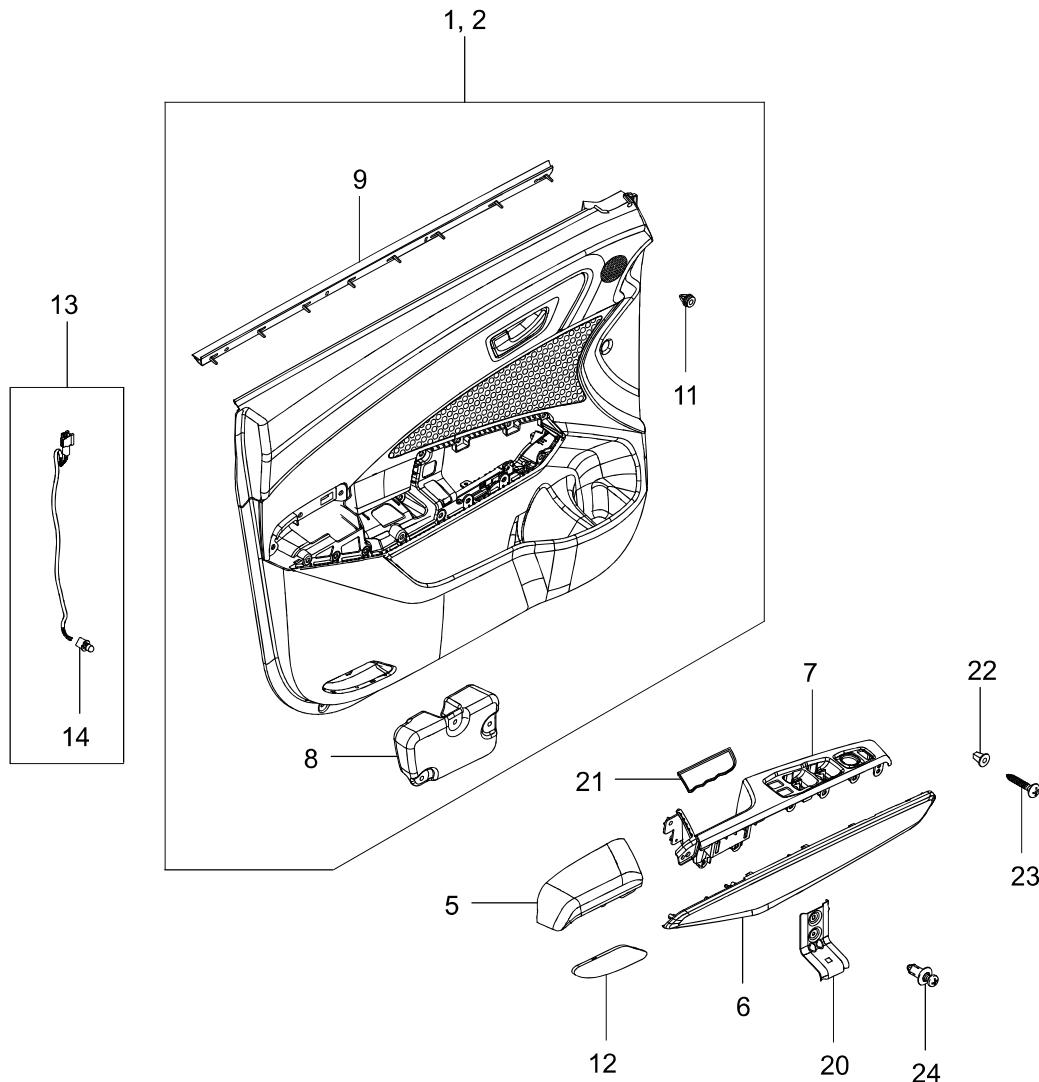
|                                 |                                   |
|---------------------------------|-----------------------------------|
| 1. LAMP ASSY-ROOM CTR           | 31.GARNISH-TAILGATE LICENSE PLATE |
| 2. LENS-ROOM LAMP               | 32.BLANKING COVER-RR VIEW CAMERA  |
| 3. BULB                         | 33.SCREW                          |
| 4. LAMP ASSY-GLOVE BOX          | 34.CLIP-GARNISH                   |
| 5. BULB                         | 35.LIGHTER ASSY-CIGAR             |
| 6. HORN ASSY                    | 36.SOCKET ASSY-POWER              |
| 7. LAMP ASSY-LUGGAGE            | 37.MICROPHONE ASSY-HANDS FREE     |
| 8. LAMP ASSY-SUNVISOR           | 38.SOCKET ASSY-INVERTER           |
| 9. SENSOR MODULE-A/LIGHT & RAIN | 39.BLANKING COVER-SOCKET          |
| 10.COVER ASSY-STYLING           | 40.NUT-HORN MTG                   |
| 15.LAMP ASSY-MOOD               | 41.BOLT-HORN MTG                  |
| 16.LAMP ASSY-MOOD CTR LWR       | 45.UNIT ASSY-220V INVERTER        |
| 17.LENS-MOOD CTR LWR            | 50.UNIT ASSY-FRT CAMERA           |
| 22.SPEAKER ASSY                 | 51.COVER-AEBS CAMERA              |
| 25.SPEAKER ASSY-TWEETER         | 52.PLUG ASSY-USB CHARGER          |
| 27.UNIT ASSY-DC-DC CONVERTER    | 54.UNIT ASSY-GATEWAY              |
| 28.NUT                          | 55.SCREW                          |
| 30.DISPLAY ASSY-RR VIEW CAMERA  | 56.UNIT ASSY-WIRELESS CHARGER     |

## ► 7770 SUNSHADE &amp; INSIDE MIRROR



EXTERIOR  
R LAMP  
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AND  
WPC

