

## MASTER WARNING LIGHT

id092200032400

### Purpose

#### Without TFT LCD (Type B)

- The master warning light warns the driver that any of the following malfunctions is occurring.
  - Brake switch malfunction
  - Engine oil solenoid valve malfunction
  - Power supply system malfunction
  - Current sensor malfunction
  - Global central configuration malfunction
  - Timing chain malfunction (SKYACTIV-D 2.2)
  - Blow-by heater malfunction (SKYACTIV-D 2.2)

#### With TFT LCD (Type A)

- The master warning light warns the driver that the instrument cluster has received a message from a related unit.

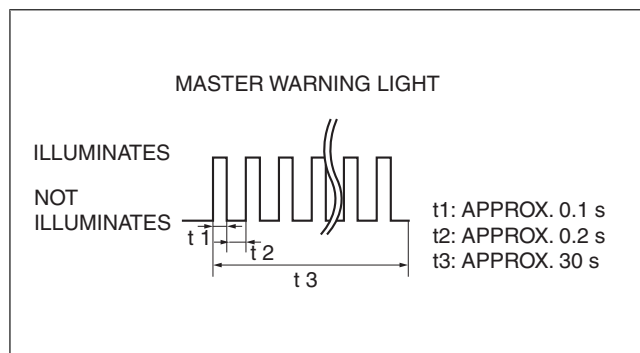
### Function

#### Without TFT LCD (Type B)

- The instrument cluster illuminates the master warning light based on the following CAN signals:
  - Brake switch No.1 error signal, brake switch No.2 error signal, engine oil solenoid valve error signal, current sensor error signal, power supply system error signal, global central configuration error signal, timing chain error signal (SKYACTIV-D 2.2), and blow-by heater error signal (SKYACTIV-D 2.2) sent from the PCM

### Note

- There are warning lights which are illuminated/flushed simultaneously when the master warning light is illuminated. For the warning lights which are illuminated/flushed simultaneously when the master warning light is illuminated, refer to the ON-BOARD DIAGNOSTIC SYSTEM TEST MODE [SKYACTIV-G 2.0, SKYACTIV-G 2.5], ON-BOARD DIAGNOSTIC SYSTEM TEST MODE [SKYACTIV-D 2.2].
- If the cancel procedure for preventing unnecessary operation of the brake override system is implemented, the PCM sends a master warning light flash request signal to the instrument cluster as a CAN signal. The instrument cluster flashes the master warning light based on the master warning light flash request signal sent from the PCM. For the cancel procedure to prevent unnecessary operation of the brake override system, refer to the DRIVE-BY-WIRE CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5], FUEL INJECTION AMOUNT CONTROL [SKYACTIV-D 2.2].
- The master warning light flashing pattern is as indicated in the figure.



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#### With TFT LCD (Type A)

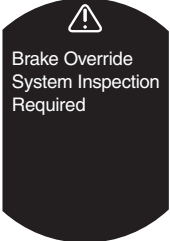
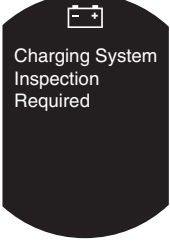








Applied VIN (assumed): JMZ KE19760# 100001—120304, JMZ KE19780# 100001—120237, JMZ KE89780# 100001—120237, JMZ KEC9760# 100001—120304, JMZ KEF9160# 100001—133074, JMZ KEF9180# 100001—133074, JMZ KEK9760# 100001—120304, JMZ KEK9780# 100001—120237, JMZ KEN9160# 100001—133074, JMZ KEN9180# 100001—133074, JMZ KEN9260# 100001—133074, JMZ KEN9280# 100001—133074







- When the instrument cluster receives a message request signal from the related unit, the master warning light illuminates.
- The master warning light illuminates and the displayed messages in the TFT LCD display are as follows:



