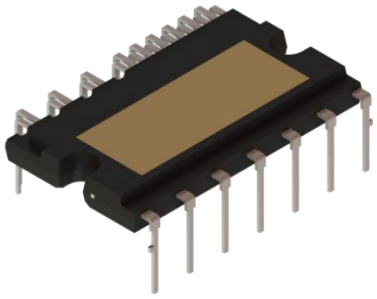
Description

CRM60GL15EA are 3-phase Integrated Power Modules (IPM) designed for advanced appliance motor drive applications such as Air conditioner, Refrigerator, Washing machine and Fan motor.

CRM60GL15EA Integrated under-voltage, short circuit, temperature monitoring output and other protection functions, providing excellent protection and a wide range of safe work.

Features

- 600V/15A three-phase inverter
- Works with 3.3V/5V MCU
- Integrated under-voltage protection
- Integrated high accurate short-circuit current protection
- Integrated >40μs fault duration time
- Integrated built-in temperature-sensing
- Integrated over temperature protection
- Integrated bootstrap diodes with current limiting resistor
- Isolation rating: 2000 Vrms/min



DIP-26A

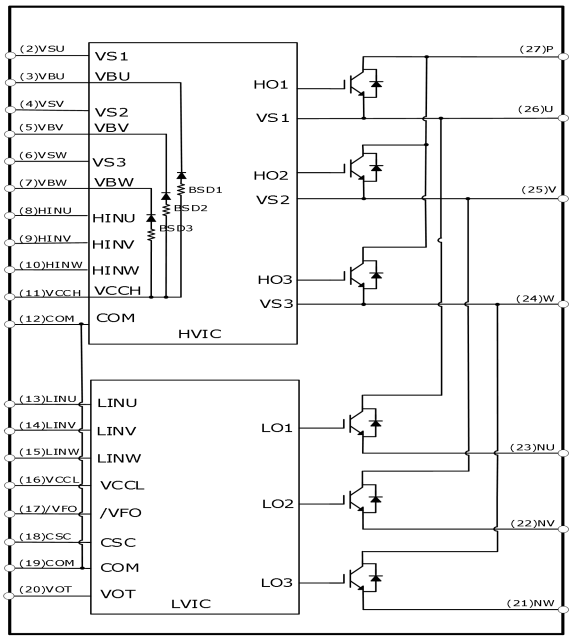
Applications

- Air conditioning compressor
- Washing machine
- Fan motor
- Refrigerator compressor