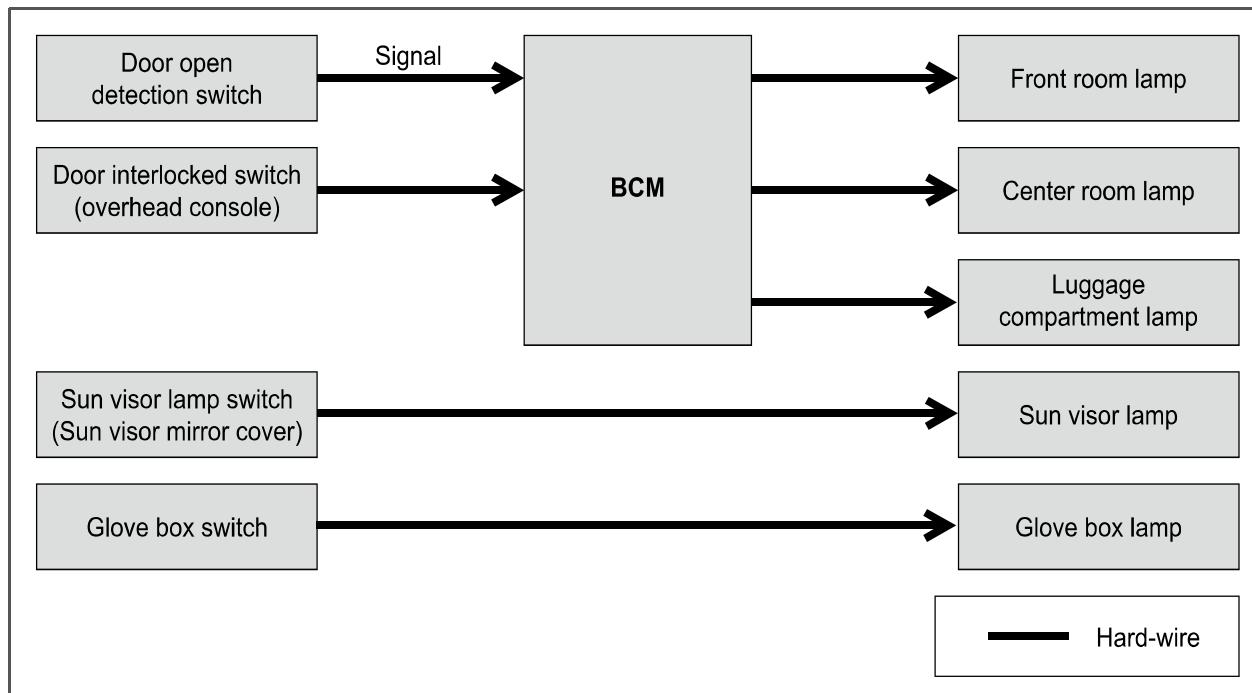
## ► 7115 FRONT DOOR TRIM



|                                |                              |
|--------------------------------|------------------------------|
| 1. TRIM ASSY-FRT DR            | 12.LENS-DR COURTESY FRT      |
| 2. TRIM ASSY-FRT DR            | 13.LAMP ASSY-DR COURTESY FRT |
| 5. PNL ASSY-A/REST FRT DR TRIM | 14.BULB                      |
| 6. MOLDING ASSY-FRT DR TRIM    | 20.BRKT ASSY-PULL HANDLE FRT |
| 7. BEZEL-FRT DR TRIM           | 21.COVER-PULL HANDLE FRT     |
| 8. FOAM BLOCK-FRT DR TRIM      | 22.GROMMET                   |
| 9. W/STRIP-FRT DR TRIM         | 23.SCREW                     |
| 11.CLIP                        | 24.SCREW-RIVET               |

## OPERATING PROCESS

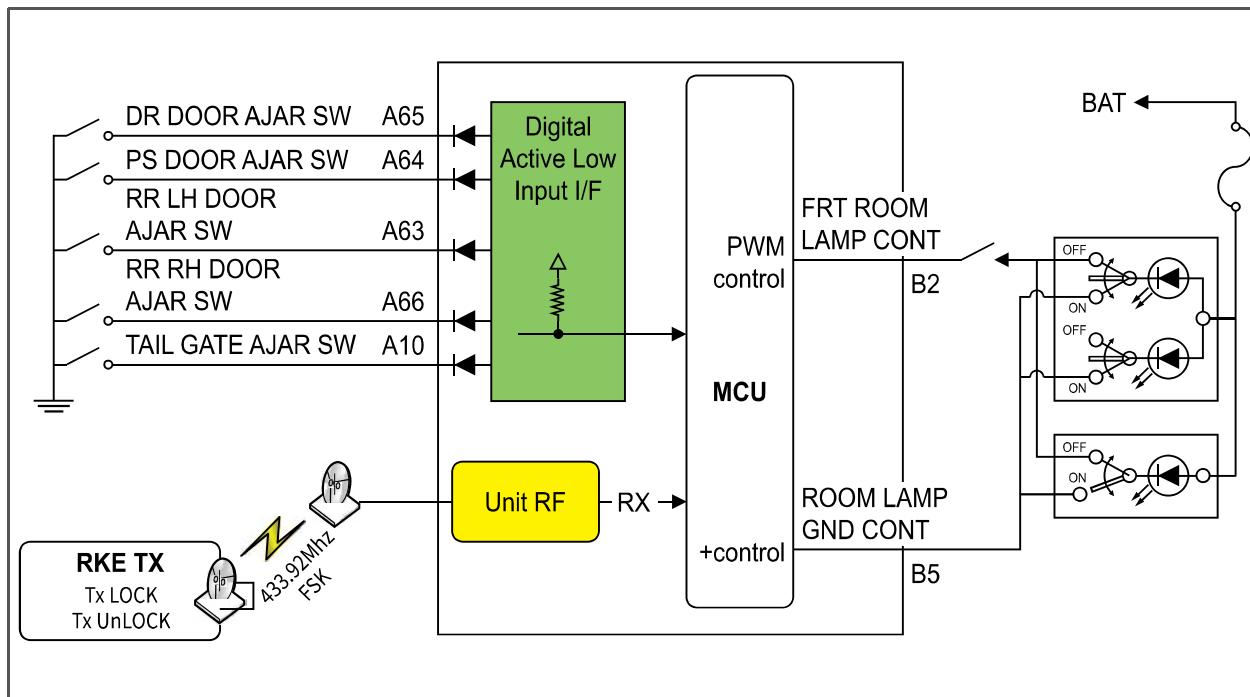
### 1. INPUT/OUTPUT DIAGRAM



EXTERIOR LAMP  
INTERIOR LAMP  
FUSE  
SWITCH  
WIPER AND  
WPC

## 2. FRONT/CENTER ROOM LAMP CONTROL (WITHOUT SKM)

### ► Circuit configurations for room lamp system operation



- When the front room lamp switch is in the door interlocked position and any door is opened, the room lamp comes on.
- The interior indicator lamp control is capable of activation with IGN OFF.

