

# LTspice Model

## Full-Bridge DC Motor Driver IC

### TOSHIBA

### TB6642FTG

#### Model Information

**Model** An original macro model  
**Call Name** MDC\_TB6642FTG\_LT  
**Pin Assign** 1:OUT1 2:OUT1 3:NC 4:RSGND 5:RSGND 6:NC 7:OUT2 8:OUT2 9:NC 10:NC 11:VM 12:VM 13:NC 14:NC 15:VSD 16:NC 17:TSD 18:PWM 19:NC 20:NC 21:NC 22:ALERT 23:OSC 24:IN1 25:NC 26:SGND 27:SGND 28:NC 29:NC 30:NC 31:IN2 32:NC  
**File List** Model Library MDC\_TB6642FTG\_LT01.lib  
 Model Report MDC\_TB6642FTG\_LT.pdf (this file)

**Verified Simulator Version** LTspice version XVII  
**Note**

The components shown below need to be defined in PARAMETERS (Figure 1).

- The capacitor Cosc from OSC pin to GND
- The resistor RVISD from VSD pin to GND
- The resistor RTISD from TSD pin to GND

In case of connecting OSC pin to GND, set Cosc=0.

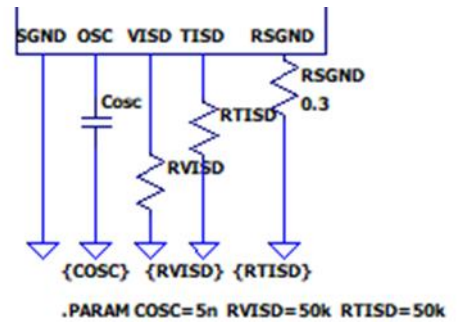


Figure 1. Setting Cosc, RVISD and RTISD

#### References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version 2014-12-8
- Product name TB6642FTG
- Company name Toshiba Corporation
- Characteristics Transient, Transient2

#### Simulation Condition

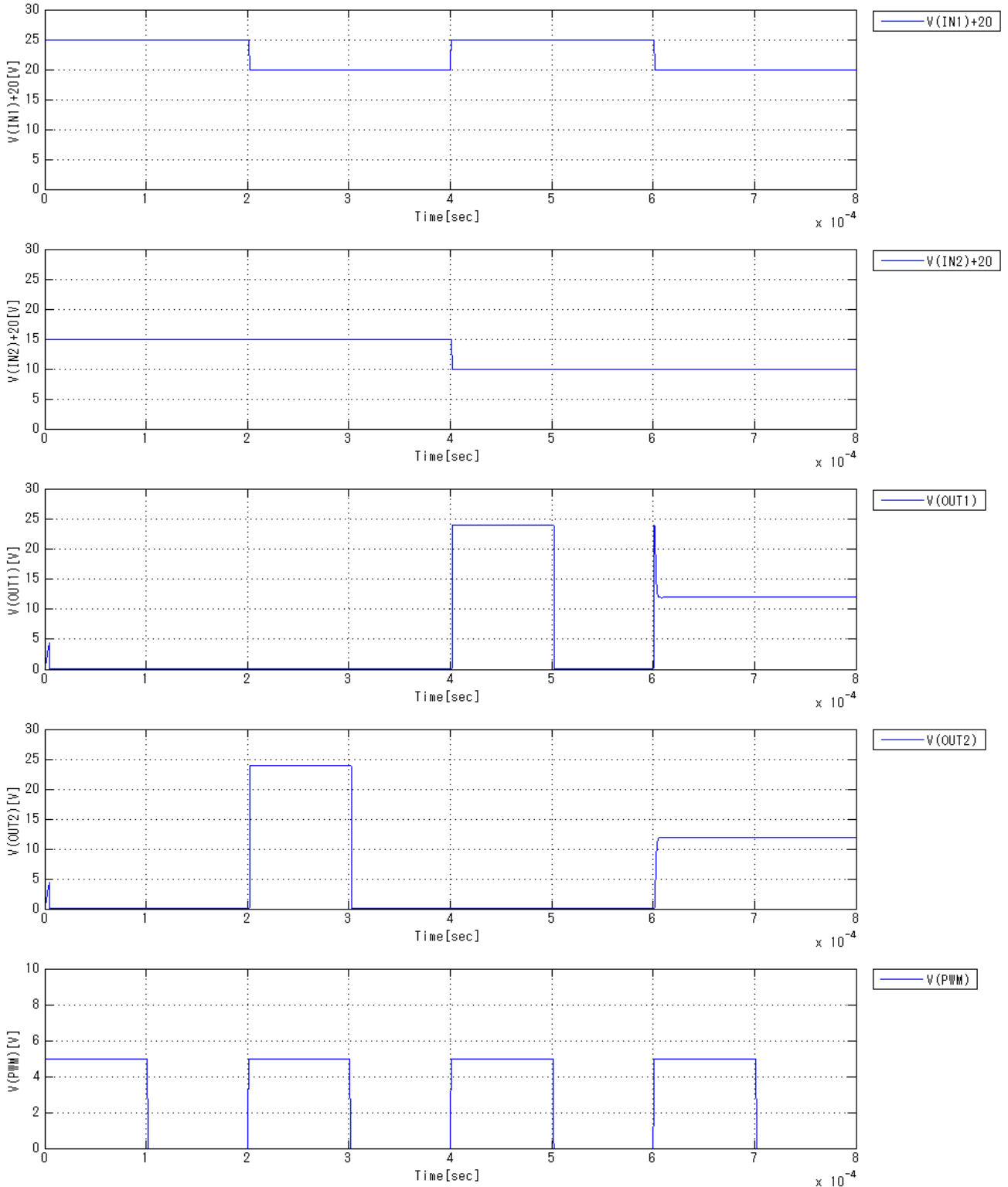
This table shows the value of evaluated simulation condition that was not occurs any convergence problems in this area.