### Messages for indicating required vehicle inspection

—:Not applicable

TFT LCD display	Warning light which displays simultaneously when master warning light illuminates	Related unit	Reference/function
 <p>Engine Inspection Required</p>	 CHECK ENGINE LIGHT	PCM	(See CHECK ENGINE LIGHT [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See CHECK ENGINE LIGHT [SKYACTIV-D 2.2].)
 <p>Engine Oil Pressure Inspection Required</p>	—	PCM	(See ENGINE OIL WARNING LIGHT.)
 <p>Engine Coolant Temperature High</p>	 HIGH ENGINE COOLANT TEMPERATURE WARNING LIGHT (FLASHE)	Instrument cluster	(See LOW ENGINE COOLANT TEMPERATURE INDICATOR LIGHT (BLUE)/HIGH ENGINE COOLANT TEMPERATURE WARNING LIGHT (RED).)
 <p>Stop Vehicle at safe area</p>	 HIGH ENGINE COOLANT TEMPERATURE WARNING LIGHT (ILLUMINATE)	Instrument cluster	(See LOW ENGINE COOLANT TEMPERATURE INDICATOR LIGHT (BLUE)/HIGH ENGINE COOLANT TEMPERATURE WARNING LIGHT (RED).)
 <p>Vehicle System Inspection Required</p>	—	PCM	(See ON-BOARD DIAGNOSTIC SYSTEM TEST MODE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See ON-BOARD DIAGNOSTIC SYSTEM TEST MODE [SKYACTIV-D 2.2].)
 <p>DPF DPF Inspection Required</p>	—	PCM	(See DIESEL PARTICULATE FILTER INDICATOR LIGHT [SKYACTIV-D 2.2].)
 <p>Drain Water from Fuel Filter</p>	—	PCM	(See WRENCH INDICATOR LIGHT [SKYACTIV-D 2.2].)


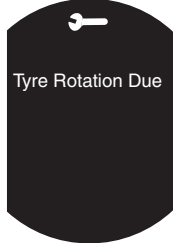
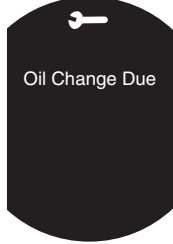

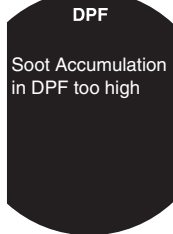
TFT LCD display	Warning light which displays simultaneously when master warning light illuminates	Related unit	Reference/function
	—	PCM	(See ON-BOARD DIAGNOSTIC SYSTEM TEST MODE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See FUEL INJECTION AMOUNT CONTROL [SKYACTIV-D 2.2].)
	—	PCM	(See CHARGING SYSTEM WARNING LIGHT [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See CHARGING SYSTEM WARNING LIGHT [SKYACTIV-D 2.2].)
	—	PCM	(See GENERATOR CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See GENERATOR CONTROL [SKYACTIV-D 2.2].)
	—	EPS CM	(See POWER STEERING MALFUNCTION INDICATOR LIGHT.)
	 TIRE PRESSURE MONITORING SYSTEM WARNING LIGHT	DSC HU/CM	(See TIRE PRESSURE MONITORING SYSTEM WARNING LIGHT.)
	 BRAKE SYSTEM WARNING LIGHT	Front body control module (FBCM)	(See BRAKE SYSTEM/ABS WARNING LIGHT.)
	 BRAKE SYSTEM WARNING LIGHT	DSC HU/CM	(See BRAKE SYSTEM/ABS WARNING LIGHT.)










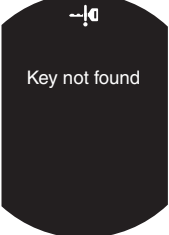
TFT LCD display	Warning light which displays simultaneously when master warning light illuminates	Related unit	Reference/function
 SCBS Inspection Required	—	Laser sensor	(See SMART CITY BRAKE SUPPORT (SCBS).)
<b>AT</b> Auto trans System Inspection Required	—	TCM	(See AUTOMATIC TRANSAXLE WARNING LIGHT [FW6A-EL, FW6AX-EL].) (See AUTOMATIC TRANSAXLE WARNING LIGHT [GW6A-EL, GW6AX-EL].)
<b>4WD</b> 4WD System Inspection Required	—	4WD control module	(See 4WD WARNING LIGHT.)
<b>4WD</b> Stop Vehicle at safe area	—	4WD control module	(See 4WD WARNING LIGHT.)
 Keyless System Inspection Required	—	Start stop unit	(See KEYLESS ENTRY SYSTEM.) (See ADVANCED KEYLESS ENTRY SYSTEM.)
 HBC Inspection Required	 HBC WARNING LIGHT (FLASHE)	Forward sensing camera (FSC)	(See HIGH BEAM CONTROL (HBC) SYSTEM.)
 LDWS Inspection Required	 LDWS WARNING LIGHT (FLASHE)	Forward sensing camera (FSC)	(See LANE DEPARTURE WARNING SYSTEM (LDWS).)