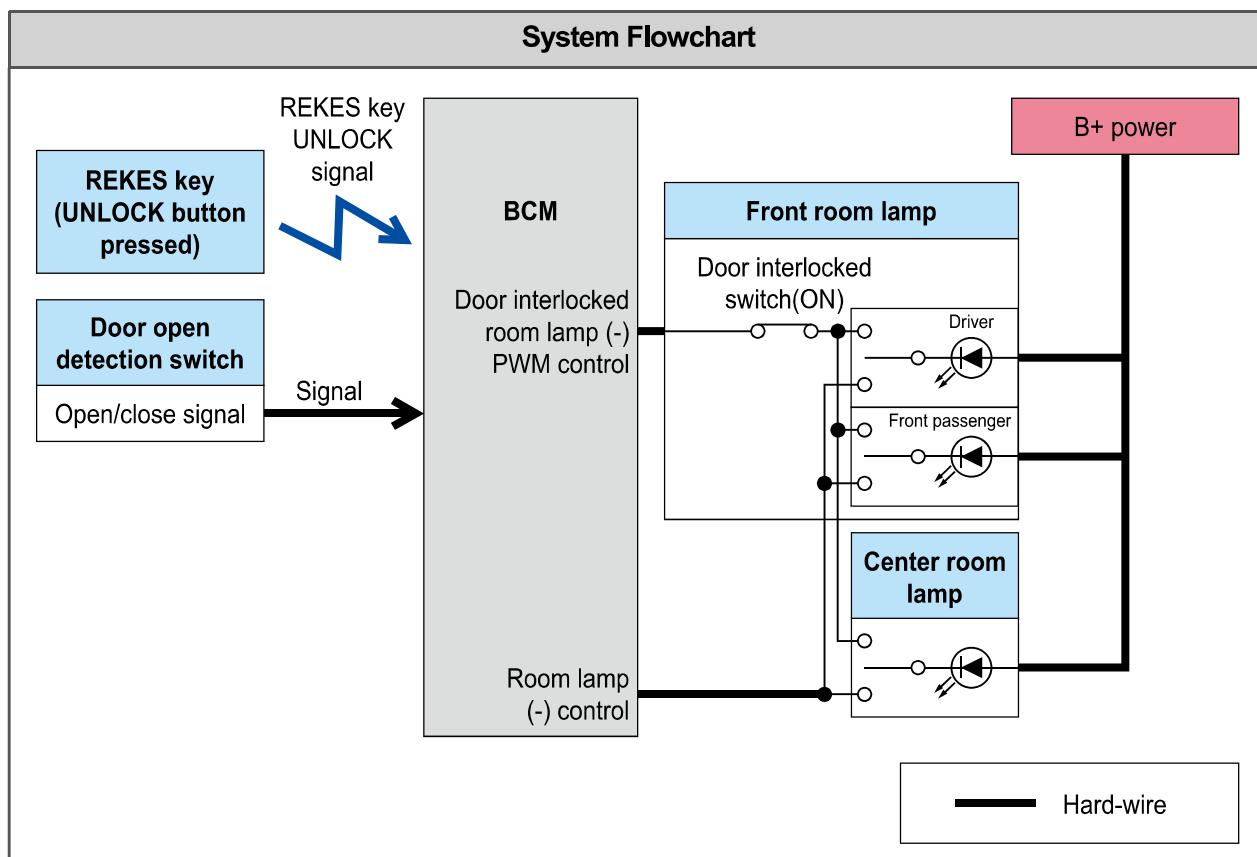
## 1) Front/Center Room Lamp ON

### Operation 1. (Door interlocked room lamp ON)

- Any door open
- The BCM activates the door interlocked room lamp control and the room lamp ground control.

### Operation 2. (Conditions for Room lamp 30 s ON)

- Room lamp switch in door interlocked (ON) position
- All doors closed with ignition key removed (including theft deterrent)
- C. When unlock signal is received from REKES key,
- D. The BCM turns on the door interlocking room lamp control for 30 seconds and off it.  
(Room lamp ground control also stays on.)
- E. The interior room lamp lights on for 30 sec and then off.
- F. When REKES key UNLOCK signal re-received while interior room lamp lights on for 30 seconds, the interior room lamp output is extended for 30 seconds.



## 2) Front/Center Room Lamp Fading to OFF and Immediate OFF

### Operation 1. (dimmed off)

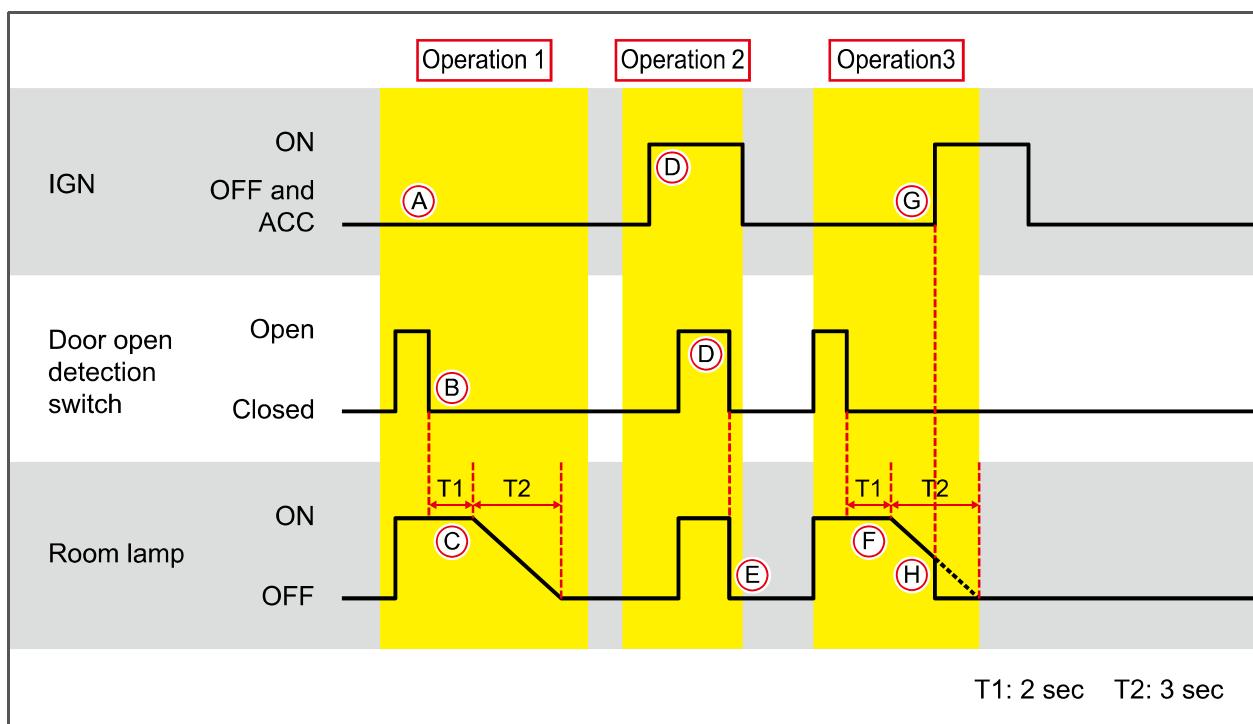
- A. With IGN OFF and door interlocked switch ON
- B. any of doors open and then all doors closed
- C. The room lamp stays on for 2 seconds (T1) and then fades to off for 3 seconds (T2).

