

**650 V, 50 A**  
**3-phase Motor Driver**  
**SAM265M50BS1**



**Preliminary** Data Sheet

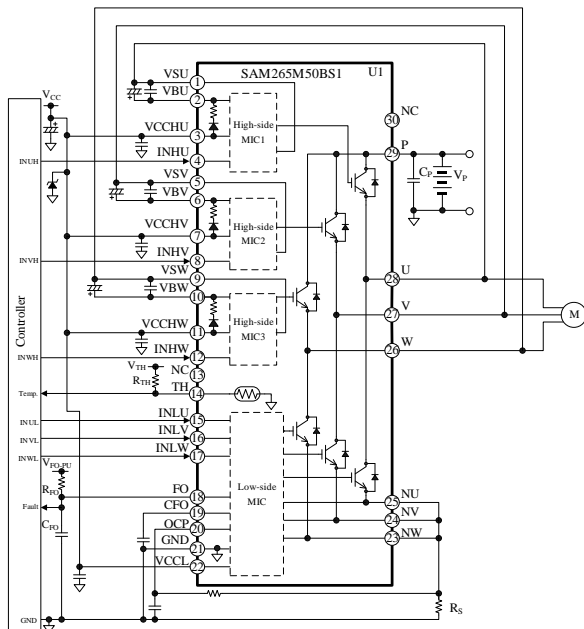
**Description**

The SAM265M50BS1 is a 3-phase brushless motor driver in which output transistors, a pre-drive circuit, bootstrap diodes with current-limiting resistors, and a temperature-sensing thermistor are highly integrated. The IC is suitable for driving 3-phase motor of the units such as industrial equipment.

**Features**

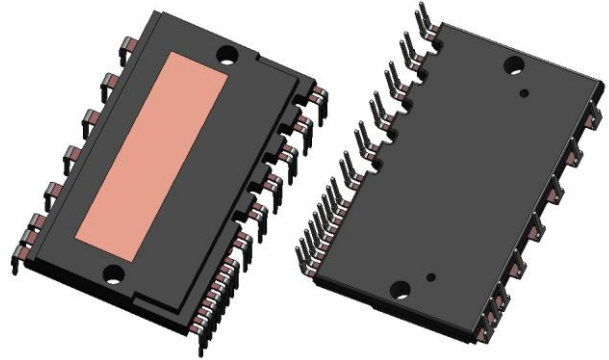
- Pb-free (RoHS Compliant)
- Isolation Voltage: 2500 V (for 1 min) (UL-recognized Component)
- Built-in Thermistor
- Built-in Bootstrap Diodes
- Built-in Freewheeling Diodes with High-speed Switching and Soft Recovery Characteristics
- CMOS-compatible Input (3.3 V or 5 V)
- Fault Signal Output at Protection Activation
- Shutdown Signal Input
- Adjustable OCP Hold Time
- Protection Functions
  - Undervoltage Lockout for Power Supply
    - VBx Pin (UVLO\_VBx): Auto-restart
    - VCCL Pin (UVLO\_VCCL): Auto-restart
  - Overcurrent Protection (OCP): Auto-restart

**Typical Application**



**Package**

DIP30 (Leadform: 2541)