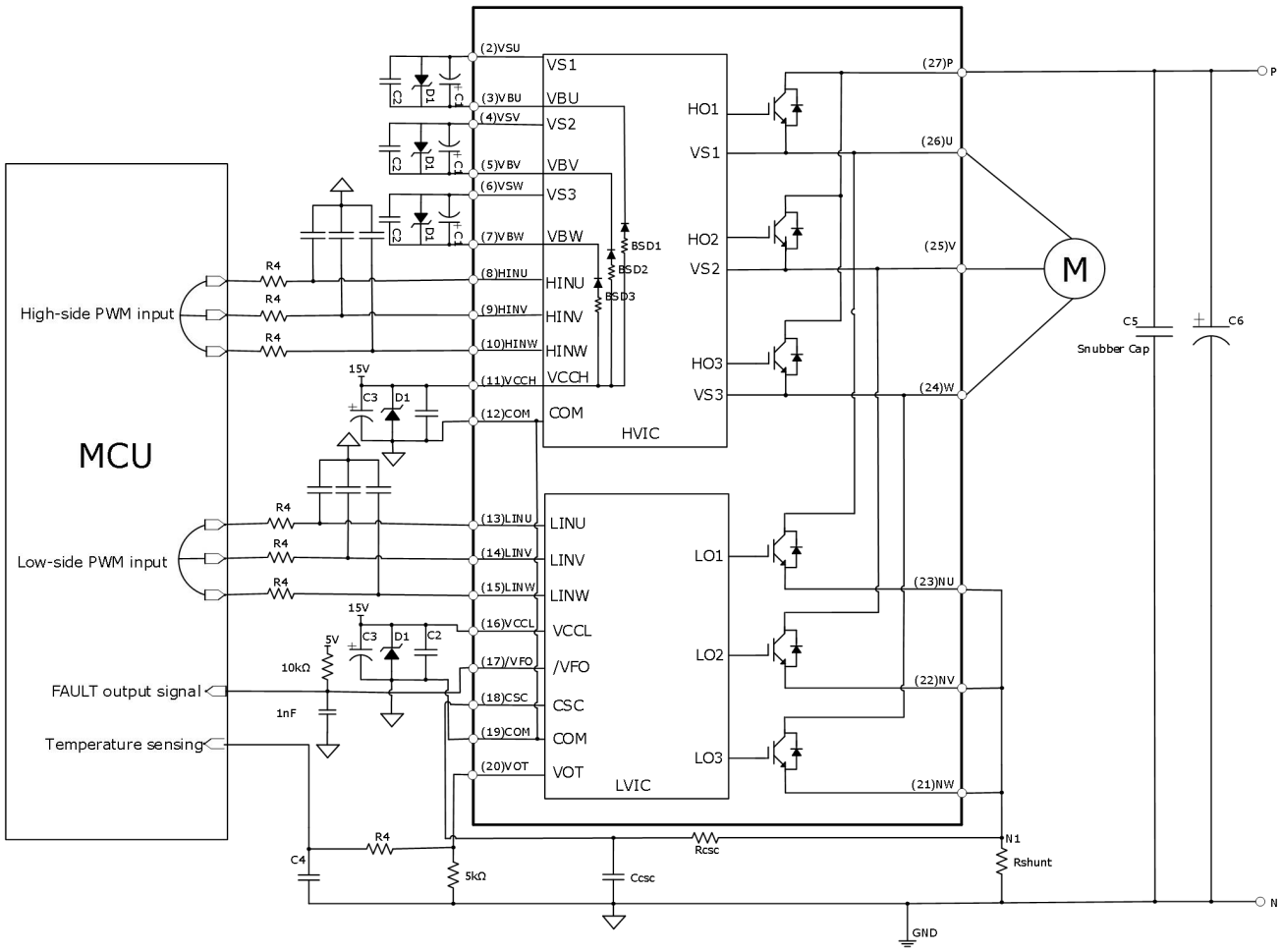
Package Marking and Ordering Information

Part #	Marking	Package	Packing	Quantity	Green
CRM60GL15EA	CRM60GL15EA	DIP-26A	Tube	704EA	ROHS/HF

Internal Electrical Schematic



Application Circuit



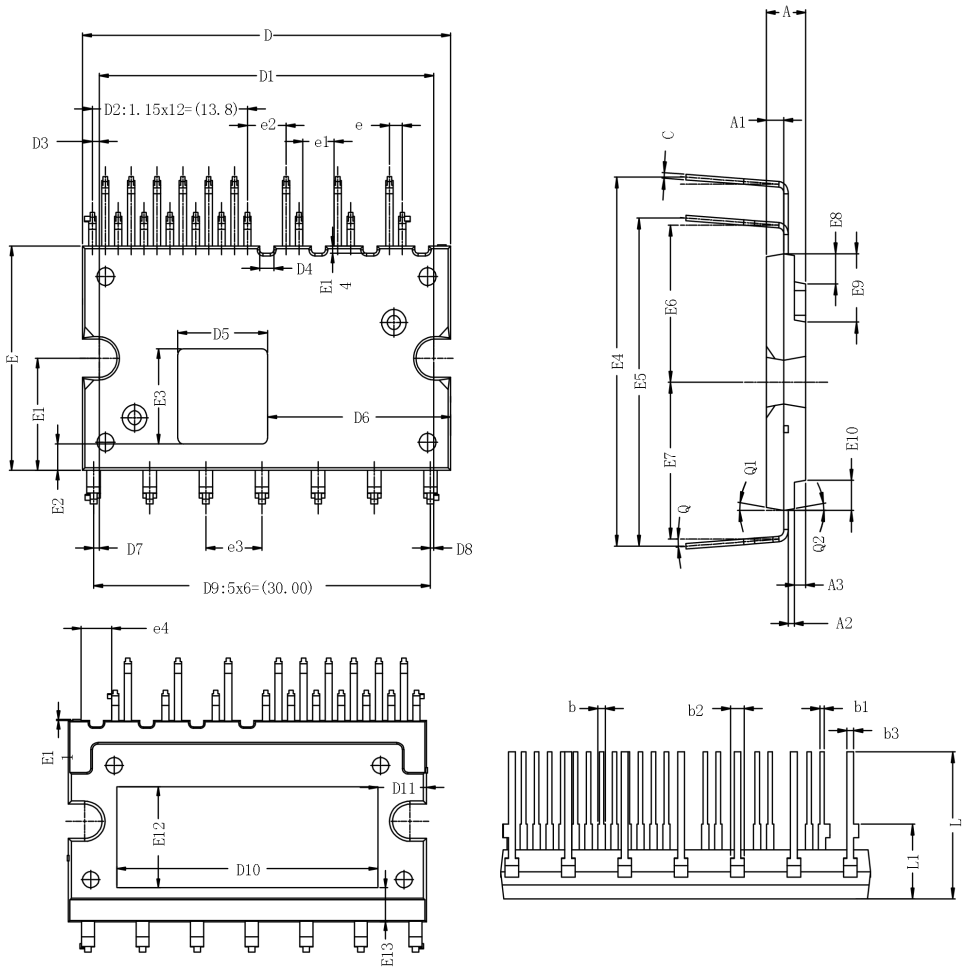
Remark:

