

## Data Sheet EB01-6MBI450U4-170

# Basic Board for Fuji High-Power 6-Pack Modules 6MBI450U4-170

### Abstract

The EB01-6MBI450U4-170 is a basic board to be used with six-channel driver 6SD312EI for reliable driving and safe operation of Fuji IGBT modules 6MBI450U4-170.

The basic board EB01-6MBI450U4-170 (with driver 6SD312EI) is fully matched to IGBT module 6MBI450U4-170. Its plug-and-play capability makes it ready to operate immediately after mounting. The user needs invest no effort in designing or adjusting it to a specific application.

### Product Highlights

- ✓ Plug-and-play solution
- ✓ Suitable for 6MBI450U4-170
- ✓ No electrolytic capacitors
- ✓ Extremely reliable; long service life
- ✓ Shortens application development time

### Applications

- ✓ Three-phase inverters
- ✓ Motor drives
- ✓ UPS
- ✓ Power-factor correctors
- ✓ Wind-power converters
- ✓ Welding
- ✓ SMPS
- ✓ and many others

## Basic Board Data Sheet

**Important: Please refer to the relevant manuals!**

This data sheet contains only product-specific data for the basic board. Information specific to the relevant driver can be found in the corresponding data sheet.

A detailed description, must-read application notes and general data applicable to this driver family are found in: "Description and Application Manual, Six-Channel Driver 6SD312EI for the EconoPACK+ Modules".

### Dimensions

Dimensions: 162 x 100 mm.

Height including driver: 21 mm (30 mm with connector X1 and flat cable).

Mounting principle: soldered onto a High-Power 6-Pack IGBT module 6MBI450U4-170.

### Absolute Maximum Ratings

Parameter	Remarks	Min	Max	Units
Input power per channel	Note 1		3	W
Switching frequency	Note 2		35	kHz
DC link voltage	Note 3		1200	V
Operating temperature		-40	+85	°C
Storage temperature		-40	+90	°C

All data refer to +25°C unless otherwise specified

**Electrical Characteristics**

<b>Short-circuit protection</b>	<b>Remarks</b>	<b>Min</b>	<b>Typ.</b>	<b>Max</b>	<b>Units</b>
$V_{ce}$ -monitoring threshold	Betw. aux. terminals		3.65		V
Response time	Note 4		11.3		$\mu$ s
<b>Gate output</b>	<b>Remarks</b>	<b>Min</b>	<b>Typ.</b>	<b>Max</b>	<b>Units</b>
Turn-on gate resistor $R_{g(on)}$			1.2		$\Omega$
Turn-off gate resistor $R_{g(off)}$			6.8		$\Omega$
<b>Electrical insulation</b>	<b>Test conditions</b>	<b>Min</b>	<b>Typ.</b>	<b>Max</b>	<b>Units</b>
Creep path between channels			9		mm

All data refer to +25°C unless otherwise specified

Footnotes to the key data

- 1) The input power is limited by the on-board gate resistors.
- 2) If the specified max. switching frequency is exceeded, the gate resistors may overheat.
- 3) This limit is due to active clamping. Refer to the "Description and Application Manual, Six-Channel Driver 6SD312EI for the EconoPACK+ Modules".
- 4) Pulse width of the direct output of the gate drive unit (excluding the gate-resistor delay).

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## Basic Board Data Sheet

### **Important Notice**

The data contained in this product data sheet is intended exclusively for technically trained staff. Handling all high-voltage equipment involves risk to life. Strict compliance with the respective safety regulations is mandatory!

Any handling of electronic devices is subject to the general specifications for protecting electrostatic-sensitive devices according to international standard IEC 747-1, Chapter IX or European standard EN 100015 (i.e. the workplace, tools, etc. must comply with these standards). Otherwise, this product may be damaged.

### **Disclaimer**

This data sheet specifies devices but cannot promise to deliver any specific characteristics. No warranty or guarantee is given – either expressly or implicitly – regarding delivery, performance or suitability.

CT-Concept Technologie AG reserves the right to make modifications to its technical data and product specifications at any time without prior notice. The general terms and conditions of delivery of CT-Concept Technologie AG apply.

## Ordering Information

The general terms and conditions of delivery of CT-Concept Technologie AG apply.

Related IGBT	CONCEPT Driver Type #
Fuji 6MBI450U4-170	6SD312EI
Connection	CONCEPT Modular Cable Type #
6SD312EI to EB01-6MBI450U4-170	MIC01A (6 items per driver)
Related IGBT	CONCEPT Basic Board Type #
Fuji 6MBI450U4-170	EB01-6MBI450U4-170

## Information about Other Products

### For drivers adapted to other high-voltage or high-power IGBT modules

Direct link: [www.IGBT-Driver.com/go/plug-and-play](http://www.IGBT-Driver.com/go/plug-and-play)

### For other drivers and evaluation systems

Please click: [www.IGBT-Driver.com](http://www.IGBT-Driver.com)

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