

## ● Description

WGP30LF60G3A1 is an insulated type three-phase Intelligent Power Modules (IPM), highly integrated in a compact package. With the embedded HVIC and LVIC as the most compatible driver and protector for IGBTs, this series IPM offers an efficient power inverter solution with outstanding performance for PMSM motors such as low power fan or pump for home appliances and Industrial Instruments.



DIP-24HL

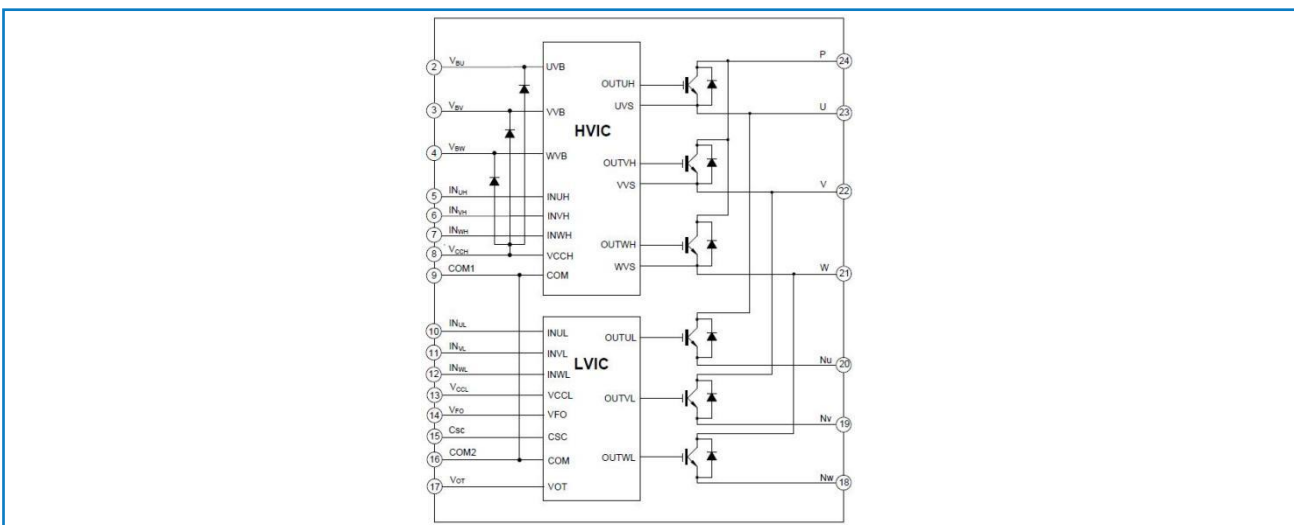
## ● Features

- Integrated 6 low-loss IGBTs (600V/30A)
- Integrated high voltage gate drive circuit (HVIC)
- Built-in under-voltage protection , over-temperature, over-current protection and temperature output
- Built-in fast recovery bootstrap diode with current limiting resistor
- Insulation class 1500 Vrms/ min
- High reliability and thermal stability, good parameter consistency
- Built-in temperature output

