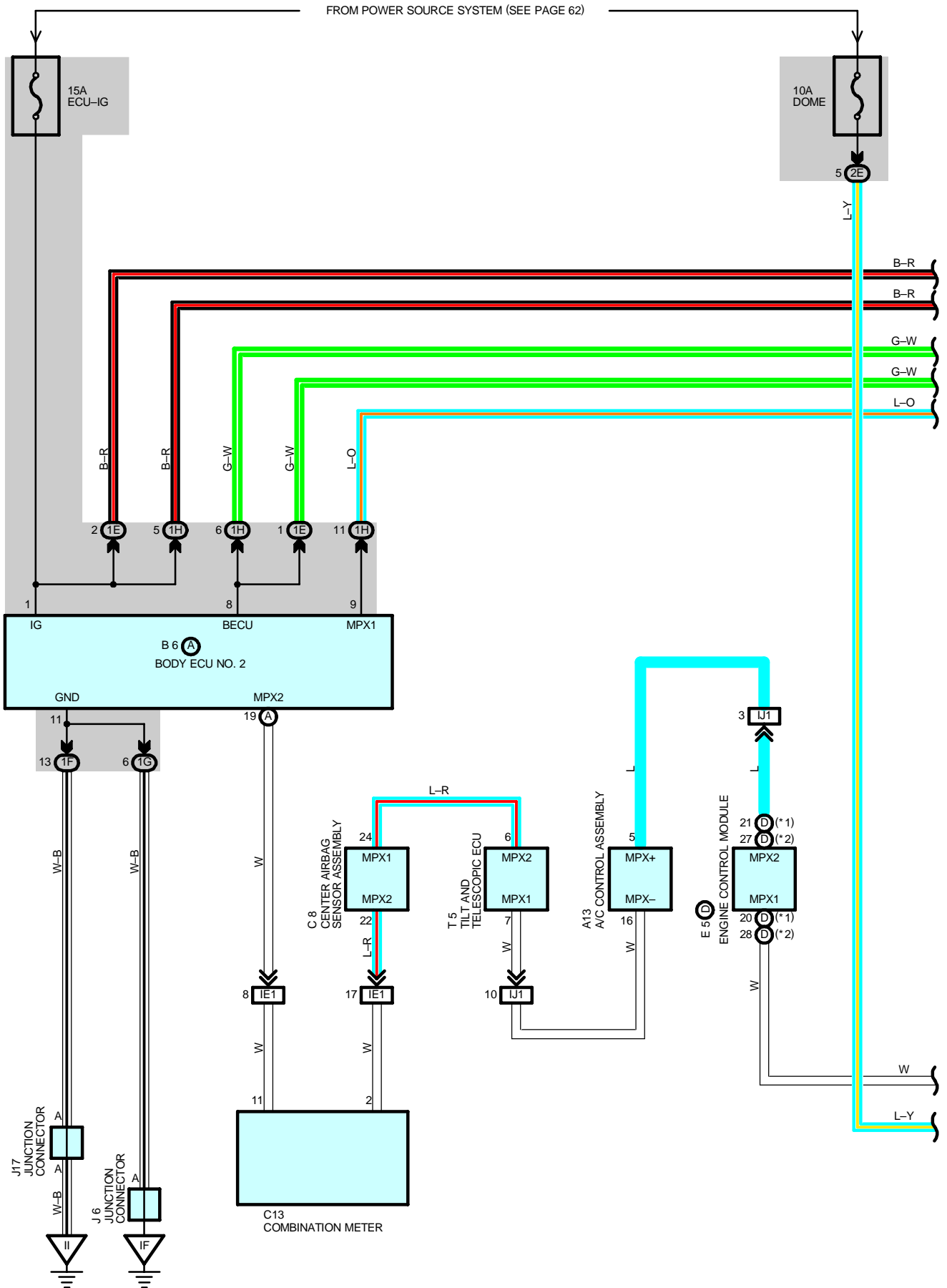
