2BB0108T2Ax-06
Target Data Sheet

Base Board for 2SC0108T SCALE-2 driver for 600V IGBT modules or MOSFETs with an electrical interface for 2-level, 3-level and multilevel converter topologies with paralleling capability

Abstract

The 2BB0108T is a Base Board based on the SCALE-2 driver core 2SC0108T designed to drive 600V IGBT modules like 34mm, 62mm IGBT modules and others. The Base Board features an electrical interface with a built-in DC/DC power supply.

The turn-on and turn-off gate resistors of both channels are not assembled in order to provide maximum flexibility. They must be assembled by the user before start of operation. Please refer to "Description & Application Manual for 2BB0108T Base Boards" for more information.

For drivers adapted to various types of high-power and high-voltage IGBT modules, refer to

www.IGBT-Driver.com/go/plug-and-play

Features

- ✓ Easy start of operation of 2SC0108T
- ✓ Shortens application development time
- ✓ Schematics available
- ✓ Production data available (Gerber files)
- ✓ 20-pin flat cable interface
- ✓ Allows parallel connection of IGBT modules
- ✓ Safe isolation to EN 50178
- ✓ UL compliant

Applications

- ✓ 34mm IGBT modules
- ✓ 62mm IGBT modules
- ✓ 17mm dual IGBT modules
- ✓ EconoPACK+™ IGBT modules

Target Data Sheet

Safety Notice!

The data contained in this 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 60747-1, Chapter IX or European standard EN 100015 (i.e. the workplace, tools, etc. must comply with these standards). Otherwise, this product may be damaged.

Important Product Documentation

The data sheet of 2SC0108T (see www.igbt-driver.com/go/2SC0108T) applies. **This data sheet contains only information which differs or completes the data contained in the data sheet of driver core 2SC0108T.**

For a detailed description, must-read application notes and common data that apply to the whole series, please refer to "Description & Application Manual for 2SC0108T drivers" and "Description & Application Manual for 2BB0108T Base Boards" on www.IGBT-Driver.com/go/2SC0108T and www.IGBT-Driver.com/go/2BB0108T.

The turn-on and turn-off gate resistors on this Base Board are not assembled in order to provide maximum flexibility. Please refer to "Description & Application Manual for 2BB0108T Base Boards" for more information.

Mechanical Dimensions

Dimensions: See "Description & Application Manual for 2BB0108T Base Boards"

Mounting principle: Connected to IGBT module over the connectors X2 and X3

Absolute Maximum Ratings

Parameter	Remarks	Min	Max	Unit
Average supply current I_{CC}	Note 1		260	mA
Output power per gate	Ambient temperature <70°C (Note 2)		1.2	W
	Ambient temperature 85°C (Note 2)		1	W
DC-link voltage	Note 3		400	V

Recommended Operating Conditions

Parameter	Remarks	Min	Typ	Max	Unit
Resistance from TB to GND	Blocking time≠0, ext. value	128		∞	kΩ
SO_x current	Fault condition, 3.3V logic			4	mA

Electrical Characteristics

Logic Inputs and Outputs	Remarks	Min	Typ	Max	Unit
Input impedance	V(INx) > 3V	3.5	4.1	4.6	kΩ
SOx output voltage	Fault condition, I(SOx)<8mA			0.7	V
Short-circuit Protection	**Remarks**	**Min**	**Typ**	**Max**	**Unit**
Vce-monitoring threshold	Between auxiliary terminals		10.2		V
Response time	DC-link voltage = 400V (Note 4)		4.4		µs
Blocking time	After fault (Note 5)		90		ms
Timing Characteristics	**Remarks**	**Min**	**Typ**	**Max**	**Unit**
Jitter of turn-on delay	Note 6		t.b.d.		ns
Jitter of turn-off delay	Note 6		t.b.d.		ns
Dead time between outputs	Half-bridge mode		3		µs
Jitter of dead time	Half-bridge mode		t.b.d.		ns
Outputs	**Remarks**	**Min**	**Typ**	**Max**	**Unit**
Turn-on gate resistor $R_{g(on)}$	Note 7		not assembled		Ω
Turn-off gate resistor $R_{g(off)}$	Note 7		not assembled		Ω
Gate resistance to VEx			22		kΩ
Electrical Isolation	**Remarks**	**Min**	**Typ**	**Max**	**Unit**
Creepage distance	Primary to secondary side	12.9			mm
	Secondary to secondary side	6.6			mm
Clearance distance	Primary to secondary side	12.9			mm
	Secondary to secondary side	6.5			mm

All data refer to +25°C and V_{CC} = 15V unless otherwise specified

Footnotes to the Key Data

1) If the specified value is exceeded, this indicates a Base Board overload. It should be noted that the Base Board is not protected against overload.
2) If the specified value is exceeded, this indicates a Base Board overload. It should be noted that the Base Board is not protected against overload. From 70°C to 85°C, the maximum permissible output power can be linearly interpolated from the given data.
3) This limit is due to active clamping. Refer to the "Description & Application Manual for 2BB0108T Base Boards".
4) Resulting pulse width of the direct output of the gate drive unit for short-circuit type I (excluding the delay of the gate resistors)
5) Factory set value. The blocking time can be reduced with an external resistor. Refer to the "Description & Application Manual for 2BB0108T Base Boards".
6) Jitter measurements are performed with input signals INx switching between 0V and 15V referred to GND, with a corresponding rise time and fall time of 8ns.
7) The gate resistors are not assembled on this Base Board. They must be assembled by the user. Please refer to "Description & Application Manual for 2BB0108T Base Boards".

Legal 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.

CONCEPT Base Board Type #	Related IGBTs
2BB0108T2A0-06	600V IGBT modules

Note that the Base Boards 2BB0108T2A0-06 are delivered without driver 2SC0108T and without gate resistors. For orders of 1000 pieces or more (per delivery) the Base Board can be assembled with the driver 2SC0108T and the required gate resistors.

Product home page: www.IGBT-Driver.com/go/2BB0108T

Refer to www.IGBT-Driver.com/go/nomenclature for information on driver nomenclature

Information about Other Products

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

Direct link: www.IGBT-Driver.com/go/plug-and-play

For other drivers, evaluation systems product documentation and application support

Please click onto: www.IGBT-Driver.com

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