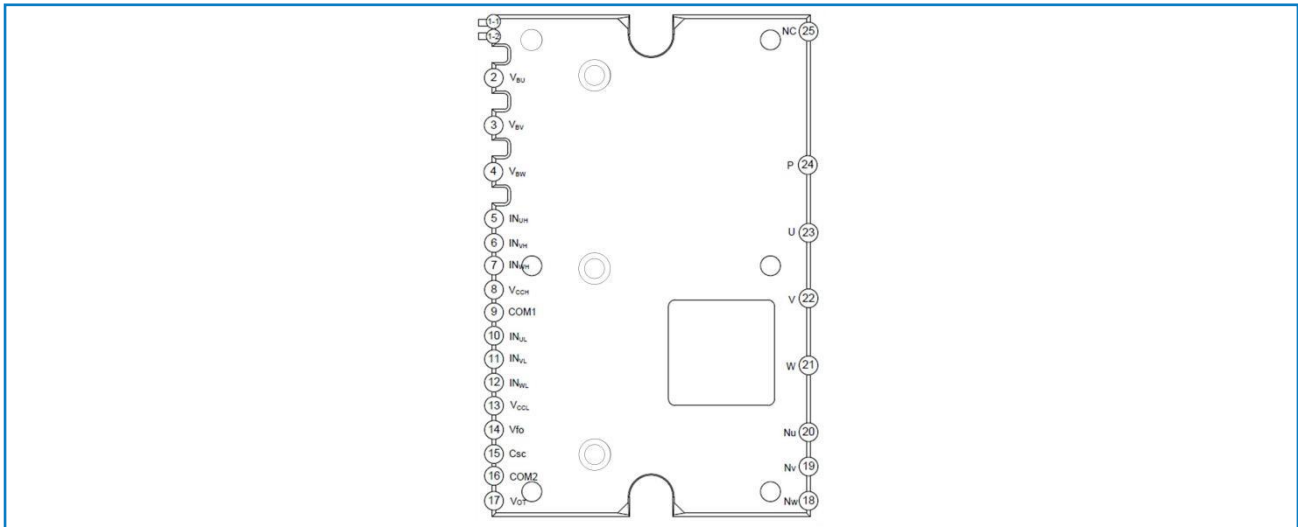
## ● Applications

- Air conditioning compressor
- Refrigerator compressor
- Frequency converter

## ● Internal Electrical Schematic

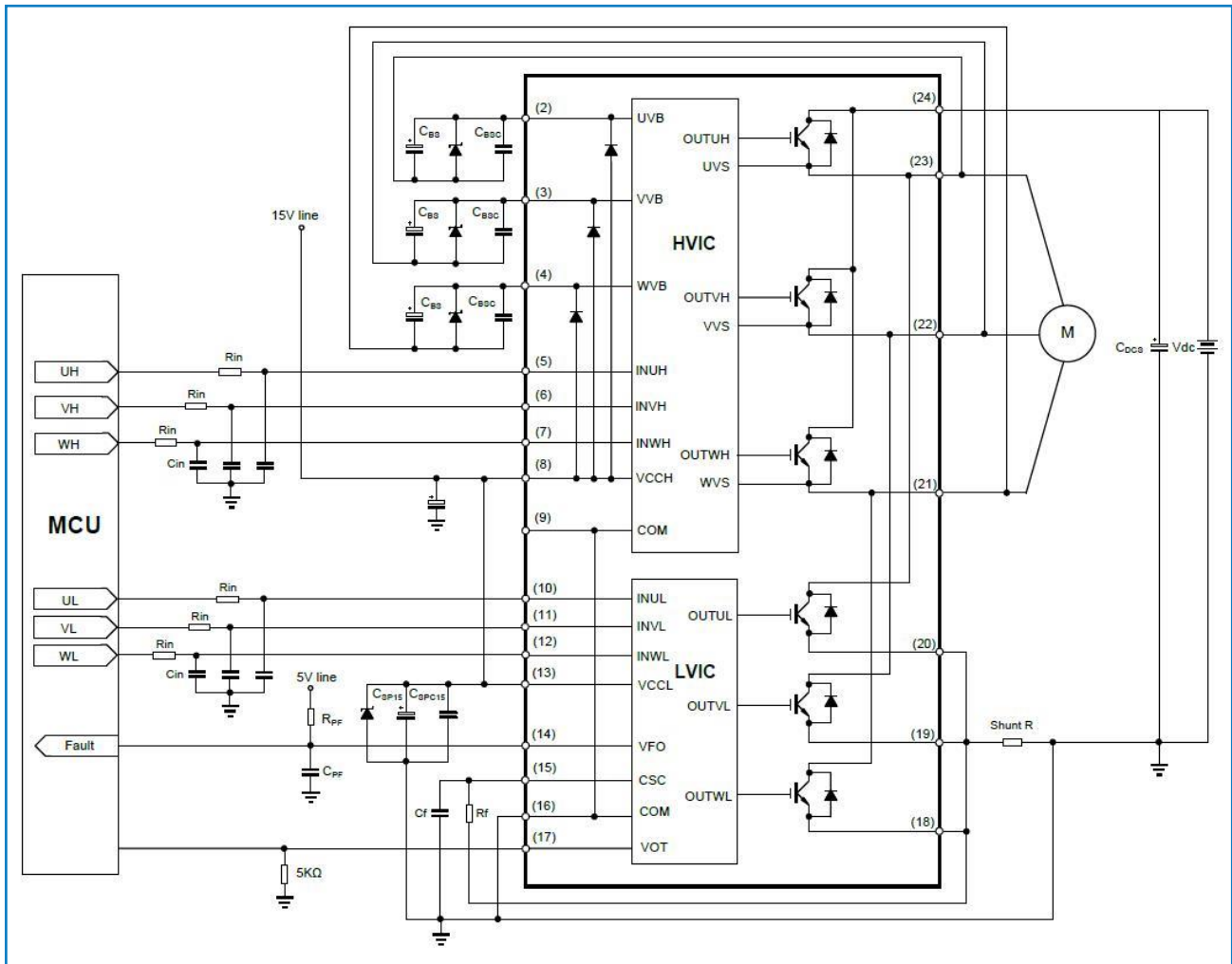


## ● Module Pin-Out Description



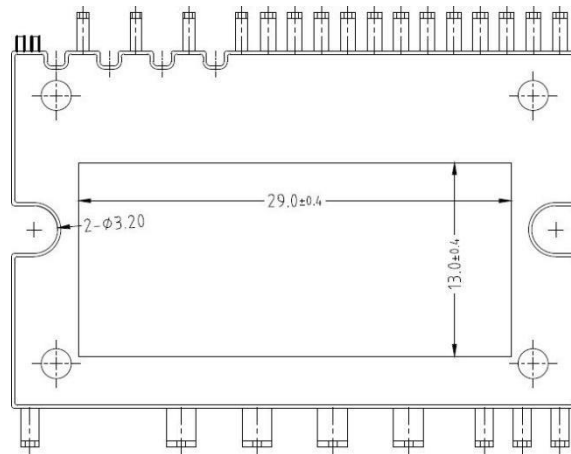
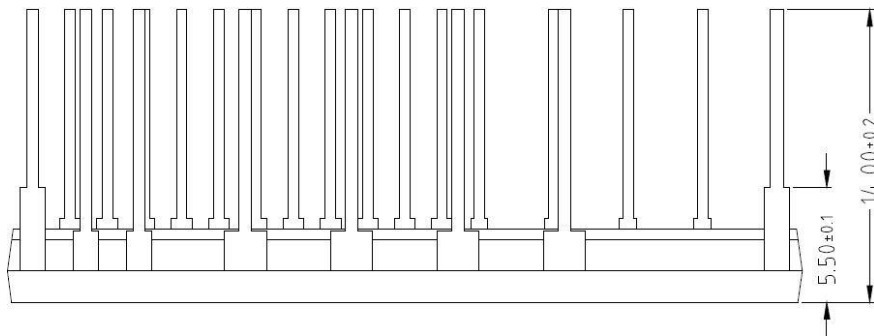
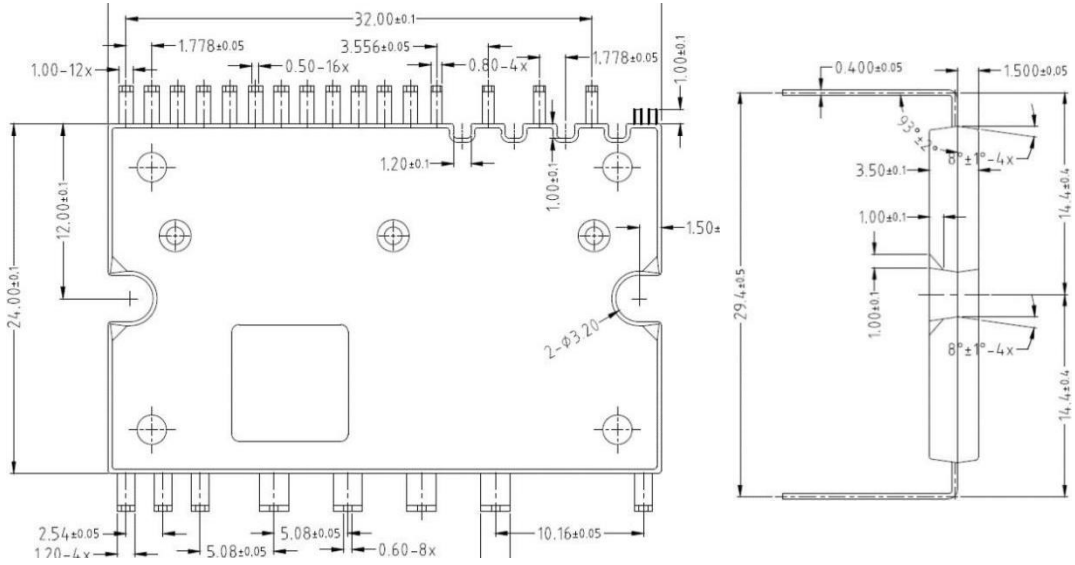
Pin Number	Pin Name	Pin Description
1-1	COM	Internal common ground terminal
1-2	V <sub>CC</sub>	Internal power terminal, No Connection
2	V <sub>BU</sub>	U-phase high side floating IC supply voltage
3	V <sub>BV</sub>	V-phase high side floating IC supply voltage
4	V <sub>BW</sub>	W-phase high side floating IC supply voltage
5	IN <sub>UH</sub>	U-phase high side signal input
6	IN <sub>VH</sub>	V-phase high side signal input
7	IN <sub>WH</sub>	W-phase high side signal input
8	V <sub>CCH</sub>	High side gate drive supply voltage
9	Com1	Module common ground
10	IN <sub>UL</sub>	U-phase low side signal input
11	IN <sub>VL</sub>	V-phase low side signal input
12	IN <sub>WL</sub>	W-phase low side signal input
13	V <sub>CCL</sub>	Low side gate drive supply voltage
14	V <sub>FO</sub>	Fault output
15	C <sub>SC</sub>	External capacitor, used for short-circuit current detection input and low-pass filtering
16	Com2	Module common ground
17	V <sub>OT</sub>	Temperature output terminal
18	N <sub>W</sub>	W-phase DC negative terminal
19	N <sub>V</sub>	V-phase DC negative terminal
20	N <sub>U</sub>	U-phase DC negative terminal
21	W	Output for W Phase
22	V	Output for V Phase
23	U	Output for U Phase
24	P	Positive DC—Link Input
25	NC	No connection