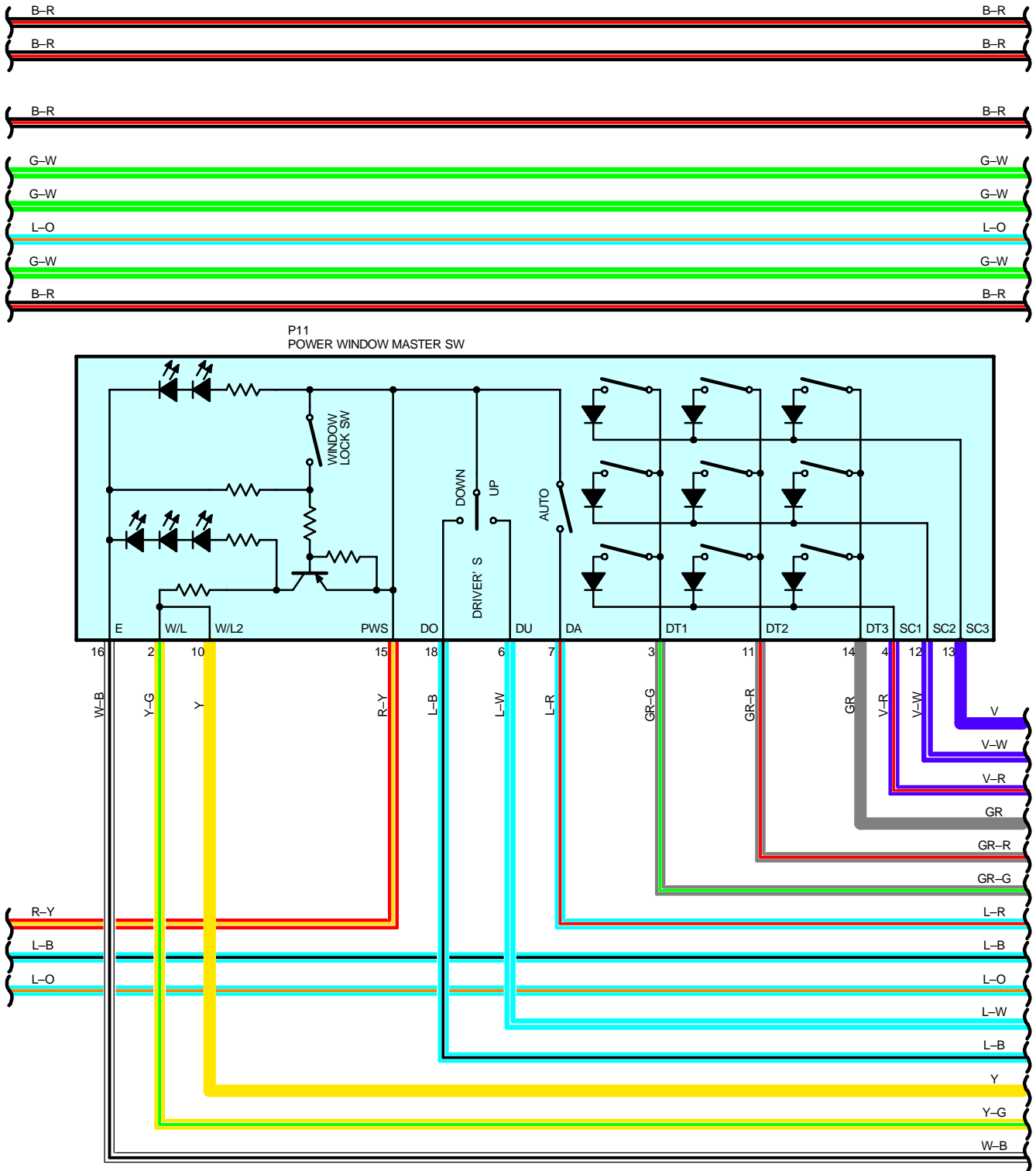


