

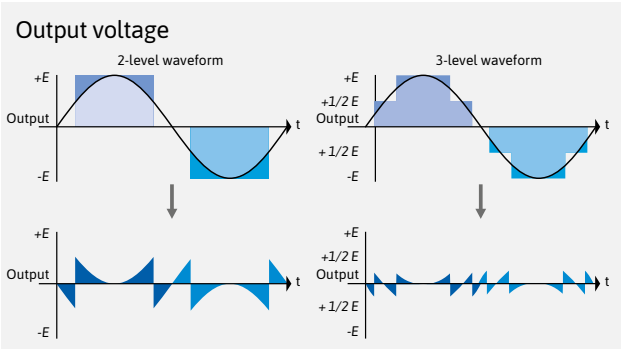


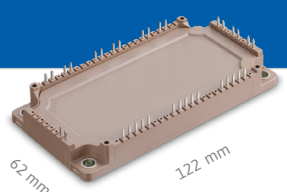
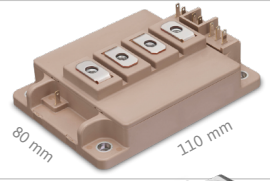
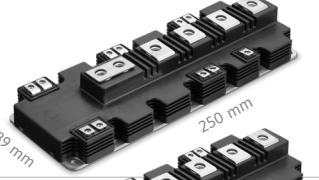
Fuji 3-Level IGBT Modules

High Efficient Solutions for 3-Level Applications

Multi-level topologies are suitable for high efficiency applications such as photovoltaic power generation systems, uninterruptible power supply systems or wind turbines. The improved output sine waveform of a 3-Level Inverter system allows to reduce the switching frequency compared to a 2-Level topology. This results in lower switching losses and reduced radiation noise. Fuji Electric provides 3-Level IGBT modules in two different topologies: T-type and I-type. The AC-Switch in T-type modules uses the unique RB-IGBT (Reverse Blocking) to realize exceptional low switching losses.

- FEATURES**
 - Increased efficiency
 - Smaller filter and unit size
 - Lower system costs
- Noise reduction
 - Less harmonics

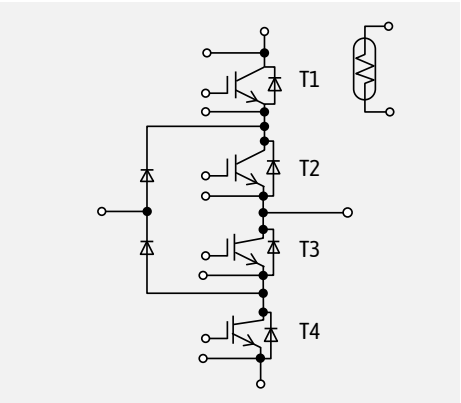


			600 V	1200 V	1700 V
			V series	V series	V series
3Phase With NTC, pressfit pins	M1202		50 A	•	
			75 A	•	
			100 A	•	
			220 A	•	•
1 Phase	M403		300 A	•	
			340 A	•	
			400 A	•	
			450 A	•	•
1 Phase	M404		600 A	•	•
			650 A	•	
			900 A	•	
			600 A	•	

I-type for 3-Level Inverter

The Fuji V series I-type module is an ideal solution for high efficiency applications. Because of the internal series connection of the IGBT modules it is possible to use devices with only half of the blocking voltage compared to 2-level configurations. The low inductance module structure allows also a high switching frequency.

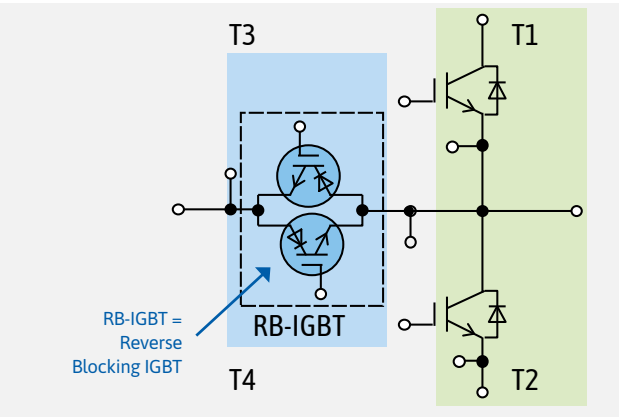
- FEATURES**
 - 1500 V_{DC} applicable



T-type for 3-Level Inverter

The Fuji V series T-type modules are available in three different packages and 2 different configurations, 1 Phase and 3 Phase. The current rating covers 400 A at 600 V, 50 A to 900 A at 1200 V and 220 A to 600 A at 1700 V.

The authentic RB-IGBT technology is only available by Fuji Electric and enables bi-directional switching without an antiparallel diode. This technology is desired for a loss improvement and can be used like a conventional IGBT. The AC-Switch uses this technology. These RB-IGBT modules are available as 600 V, 900 V and 1200 V according to the voltage level of the main inverter (IGBT) modules.



- FEATURES**
 - RB-IGBT offers lower losses and higher power density per module
 - Same blocking voltage characteristics for forward and reverse direction

Evaluation Board for 3-Level Inverter

Target module	
Package: M403	Package: M1203 solder pin
4MBI400VG-060R-50	12MBI50VN-120-50
4MBI400VG-120R-50	12MBI75VN-120-50
4MBI400VF-120R-50	12MBI100VN-120-50

- FEATURES**
 - Built-in DC/DC converter for control power supply
 - 5 V TTL Logic input
 - Adopted Avago's ACPL-39J IGBT gate drive optocoupler
 - Built-in over current protection by DESAT detection
 - Active Miller Clamp circuit

- Under voltage lockout
- Board outline**
165 x 100 mm