### Operation 2. (instant off I)

- D. All doors are closed with IGN ON.
- E. The room lamp goes out immediately.

### Operation 3. (instant off II)

- F. IGN ON with dimmed off
- G. The room lamp goes out immediately.



### 3) Front/Center Room Lamp Cut-Off Control

#### NOTE

When the room lamp cut-off operation is activated, the BCM sends cut-off operation signal through B-CAN to prevent the battery discharge.

#### Operation 1. (cut-off entering)

- A. With ignition key removed
- B. when 10 min elapsed without change in status of any of doors
- C. front/center room lamps turned off and BCM enters theft deterrent mode.

#### Operation 2. (cut-off entering operation)

- A. Room lamp (-) control is off.
- B. BCM sends cut-off control ON signal.
- C. The front room lamp is turned off immediately when signal is input that any of doors is open.
- D. When open signal is received from the tailgate open switch, rear (luggage) room lamp is turned off.

#### Operation 3. (cut-off termination)

If the following conditions are met, room lamp cut-off operation is terminated.

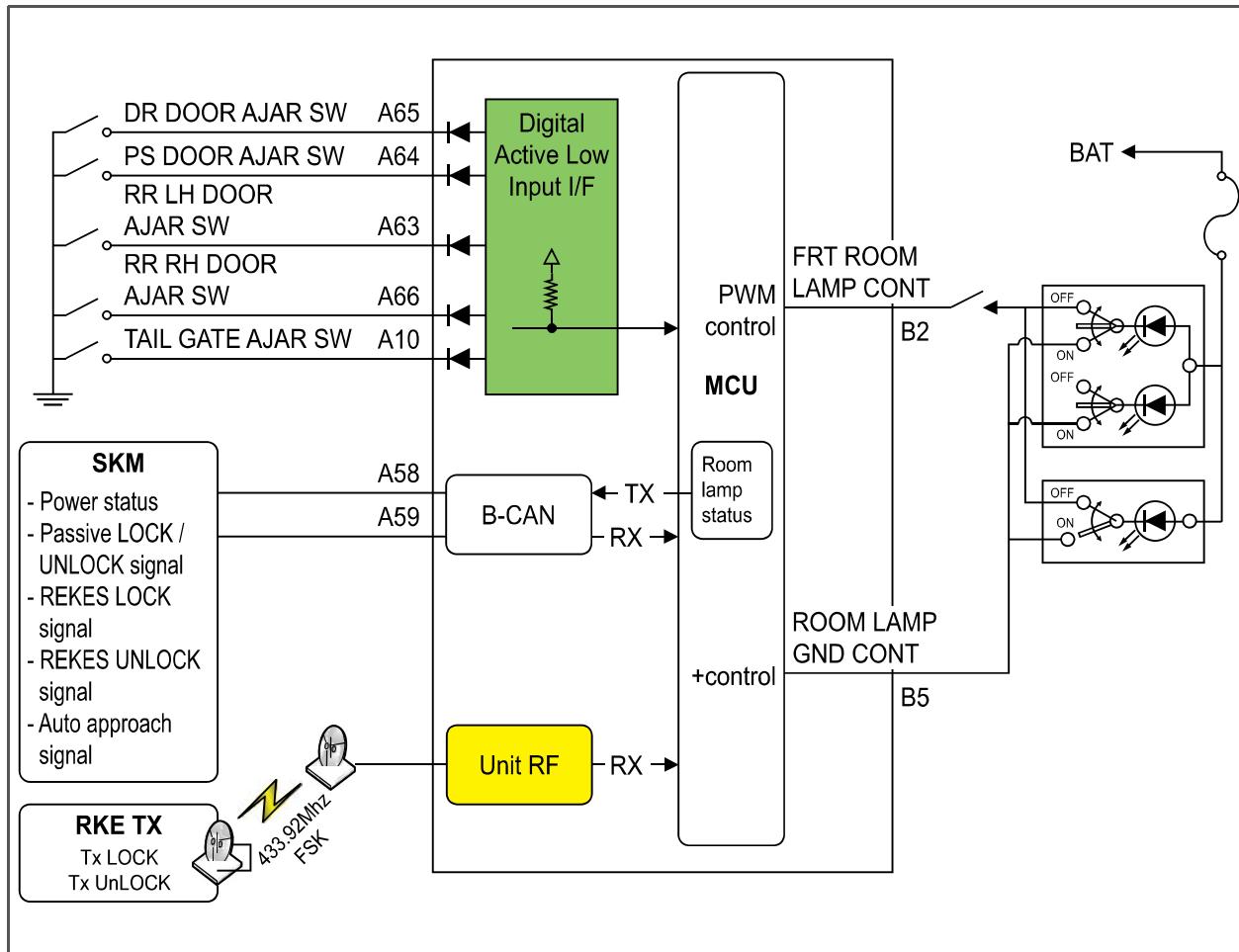
- A. UNLOCK signal received from REKES key
- B. Signal received that any of doors open
- C. IGN ON (sleep mode released)

#### Operation 4. (operation when cut-off terminated)

- A. Room lamp (-) control is on.
- B. BCM sends cut-off control OFF signal .

### 3. FRONT/CENTER ROOM LAMP CONTROL (WITH SKM)

#### ► Circuit configurations for room lamp system operation



|     |           |        |      |               |               |
|-----|-----------|--------|------|---------------|---------------|
| WPC | WIPER AND | SWITCH | FUSE | INTERIOR LAMP | EXTERIOR LAMP |
|-----|-----------|--------|------|---------------|---------------|

- When the front room lamp switch is in the door coupled position and any door is opened, the room lamp comes on.
- The interior indicator lamp control is capable of activation with IGN OFF.