# POWER WINDOW



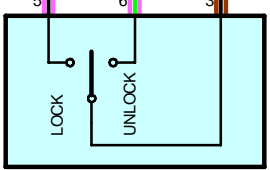
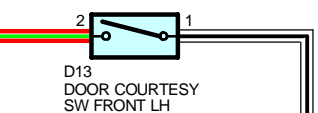


# POWER WINDOW

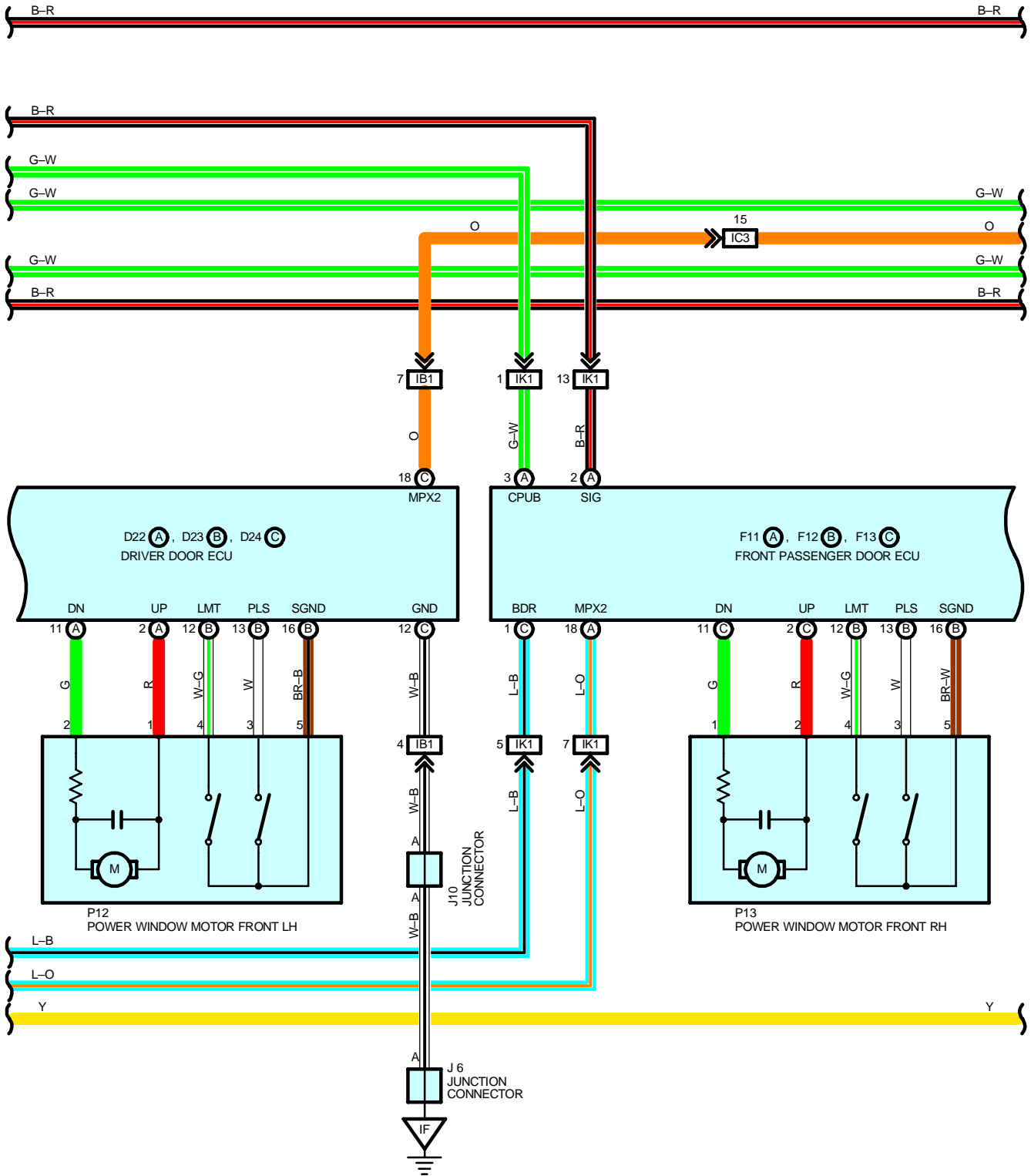


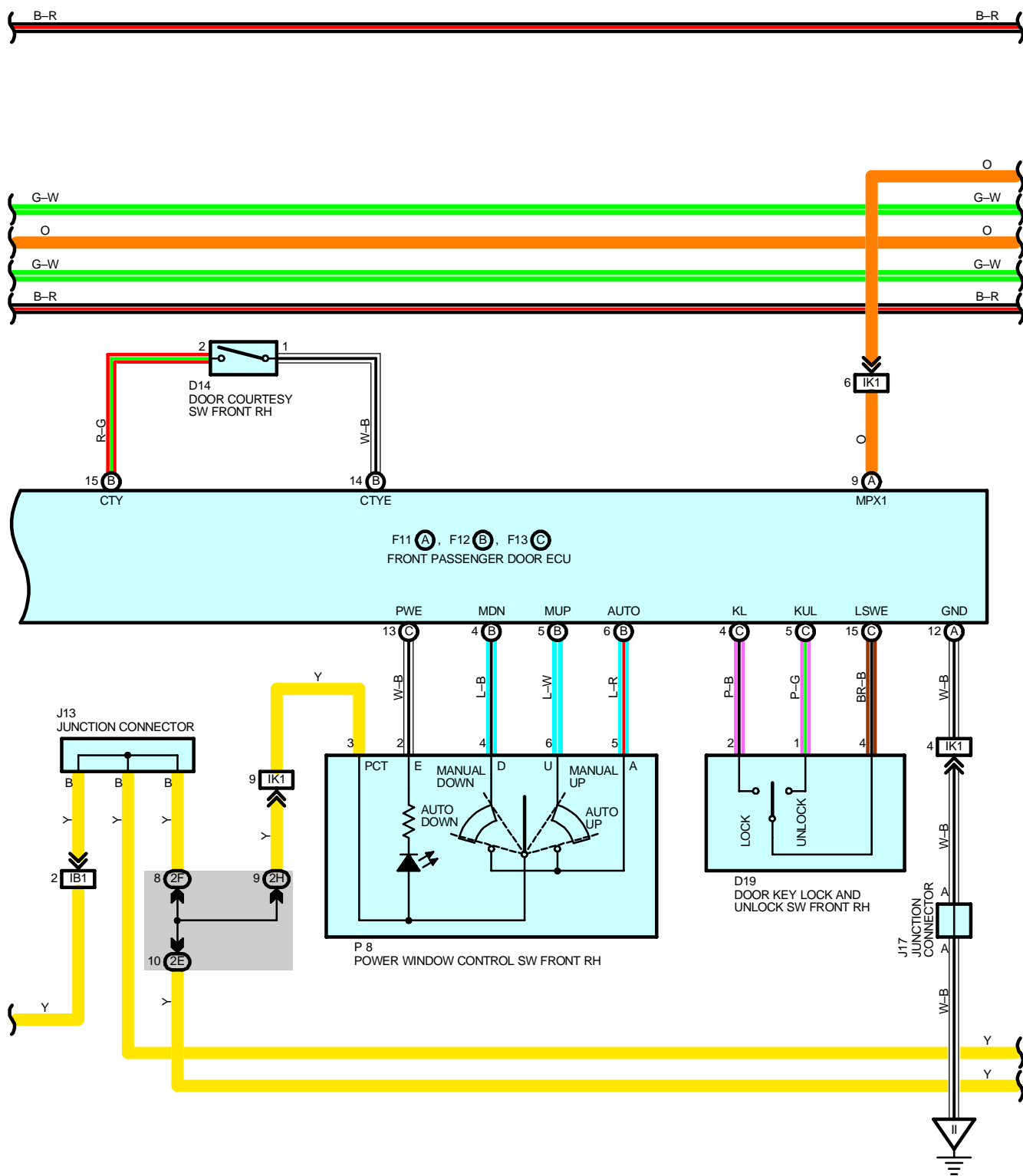
20A  
D FR  
DOOR

2 1F

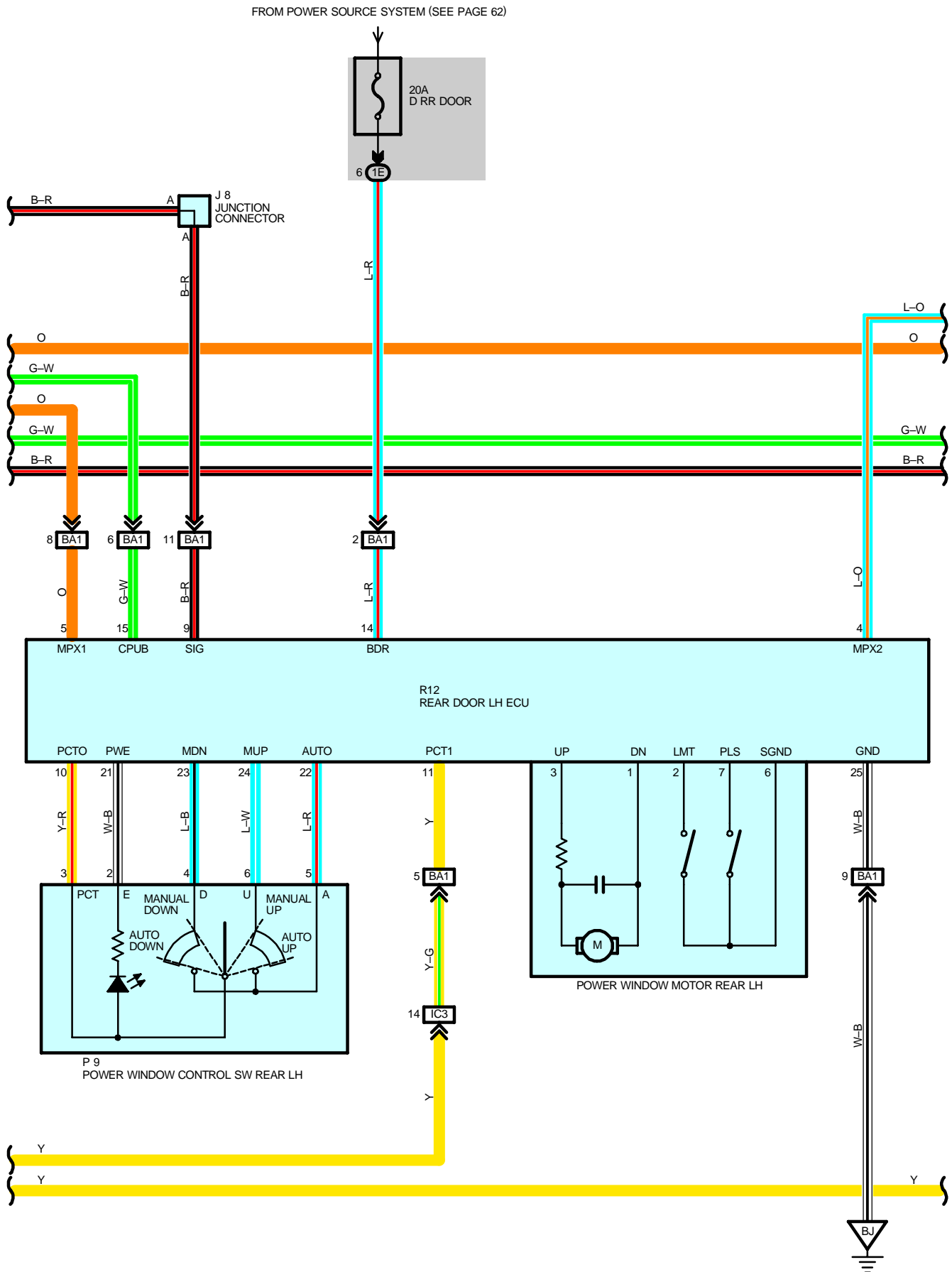


# POWER WINDOW



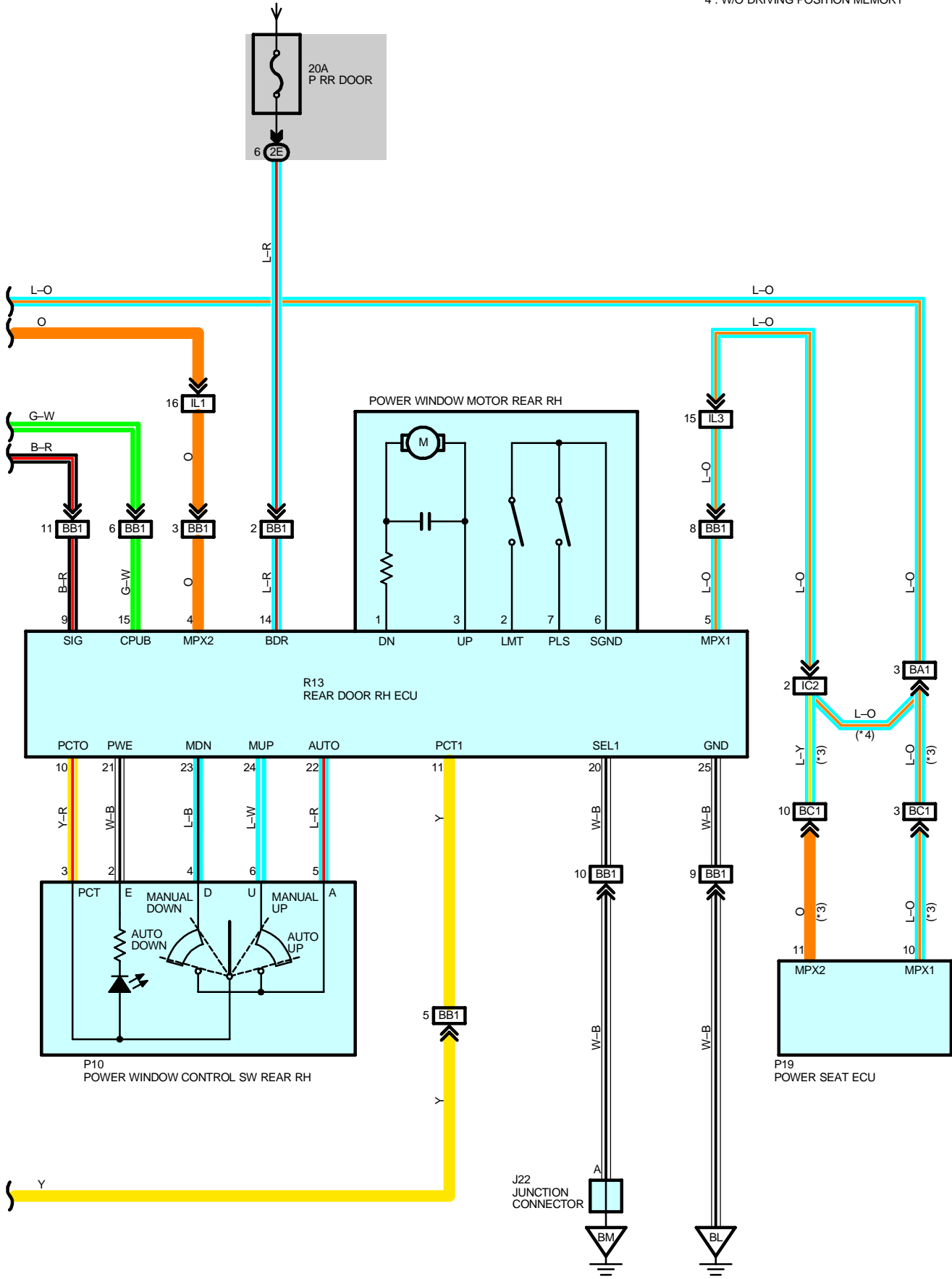


# POWER WINDOW



FROM POWER SOURCE SYSTEM (SEE PAGE 62)

\* 3 : W/ DRIVING POSITION MEMORY  
\* 4 : W/O DRIVING POSITION MEMORY





# POWER WINDOW

## SYSTEM OUTLINE

### 1. MANUAL DOWN OR UP OPERATION

The signal is input to TERMINAL MDN of the driver door ECU while the power window master SW is kept pressed one step. This activates the driver door ECU to flow the current from TERMINAL DN into the power window motor front LH to TERMINAL UP of the driver door ECU to GROUND, to rotate the motor and open the window.

The signal is input to TERMINAL MUP of the driver door ECU while the power window master SW is kept pulled one step. This activates the driver door ECU to flow the current from TERMINAL UP into the power window motor front LH to TERMINAL DN of the driver door ECU to GROUND, to reversely rotate the motor and close the window. For other windows, as the power window master SW or each power window SW is operated, the window of the relevant door is opened or closed.