Not to scale

**Specifications**

- Breakdown Voltage: 650 V
- Output Current: 50 A

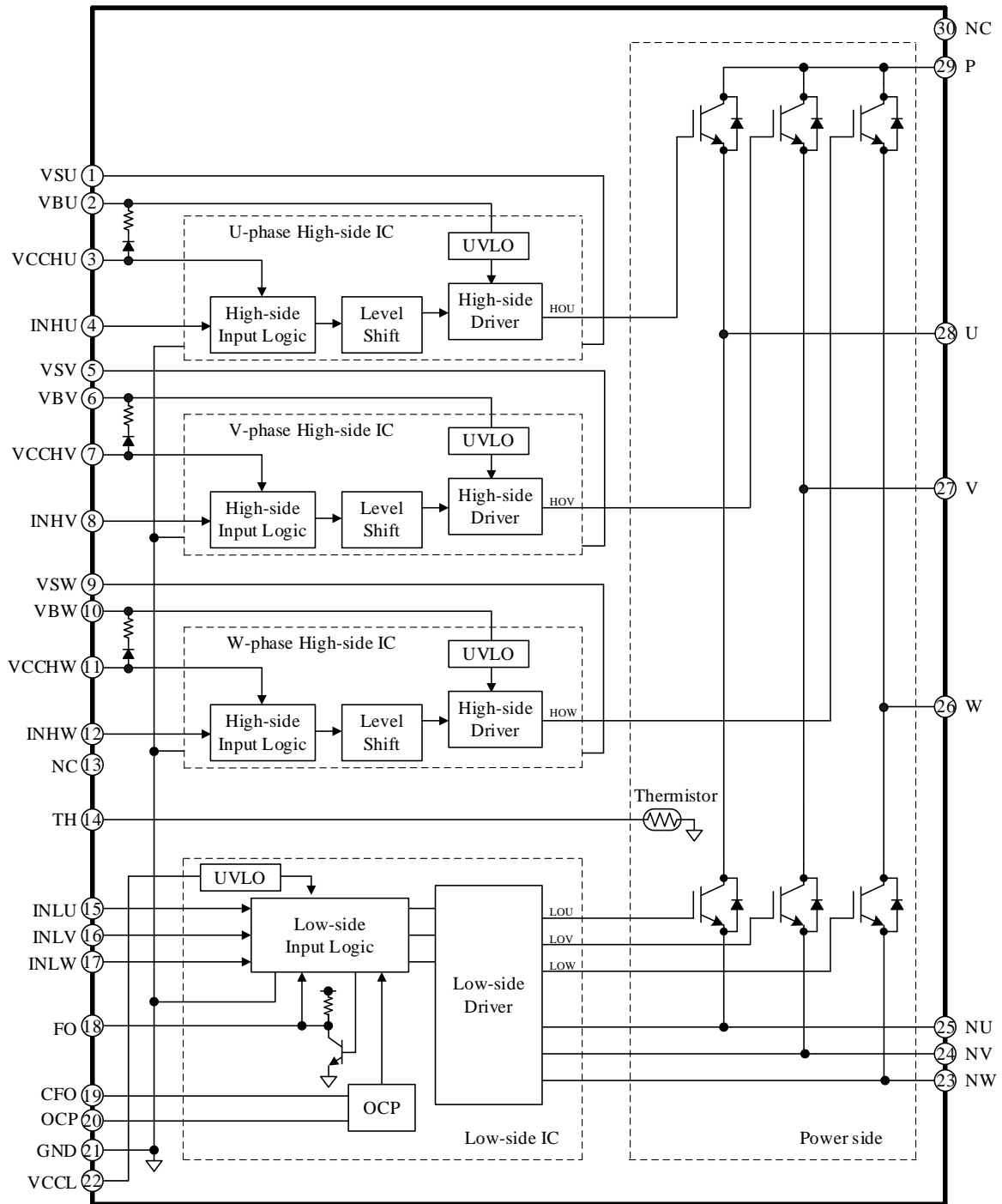
**Applications**

For driving 3-phase motors used in industrial equipment such as:

- Commercial Air Conditioner Compressor
- General-purpose Inverter
- Servomotor

# SAM265M50BS1

## Block Diagram

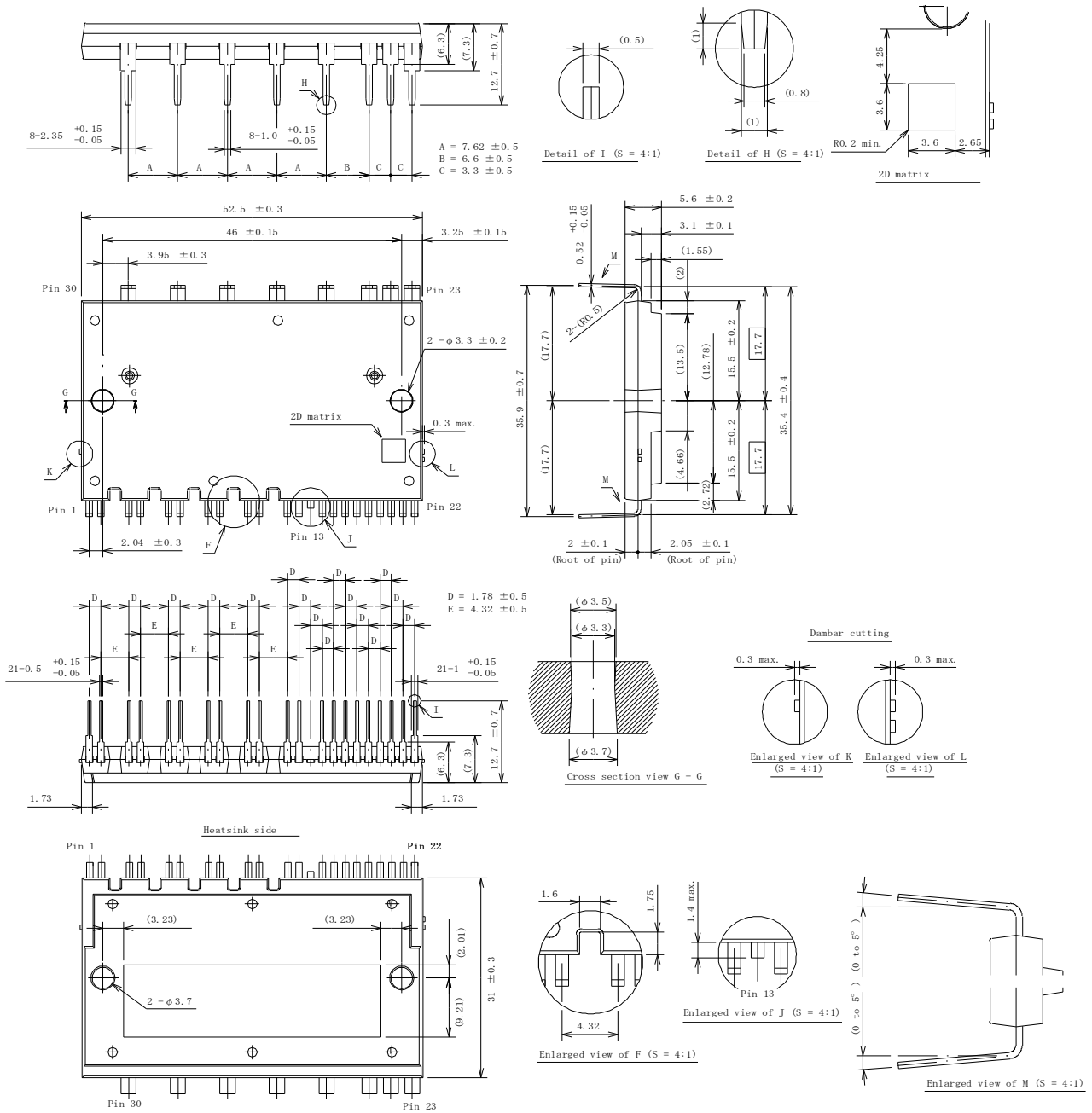


**Pin Configuration Definitions**

Pin Number	Pin Name	Description
1	VSU	U-phase high-side floating supply ground
2	VBU	U-phase high-side floating supply voltage input
3	VCCHU	U-phase high-side logic supply voltage input
4	INHU	Logic input for U-phase high-side gate driver
5	VSV	V-phase high-side floating supply ground
6	VBV	V-phase high-side floating supply voltage input
7	VCCHV	V-phase high-side logic supply voltage input
8	INHV	Logic input for V-phase high-side gate driver
9	VSW	W-phase high-side floating supply ground
10	VBW	W-phase high-side floating supply voltage input
11	VCCHW	W-phase high-side logic supply voltage input
12	INHW	Logic input for W-phase high-side gate driver
13	NC	(No connection)
14	TH	Thermistor output
15	INLU	Logic input for U-phase low-side gate driver
16	INLV	Logic input for V-phase low-side gate driver
17	INLW	Logic input for W-phase low-side gate driver
18	FO	Fault signal output and shutdown signal input
19	CFO	Capacitor connection for OCP hold time setting
20	OCP	Input for overcurrent protection
21	GND	Logic ground
22	VCCL	Low-side logic supply voltage input
23	NW	W-phase low-side IGBT emitter
24	NV	V-phase low-side power IGBT emitter
25	NU	U-phase low-side IGBT emitter
26	W	W-phase output
27	V	V-phase output
28	U	U-phase output
29	P	Positive DC bus supply voltage
30	NC	(No connection)

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## Physical Dimensions



Unit: mm

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