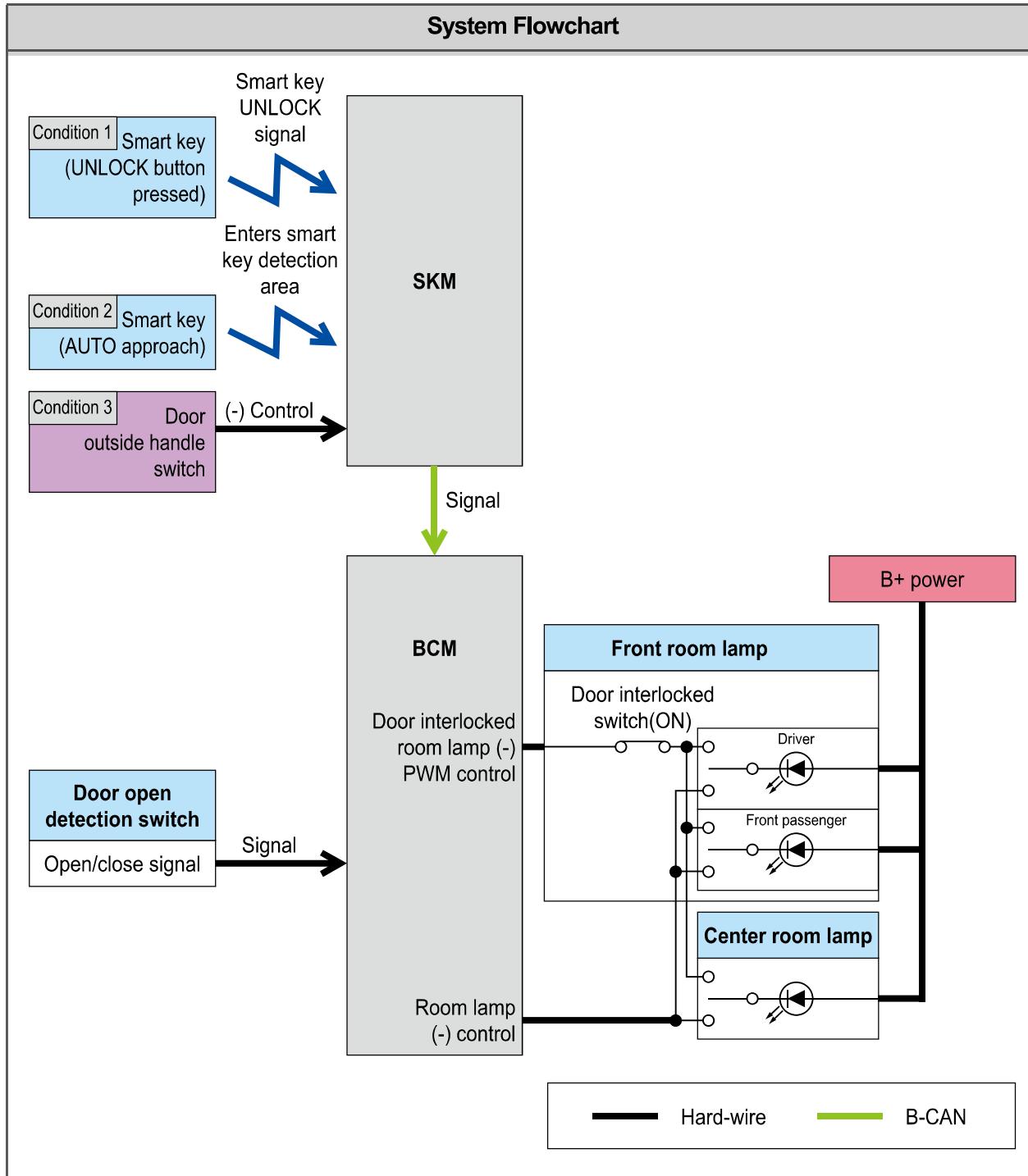
## 1) Front/Center Room Lamp ON

### Operation 1. (Door coupled room lamp ON)

- Any door open
- The BCM activates the door coupled room lamp control and the room lamp ground control.
  - BCM sends room lamp control ON signal to SKM  
(BCM→**BCAN**→SKM)

### Operation 2. (Conditions for Room lamp 30 s ON)

- Room lamp switch in door interlocked (ON) position
- All doors closed with IGN OFF or ACC (including theft deterrent)
- BCM receives the following condition signals:  
(SKM→**BCAN**→BCM)
  - Condition 1.** Smart key UNLOCK signal received from SKM
  - Condition 2.** Door handle switch operation signal received in theft deterrent mode
  - Condition 3.** AUTO approach signal received in theft deterrent mode
- The BCM turns on the door interlocking room lamp control for 30 seconds and off it.  
(Room lamp ground control also stays on.)
  - BCM sends room lamp control ON signal to SKM  
(BCM→**BCAN**→SKM)
- The interior room lamp lights on for 30 sec and then off.
- Condition 1 and 3 signals re-received with interior room lamp lit for 30 sec
- The interior room lamp output is extended for 30 seconds.



**NOTE**

The luggage room lamp is interlocked with the tailgate. The lamp is turned on or off when the tailgate is open or closed.

|               |
|---------------|
| EXTERIOR LAMP |
| INTERIOR LAMP |
| FUSE          |
| SWITCH        |
| WIPER AND     |
| WPC           |

## 2) Front/Center Room Lamp Fading to OFF and Immediate OFF

### Operation 1. (dimmed off)

A. IGN OFF or ACC and door interlocked switch ON

B. All doors are closed after any door is open.

The room lamp stays on for 2 seconds (T1) and then fades to off for 3 seconds (T2).

- BCM sends room lamp control ON signal to SKM  
(BCM→BCAN→SKM)