1. To prevent malfunction, the wiring of each input should be as short as possible.
2. Input drive is High-Active type.There is a 5kΩ（typ.）pull-down resistor integrated in the IC input circuit. And adding RC filter circuit to the input will prevent the surge noise caused by incorrect input.
3. To prevent surge damage, it is recommended to add a high-frequency non-inductive flat capacitor (0.1μF to 0.22μF) between P and N. The cable connection of the capacitor should be as short as possible.
4. The line between the current detection resistor and the IPM should be as short as possible, otherwise the large surge voltage generated by the connecting inductor may cause damage.
5. All capacitors should be mounted as close to the terminals of the IPM as possible.
6. FO output is open drain type.It should be pulled up to the positive side of 5V power supply by a resistor of about 10kΩ.
7. The time constant R_{CSC} and C_{CSC} of the protection circuit should be selected in the range of 1.5-2.0 μs.

Package Outline

DIP-26A

UNIT:mm



SYMBOL	COMMON Dimensions millimeter			SYMBOL	COMMON Dimensions millimeter		
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	3.50	3.60	3.70	(E2)	2.00	2.20	2.40
A1	1.50	1.60	1.70	E3	7.80	8.00	8.20
A2	0.45	0.55	0.65	E4	26.00	26.50	27.00
A3	0.95	1.05	1.15	E5	23.00	23.50	24.00
b	0.60	0.65	0.70	E6	11.00	11.50	12.00
b1	0.35	0.40	0.45	E7	11.00	11.50	12.00
b2	1.15	1.20	1.25	(E8)	2.00	2.20	2.40
b3	0.55	0.60	0.65	E9	4.80	5.00	5.20
C	0.35	0.40	0.45	(E10)	2.00	2.20	2.40
D	32.30	32.80	33.30	(E11)	0	--	0.10
D1	29.50	29.80	30.10	(E12)	9.10	9.40	9.70
D2	13.60	13.80	14.00	(E13)	2.90	3.20	3.50
D3	0.50	0.60	0.70	(E14)	0.45	0.60	0.75
D4	1.15	1.25	1.35	e	1.00	1.15	1.30
D5	7.80	8.00	8.20	e1	2.65	2.80	2.95
D6	16.10	16.30	16.50	e2	3.30	3.45	3.60
D7	0.40	0.50	0.60	e3	4.80	5.00	5.20

D8	0.20	0.30	0.40	e4	2.65	2.80	2.95
D9	29.80	30.00	30.20	L	10.30	10.80	11.30
(D10)	23.60	23.90	24.20	L1	5.00	5.50	6.00
(D11)	4.15	4.45	4.75	(Q)	0°	2.5°	5°
E	18.30	18.80	19.30	Q1	7°	8°	9°
E1	9.10	9.40	9.70	Q2	7°	8°	9°

Revision History

Revision	Date	Major changes
1.0	2024/01/23	Release of formal version
1.1	2024/06/19	Update Thermal Resistance
1.2	2025/06/30	Update the Header & Footer template

Disclaimer

Unless otherwise specified in the datasheet, the product is designed and qulified as a standard commercial product and is not intended for use in applications that require extraordinary levels of quality and reliability, such as automotive, aviation/aerospace and life-support devices or systems.

Any and all semicondutor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.

CRM(CQ) reserves the right to improve product design, function and reliability without notice.