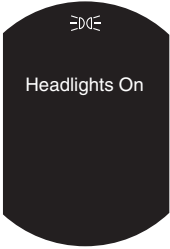







TFT LCD display	Warning light which displays simultaneously when master warning light illuminates	Related unit	Reference/function
		Forward sensing camera (FSC)	(See HIGH BEAM CONTROL (HBC) SYSTEM.) (See LANE DEPARTURE WARNING SYSTEM (LDWS).)




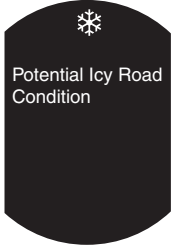
#### Messages for indicating maintenance periods or vehicle conditions (vehicle is normal)

—:Not applicable

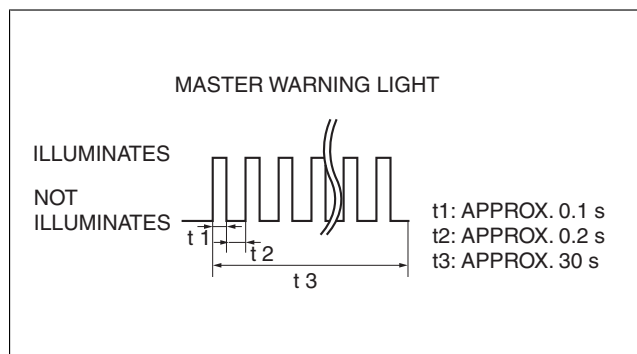
TFT LCD display	Warning light which displays simultaneously when master warning light illuminates	Related unit	Reference/function
	—	Instrument cluster	(See MAINTENANCE MONITOR.)
	—		
	—		
	—		
	—	PCM	(See DIESEL PARTICULATE FILTER INDICATOR LIGHT [SKYACTIV-D 2.2].)

TFT LCD display	Warning light which displays simultaneously when master warning light illuminates	Related unit	Reference/function
	 LOW FUEL WARNING LIGHT	Instrument cluster	(See LOW FUEL WARNING LIGHT.)
	 TIRE PRESSURE MONITORING SYSTEM WARNING LIGHT	DSC HU/CM	(See TIRE PRESSURE MONITORING SYSTEM WARNING LIGHT.)
	 BRAKE SYSTEM WARNING LIGHT	Instrument cluster	(See PARKING BRAKE WARNING DISPLAY.)
	—	Laser sensor	(See SMART CITY BRAKE SUPPORT (SCBS).)
	—	PCM	(See DRIVE-BY-WIRE CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See FUEL INJECTION AMOUNT CONTROL [SKYACTIV-D 2.2].)
	—	Start stop unit	(See KEYLESS ENTRY SYSTEM.) (See ADVANCED KEYLESS ENTRY SYSTEM.)
	—		

TFT LCD display	Warning light which displays simultaneously when master warning light illuminates	Related unit	Reference/function
		Lighting system	(See LIGHTS-ON REMINDER WARNING ALARM.)
	—	Instrument cluster	(See DOOR-AJAR WARNING LIGHT.)
	—	Front body control module (FBCM)	(See WASHER FLUID-LEVEL SENSOR.)
	—	Instrument cluster	(See TRIP COMPUTER INFORMATION SYSTEM.)
		Forward sensing camera (FSC)	(See HIGH BEAM CONTROL (HBC) SYSTEM.) (See LANE DEPARTURE WARNING SYSTEM (LDWS).)
			

TFT LCD display	Warning light which displays simultaneously when master warning light illuminates	Related unit	Reference/function
	 LDWS INDICATOR LIGHT (FLASHE)	Forward sensing camera (FSC)	(See LANE DEPARTURE WARNING SYSTEM (LDWS).)
			
	—	Instrument cluster	(See AMBIENT TEMPERATURE WARNING ALARM.)