### Operation 2. (instant off I)

D. All doors are closed with IGN ON.

E. The room lamp goes out immediately.

### Operation 3. (instant off II)

F. When the ignition is turned on

G. during dimmed operation,

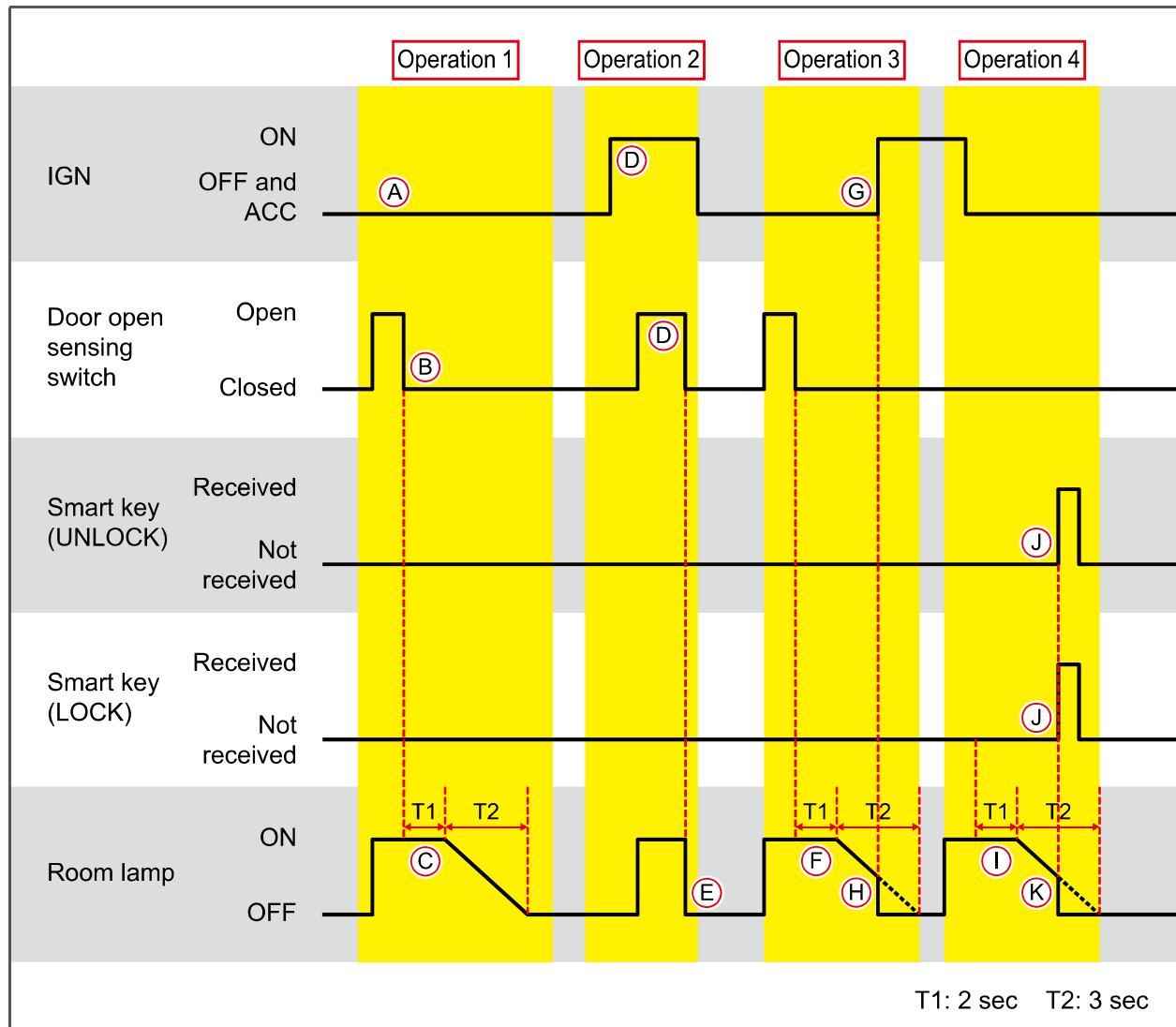
H. the room lamp goes out immediately.

### Operation 4. (instant off III)

I. During dimmed operation,

J. when smart key lock signal and lock signal by door handle switch operation are received

K. the room lamp goes out immediately.



### 3) Front/Center Room Lamp Cut-Off Control

#### NOTE

When the room lamp cut-off operation is activated, the BCM sends cut-off operation signal to SKM through B-CAN to prevent the battery discharge.

#### Operation 1. (cut-off entering)

- A. IGN OFF or ACC ON
- B. 10 min elapsed without change in status of any of doors  
front/center room lamps turned off and BCM enters theft deterrent mode.  
(Unless the room lamp is turned on due to auto approach signal input)

#### Operation 2. (cut-off entering operation)

- A. Room lamp (-) control is off.
- B. BCM sends cut-off control ON signal.  
(BCM→BCAN→SKM)
- C. The front room lamp is turned off immediately when signal is input that any of doors is open.
- D. When open signal is received from the tailgate open switch, rear (luggage) room lamp is turned off.

#### Operation 3. (cut-off termination)

If the following conditions are met, room lamp cut-off operation is terminated.

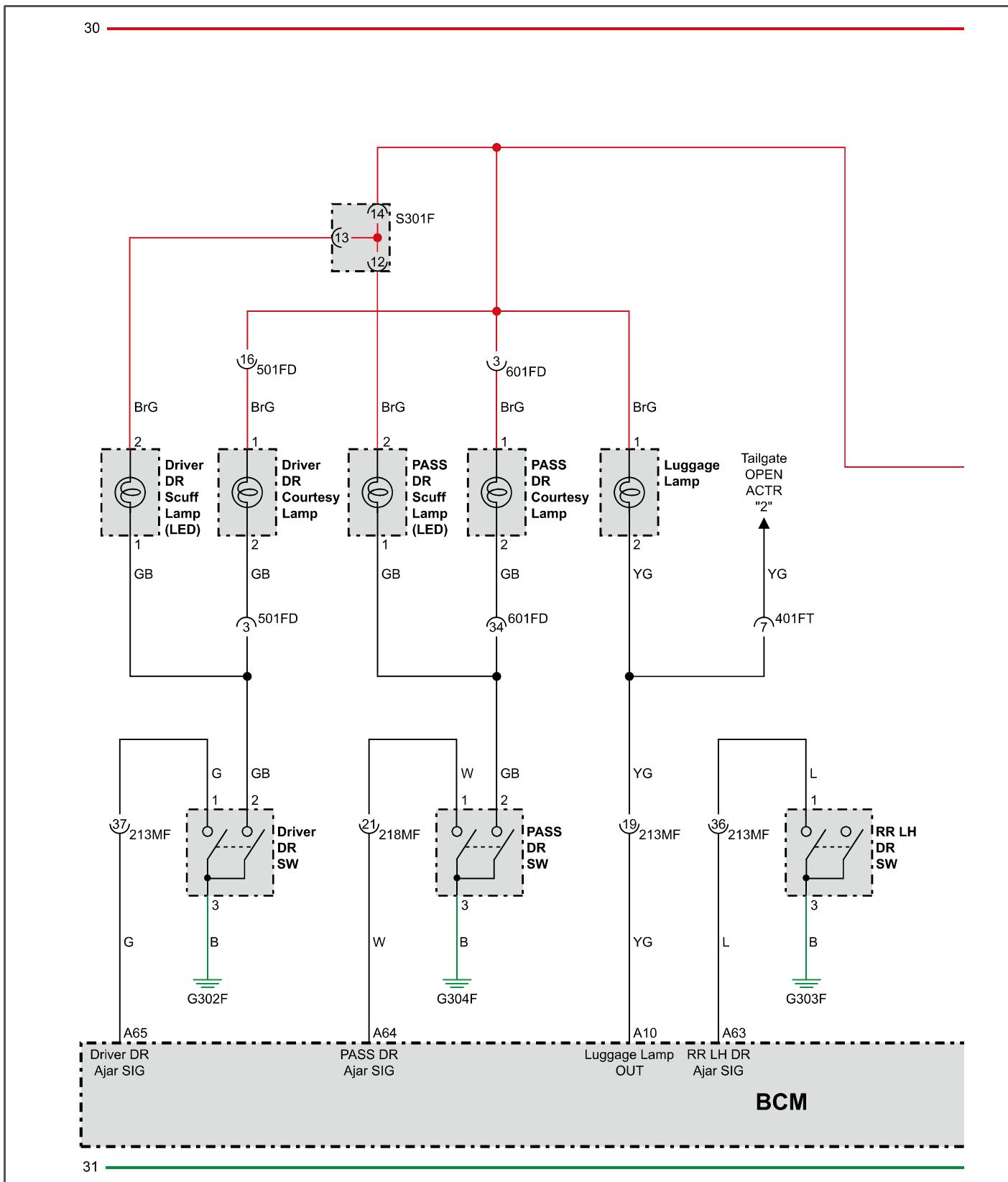
- A. UNLOCK signal received from REKES key
- B. Signal received that any of doors open
- C. IGN ON (sleep mode released)