● Example of Application Circuit



● **Mechanical Dimensions for DIP-24HL**

UNIT:mm



- **Ordering Information**

Part	Package	Marking	QTY(PCS)	Packing method
WGP30LF60G3A1	DIP-24HL	WGP30LF60G3A1	TBD	Tube

## Contact Information

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For additional information, please contact your local Sales Representative.

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## Product Specification Statement

1.The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

2.The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. WAYON shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and WAYON assumes no responsibility for the application of the product.

3.WAYON strives to provide accurate and up-to-date information to the best of our ability. However, due to technical, human, or other reasons, WAYON cannot guarantee that the information provided in the product specification is entirely accurate and error-free. WAYON shall not be held responsible for any losses or damages resulting from the use or reliance on any information in these product specifications. WAYON reserves the right to revise or update the product specification and the products at any time without prior notice, and the user's continued use of the product specification is considered an acceptance of these revisions and updates. Prior to purchasing and using the product, users should verify the above information with WAYON to ensure that the product specification is the most current, effective, and complete. If users are particularly concerned about product parameters, please consult WAYON in detail or request relevant product test reports. Any data not explicitly mentioned in the product specification shall be subject to separate agreement.

4.Users are advised to pay attention to the parameter limit values specified in the product specification and maintain a certain margin in design or application to ensure that the product does not exceed the parameter limit values defined in the product specification. This precaution should be taken to avoid exceeding one or more of the limit values, which may result in permanent irreversible damage to the product, ultimately affecting the quality and reliability of the system or equipment.

5.The design of the product is intended to meet civilian needs and is not guaranteed for use in harsh environments or precision equipment. It is not recommended for use in systems or equipment such as medical devices, aircraft, nuclear power, and similar systems, where failures in these systems or equipment could reasonably be expected to result in personal injury. WAYON shall assume no responsibility for any consequences resulting from such usage.

6.Users should also comply with relevant laws, regulations, policies, and standards when using the product specification. Users are responsible for the risks and liabilities arising from the use of the product specification and must ensure that it is not used for illegal purposes. Additionally, users should respect the intellectual property rights related to the product specification and refrain from infringing upon any third-party legal rights. WAYON shall assume no responsibility for any disputes or controversies arising from the above-mentioned issues in any form.