### 2. AUTO DOWN OR UP OPERATION

The signals are input to TERMINALS MDN and AUTO of the driver door ECU when the power window master SW is pressed two steps. According to these signals, it is determined that the driver door ECU is in the auto mode. The current flows from TERMINAL DN into the power window motor front LH to TERMINAL UP of the driver door ECU to GROUND, to rotate the motor and automatically open the window. Accordingly, when each window switch of the power window master SW is pressed, the window of the relevant door is automatically opened through communication control of the body ECU and door ECU etc.

The signals are input to TERMINALS MUP and AUTO of the driver door ECU when the power window master SW is pulled two steps. According to these signals, it is determined that the driver door ECU is in the auto mode. The current flows from TERMINAL UP into the power window motor front LH to TERMINAL DN of the driver door ECU to GROUND, to rotate the motor and automatically close the window. Accordingly, when each window switch of the power window master SW is pressed, the window of the relevant door is automatically closed through communication control of the body ECU and door ECU etc.

For other windows, as each power window control SW is operated, the window of the relevant door is automatically opened or closed.

### 3. POWER WINDOW OPERATION LINKED WITH DOOR KEY LOCK AND UNLOCK SW

When the ignition key is inserted into the door key cylinder on the driver or passenger side and kept turned to the lock or unlock position for approximately 1.5 sec. or longer, all the door windows can be opened or closed.

Power window close operation

When the ignition key is inserted into the door key cylinder and kept turned to the lock position for 1.5 sec. or longer, the signal from the door key lock and unlock SW is input to TERMINAL KL of the driver door ECU or front passenger door ECU. Through communication control of the body ECU and door ECU etc., the current flows from TERMINAL UP of each door ECU into the power window motor to TERMINAL DN of the each door ECU to GROUND, to close all the door windows.

Power window open operation

When the ignition key is inserted into the door key cylinder and kept turned to the unlock position for 1.5 sec. or longer, the signal from the door key lock and unlock SW is input to TERMINAL KUL of the driver door ECU or front passenger door ECU. Through communication control of the body ECU and door ECU etc., the current flows from TERMINAL DN of each door ECU into the power window motor to TERMINAL UP of the each door ECU to GROUND, to close all the door windows.

If any of the following conditions is detected, the power window operation is stopped.

Approximately 10 sec. or longer has elapsed after starting open/close operation. Catching prevention function is activated.

### 4. POWER WINDOW OPERATION LINKED WITH TRANSMITTER

When the unlock SW on the transmitter of the ignition key is kept pressed for 2.5 sec. or longer, all the door windows can be opened.

Power window open operation

When the unlock SW of the ignition key is kept pressed for 2.5 sec. or longer, the frequency received from the wireless door lock control ECU is input to the body ECU No.1. Through communication control of the body ECU and door ECU etc., the current flows from TERMINAL DN of each door ECU into the power window motor to TERMINAL UP of the each door ECU to GROUND, to open all the door windows.

If any of the following conditions is detected, the power window operation is stopped.

Approximately 10 sec. or longer have elapsed after starting open operation.

The lock or unlock switch on the transmitter is released.

Catching prevention function is activated.

### 5. CATCHING PREVENTION FUNCTION

If any foreign matter is caught in the window while it is rising, the pulse sensor installed in the power window motor detects changes in the number of motor rotations, forcibly lowers the door window 50 mm or if the door window opening amount is 200 mm or less, the window is lowered so that the opening amount is 200 mm.

### 6. KEY OFF POWER WINDOW OPERATION

It is possible to operate the power window for 45 sec. after the ignition key is turned from ON to OFF and the driver or front passenger door is opened. However, when the door is closed while the window is being operated, the power window operation is stopped even though 45 sec. has not elapsed.