- If the cancel procedure for preventing unnecessary operation of the brake override system is implemented, the PCM sends a master warning light flash request signal to the instrument cluster as a CAN signal. The instrument cluster flashes the master warning light based on the master warning light flash request signal sent from the PCM. For the cancel procedure to prevent unnecessary operation of the brake override system, refer to the DRIVE-BY-WIRE CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5], FUEL INJECTION AMOUNT CONTROL [SKYACTIV-D 2.2].
- The master warning light flashing pattern is as indicated in the figure.



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#### With TFT LCD (Type A)


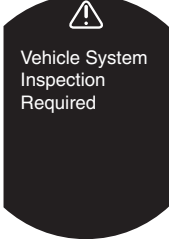

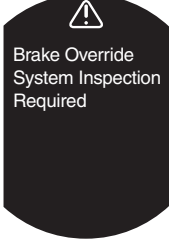
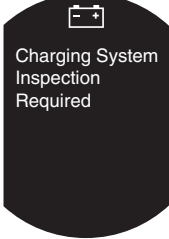
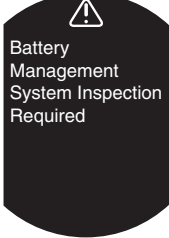

Applied VIN (assumed): JMZ KE19760# 120305—, JMZ KE19780# 120238—, JMZ KE89780# 120238—, JMZ KEC9760# 120305—, JMZ KEF9160# 133075—, JMZ KEF9180# 133075—, JMZ KEK9760# 120305—, JMZ KEK9780# 120238—, JMZ KEN9160# 133075—, JMZ KEN9180# 133075—, JMZ KEN9260# 133075—, JMZ KEN9280# 133075—



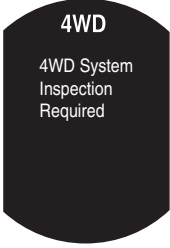

- When the instrument cluster receives a message request signal from the related unit, the master warning light illuminates.
- The master warning light illuminates and the displayed messages in the TFT LCD display are as follows:

#### Messages for indicating required vehicle inspection

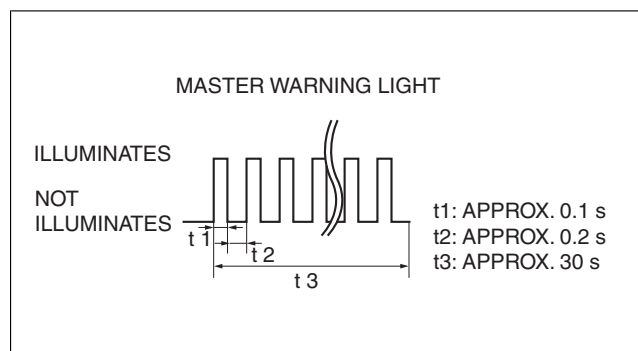
—:Not applicable



TFT LCD display	Related unit	Reference/function
 <p>Engine Oil Pressure Inspection Required</p>	PCM	(See ENGINE OIL WARNING LIGHT.)
 <p>Vehicle System Inspection Required</p>	PCM	(See ON-BOARD DIAGNOSTIC SYSTEM TEST MODE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See ON-BOARD DIAGNOSTIC SYSTEM TEST MODE [SKYACTIV-D 2.2].)
 <p>DPF Inspection Required</p>	PCM	(See DIESEL PARTICULATE FILTER INDICATOR LIGHT [SKYACTIV-D 2.2].)
 <p>Brake Override System Inspection Required</p>	PCM	(See DRIVE-BY-WIRE CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See FUEL INJECTION AMOUNT CONTROL [SKYACTIV-D 2.2].)
 <p>Charging System Inspection Required</p>	PCM	(See CHARGING SYSTEM WARNING LIGHT [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See CHARGING SYSTEM WARNING LIGHT [SKYACTIV-D 2.2].)
 <p>Battery Management System Inspection Required</p>	PCM	(See GENERATOR CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See GENERATOR CONTROL [SKYACTIV-D 2.2].)
 <p>Power Steering System Inspection Required</p>	EPS CM	(See POWER STEERING MALFUNCTION INDICATOR LIGHT.)