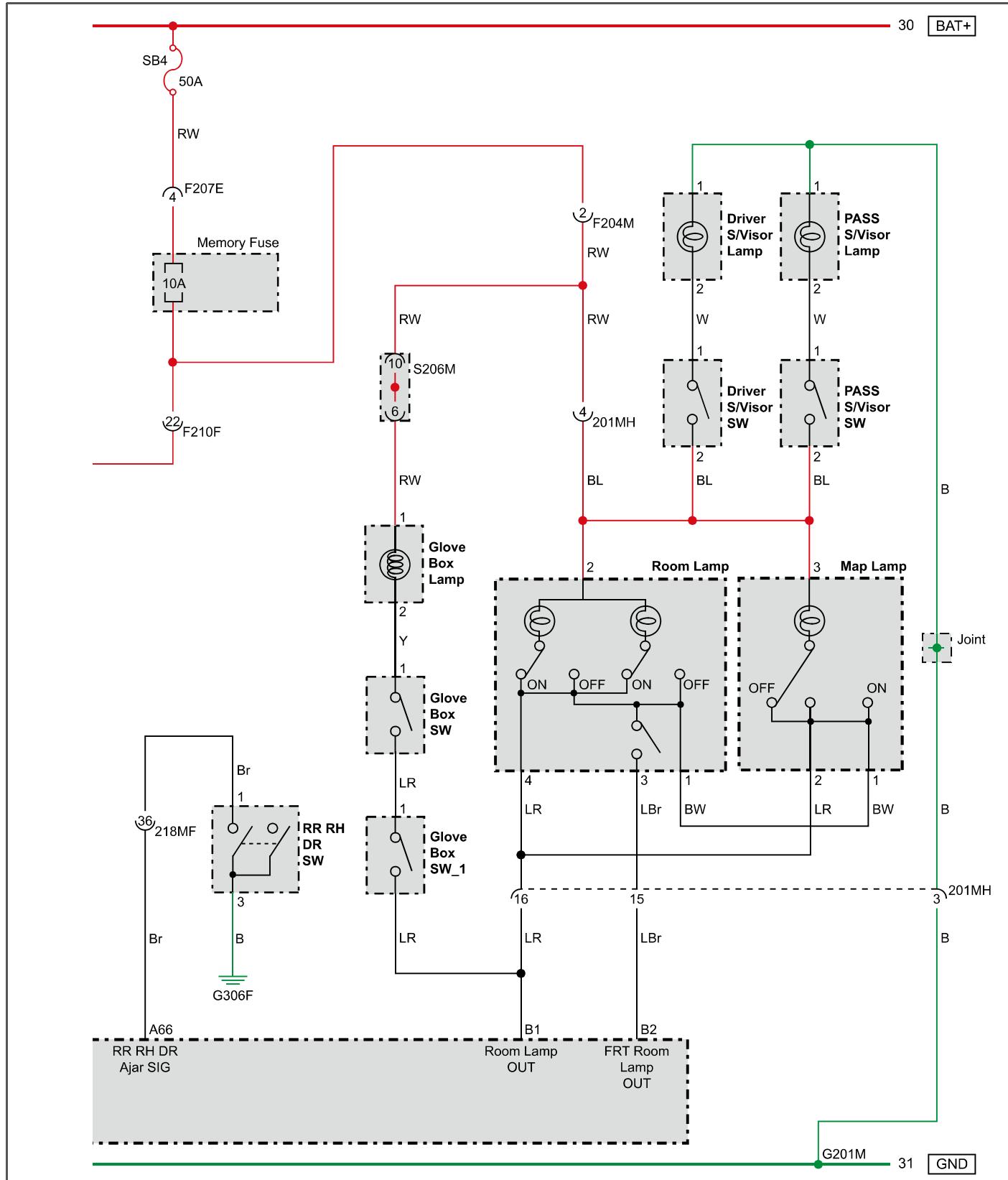
#### Operation 4. (operation when cut-off terminated)

- A. Room lamp (-) control is on.
- B. BCM sends cut-off control OFF signal .  
(BCM→BCAN→SKM)