Item	Condition	Unit
Temperature	25	deg C

Simulation results are following.  
 Explanatory notes — : simulated

**Transient**

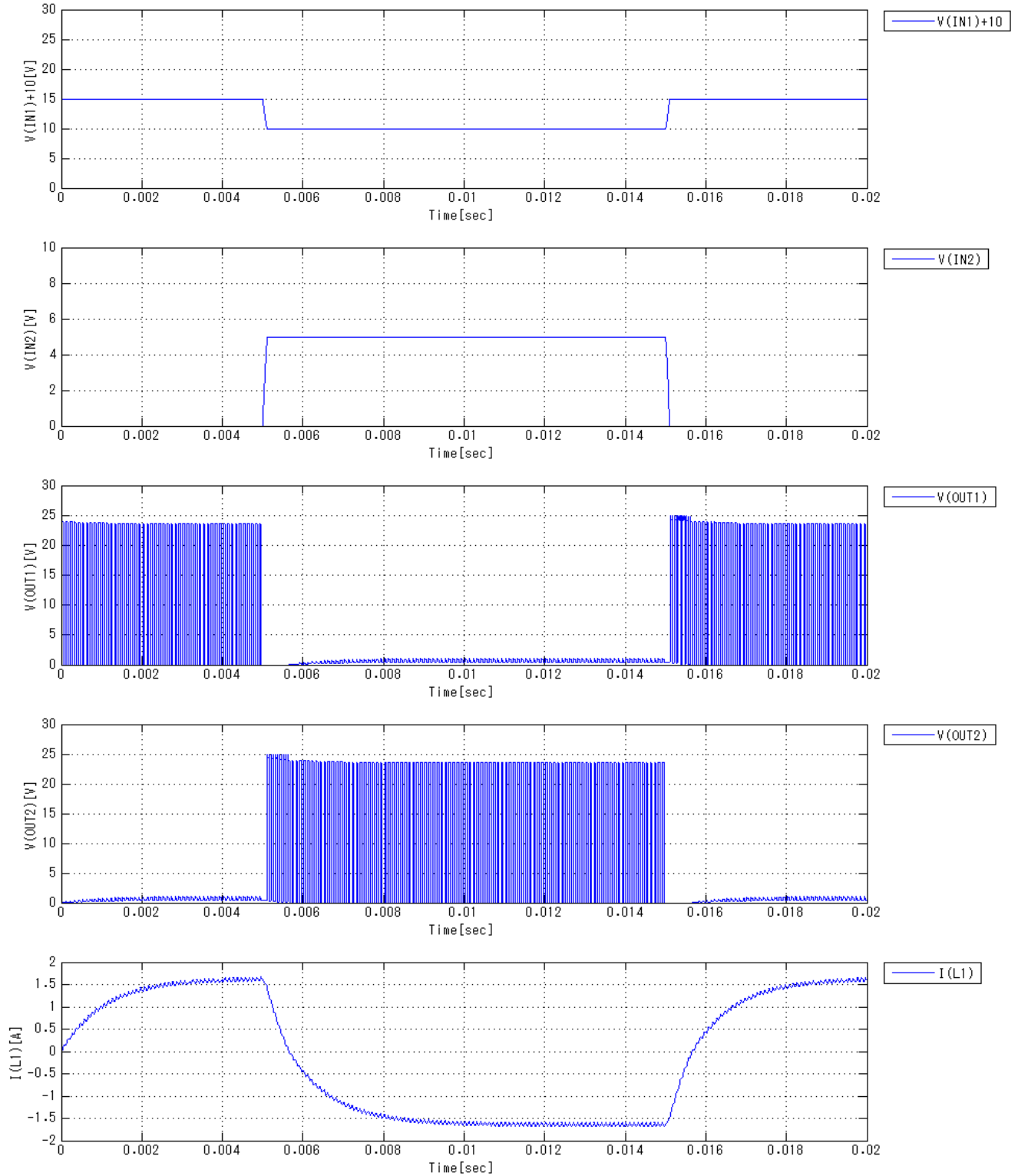
Temp. = 25deg C



Simulation results are following.  
Explanatory notes — : simulated

**Transient2**

Temp. = 25deg C



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MoDeCH Inc.

Head Office

Location: 5-15 Yokoyama-cho, Hachioji-Shi, Tokyo 192-0081, Japan

Tel:+81-42-656-3360

E-Mail:[model-on-support@modech.co.jp](mailto:model-on-support@modech.co.jp)

URL:<http://www.modech.com/en/>