TFT LCD display	Related unit	Reference/function
	Laser sensor	(See SMART CITY BRAKE SUPPORT (SCBS).)
	TCM	(See AUTOMATIC TRANSAXLE WARNING LIGHT [FW6A-EL, FW6AX-EL].) (See AUTOMATIC TRANSAXLE WARNING LIGHT [GW6A-EL, GW6AX-EL].)
	4WD control module	(See 4WD WARNING LIGHT.)
	Start stop unit	(See KEYLESS ENTRY SYSTEM.) (See ADVANCED KEYLESS ENTRY SYSTEM.)

- If the cancel procedure for preventing unnecessary operation of the brake override system is implemented, the PCM sends a master warning light flash request signal to the instrument cluster as a CAN signal. The instrument cluster flashes the master warning light based on the master warning light flash request signal sent from the PCM. For the cancel procedure to prevent unnecessary operation of the brake override system, refer to the DRIVE-BY-WIRE CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5], FUEL INJECTION AMOUNT CONTROL [SKYACTIV-D 2.2].
- The master warning light flashing pattern is as indicated in the figure.

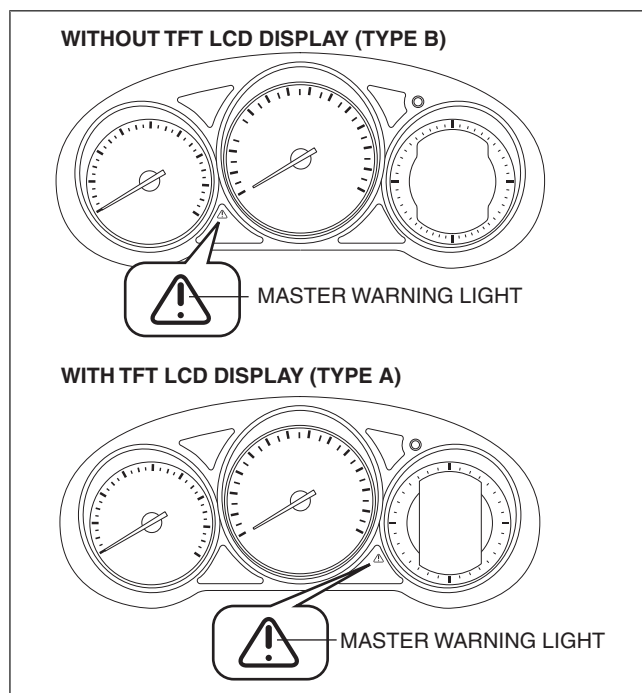


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### Construction

- The instrument cluster microcomputer controls the illumination/flashing/turning off of the master warning light based on each error signal sent from the PCM or a message request signal (With TFT LCD (Type A) only) from the related system.

- The master warning light is set in the instrument cluster.