## 4. CIRCUIT DIAGRAM

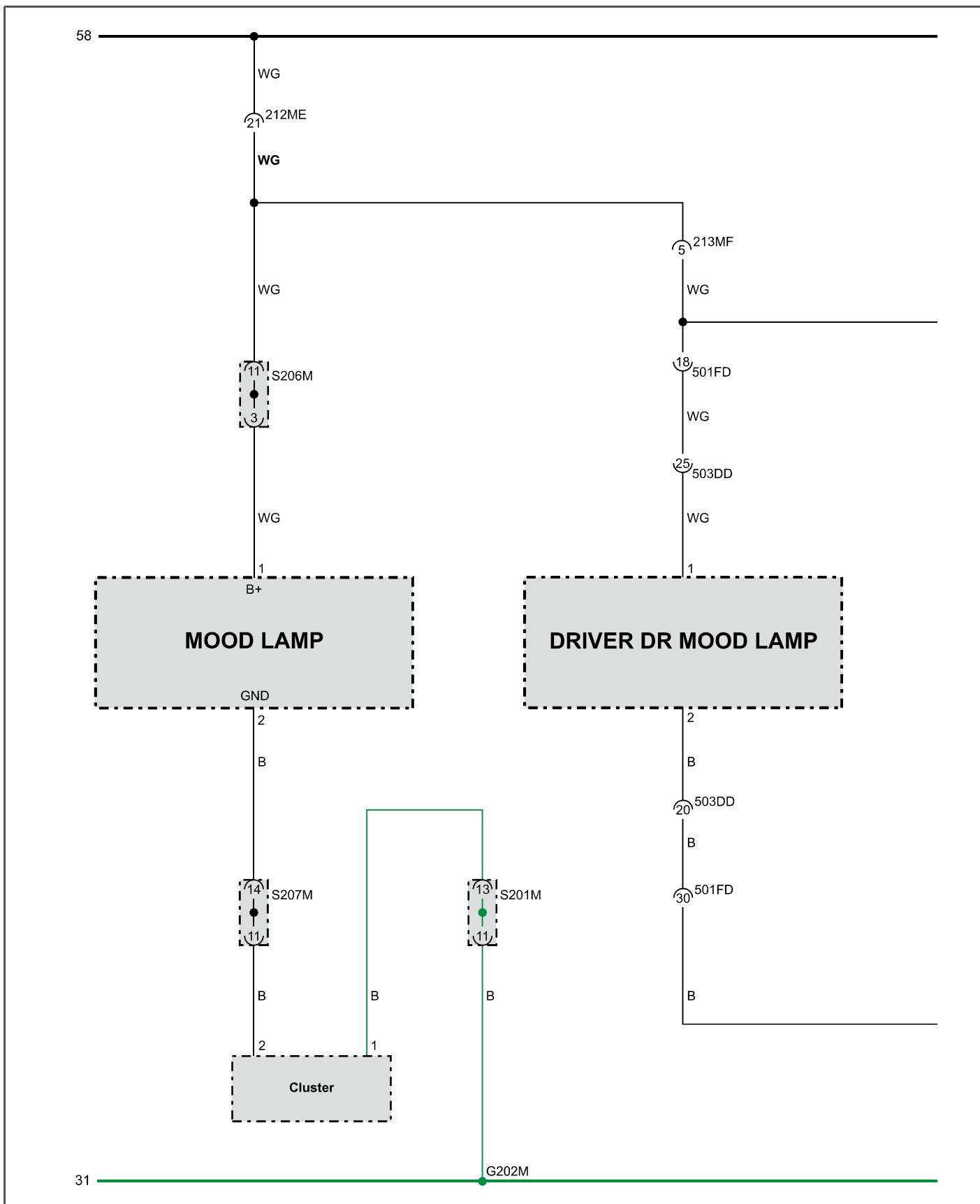
### ► Interior lamp

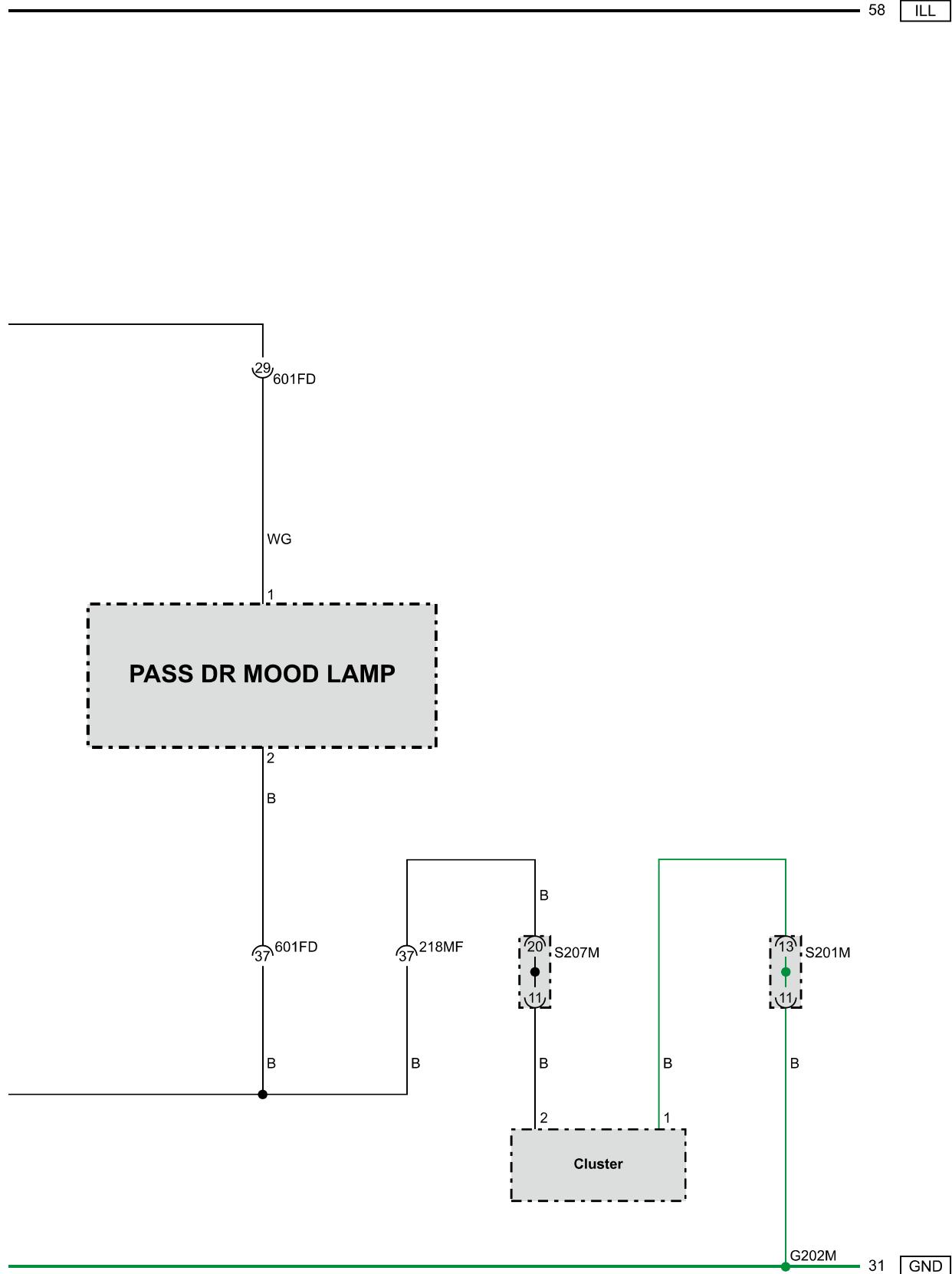




|     |              |        |      |                  |                  |
|-----|--------------|--------|------|------------------|------------------|
| WPC | WIPER<br>AND | SWITCH | FUSE | INTERIOR<br>LAMP | EXTERIOR<br>LAMP |
|-----|--------------|--------|------|------------------|------------------|

## ► Mood lamp





|     |              |        |      |                  |                  |
|-----|--------------|--------|------|------------------|------------------|
| WPC | WIPER<br>AND | SWITCH | FUSE | INTERIOR<br>LAMP | EXTERIOR<br>LAMP |
|-----|--------------|--------|------|------------------|------------------|