## SERVICE HINTS

### B6 BODY ECU NO.2

- 1-GROUND : Approx. **12** volts with ignition SW at **ON** or **ST** position
- 8-GROUND : Always approx. **12** volts
- 11-GROUND : Always continuity

### B5 (A) BODY ECU NO.1

- 1-GROUND : Approx. **12** volts with ignition SW at **ON** or **ST** position
- 8-GROUND : Always approx. **12** volts
- 11-GROUND : Always continuity
- 4-GROUND : Always approx. **12** volts
- (A)15-GROUND : Approx. **12** volts with ignition SW at **ACC** or **ON** position

### D22 (A), D24 (C) DRIVER DOOR ECU

- (A) 1-GROUND : Always approx. **12** volts
- (C) 3-GROUND : Always approx. **12** volts
- (C) 2-GROUND : Approx. **12** volts with ignition SW at **ON** or **ST** position
- (C)12-GROUND : Always continuity

### F11 (A), F13 (C) FRONT PASSENGER DOOR ECU

- (A) 2-GROUND : Approx. **12** volts with ignition SW at **ON** or **ST** position
- (A) 3-GROUND : Always approx. **12** volts
- (A)12-GROUND : Always continuity
- (C) 1-GROUND : Always approx. **12** volts

### R12 REAR DOOR LH ECU

- 9-GROUND : Approx. **12** volts with ignition SW at **ON** or **ST** position
- 14-GROUND : Always approx. **12** volts
- 15-GROUND : Always approx. **12** volts
- 25-GROUND : Always continuity

### R13 REAR DOOR RH ECU

- 9-GROUND : Approx. **12** volts with ignition SW at **ON** or **ST** position
- 15-GROUND : Always approx. **12** volts
- 14-GROUND : Always approx. **12** volts
- 20-GROUND : Always continuity
- 25-GROUND : Always continuity

### P11 POWER WINDOW MASTER SW

- 15-6 : Closed with power window master SW at **MANUAL UP** position
- 15-18 : Closed with power window master SW at **MANUAL DOWN** position
- 15-6, 7 : Closed with power window master SW at **AUTO UP** position
- 15-18, 7 : Closed with power window master SW at **AUTO DOWN** position

### P8, P9, P10 POWER WINDOW CONTROL SW FRONT RH, REAR LH, REAR RH

- 3-6 : Closed with power window SW at **MANUAL UP** operation
- 3-4 : Closed with power window SW at **MANUAL DOWN** operation
- 3-6, 5 : Closed with power window SW at **AUTO UP** operation
- 3-4, 5 : Closed with power window SW at **AUTO DOWN** operation

### WINDOW LOCK SW

- Open with window lock SW at **LOCK** position

# POWER WINDOW

## : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A13	42	E5	D	J22	44
B5	A 42			P8	45
B6	A 42	F11	A	P9	45
C8	42	F12	B	P10	45
C13	42	F13	C	P11	45
D13	44	J6		P12	45
D14	44	J7		P13	45
D18	44	J8		P19	46
D19	44	J10		R12	45
D22	A 44	J13		R13	45
D23	B 44	J15		T5	43
D24	C 44	J17		W5	45

## : RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
1	24	Engine Room No.1 R/B (Engine Compartment Right)

## : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	28	Floor No.2 Wire and Driver Side J/B (Left Kick Panel)
1F	28	Cowl Wire and Driver Side J/B (Left Kick Panel)
1G	29	
1H		
2B	30	Engine Room Main Wire and Passenger Side J/B (Right Kick Panel)
2E	30	Floor No.1 Wire and Passenger Side J/B (Right Kick Panel)
2F	30	Cowl Wire and Passenger Side J/B (Right Kick Panel)
2G	31	
2H		

## : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC2	52	Floor No.2 Wire and Cowl Wire (Left Kick Panel)
IC3		
IE1	52	Instrument Panel Wire and Cowl Wire (Left Side of the Steering Column)
IJ1	54	Instrument Panel Wire and Cowl Wire (Left Side of the Blower Unit)
IK1	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IL1	54	Floor No.1 Wire and Cowl Wire (Right Kick Panel)
IL3		
BA1	56	Rear Door LH Wire and Floor No.2 Wire (Under the Center Pillar LH)
BB1	56	Rear Door RH Wire and Floor No.1 Wire (Under the Center Pillar RH)
BC1	58	Floor No.2 Wire and Front Seat LH Wire (Under the Driver's Seat)

## : GROUND POINTS

Code	See Page	Ground Points Location
IF	52	Left Kick Panel
II	52	Right Side of the Cowl Panel
BJ	56	Rear Floor Partition Panel LH
BL	56	Rear Floor Partition Panel RH
BM	56	Quarter Panel RH

**: SPLICE POINTS**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I6	<a href="#">54</a>	Cowl Wire			