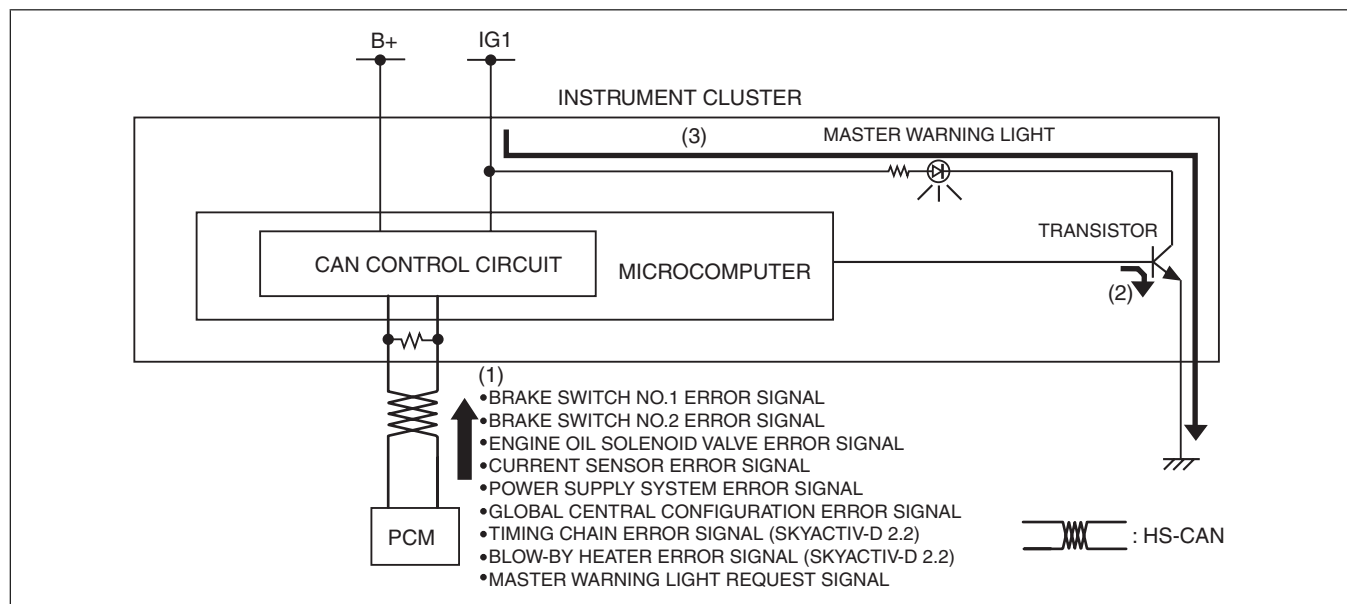


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### Operation

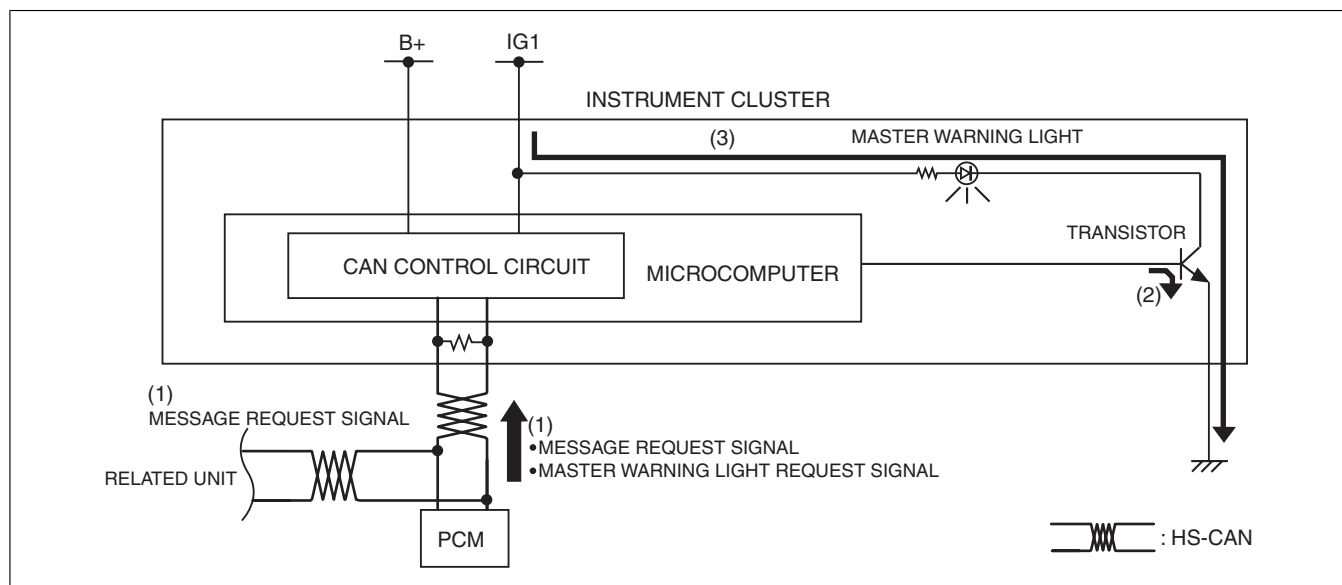
1. When the ignition is switched ON (engine off or on), the instrument cluster receives (1) each error signal or a master warning light flash request signal from the PCM, or a message request signal (With TFT LCD (Type A) only) from the related unit.
2. The instrument cluster turns the transistor on (2) intermittently for flashing and continuously for illumination based on each signal.
3. The master warning light flashes (3) when the transistor is turned on intermittently, and it illuminates (3) when the transistor is turned on continuously.

### Without TFT LCD (Type B)



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### With TFT LCD (Type A)



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### Fail-safe

- Function not equipped.