

# LTspice Model

## Tone Decoder

### ROHM

### BD9E300EFJ-LB

#### Model Information

**Model** A macro model  
**Call Name** MDC\_BD9E300EFJ-LB\_LT  
**Pin Assign** 1:BOOT 2:VIN 3:EN 4:AGND 5:FB 6:COMP 7:PGND 8:SW  
**File List** Model Library MDC\_BD9E300EFJ-LB\_LT01.lib  
 Model Report MDC\_BD9E300EFJ-LB\_LT.pdf(this file)

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

#### References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version Unknown
- Product name BD9E300EFJ-LB
- Company name ROHM

[Characteristics listed]

- Characteristics VFB, FOSC, Maxduty, RONH, RONL, ILIMIT, VUVLO, VUVLOHYS, VENH, VENL, IEN, TSS

#### Simulation Condition

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

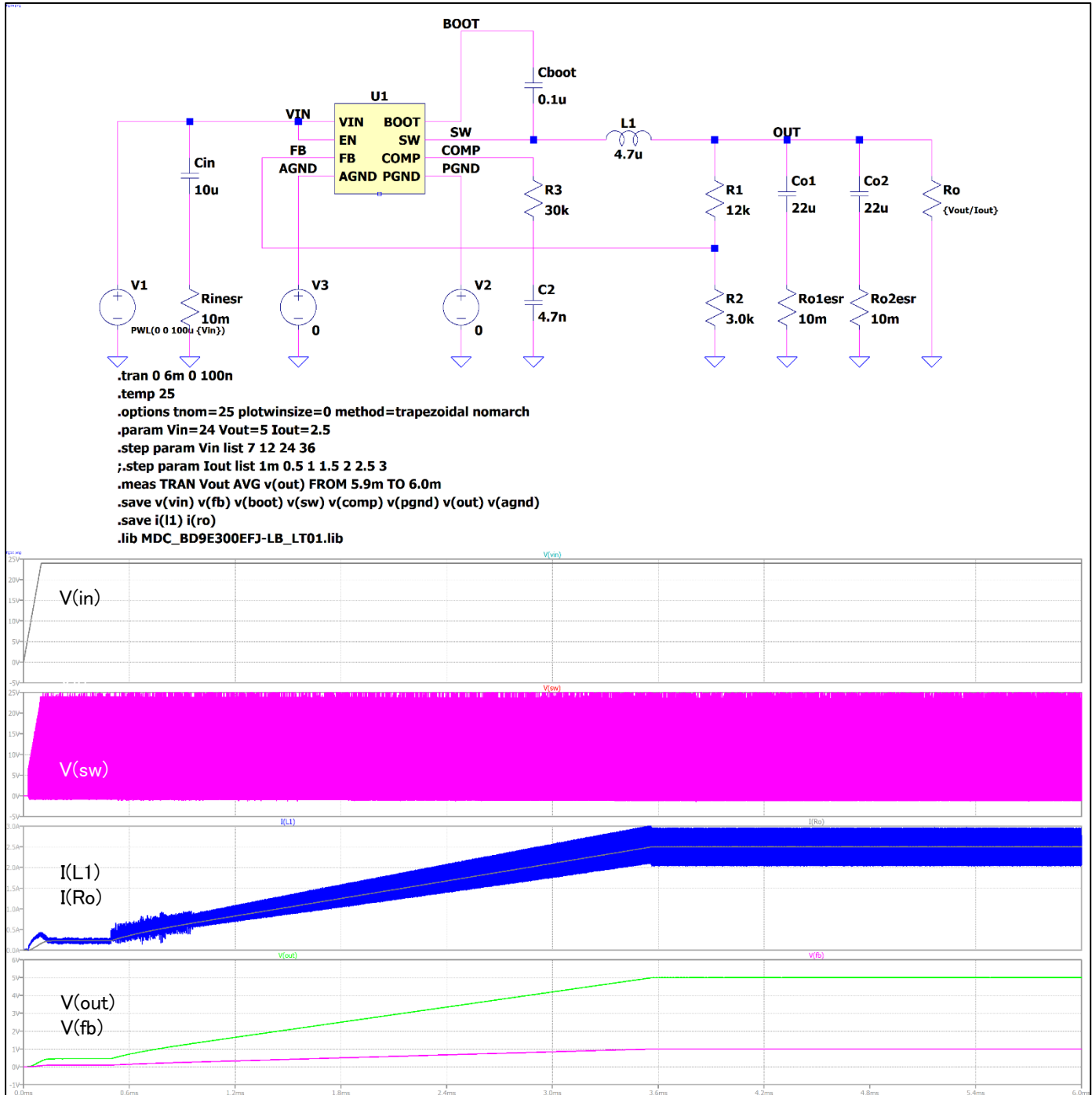
Item	Condition			Unit
	Min	Typ	Max	
Supply Voltage	7.0		36.0	V
Temperature		25		deg C

**Model Functions Table**

Functions	Implemented
Over-Current Protection	<input type="radio"/>
Undervoltage Lockout Protection	<input type="radio"/>
Soft Start	<input type="radio"/>

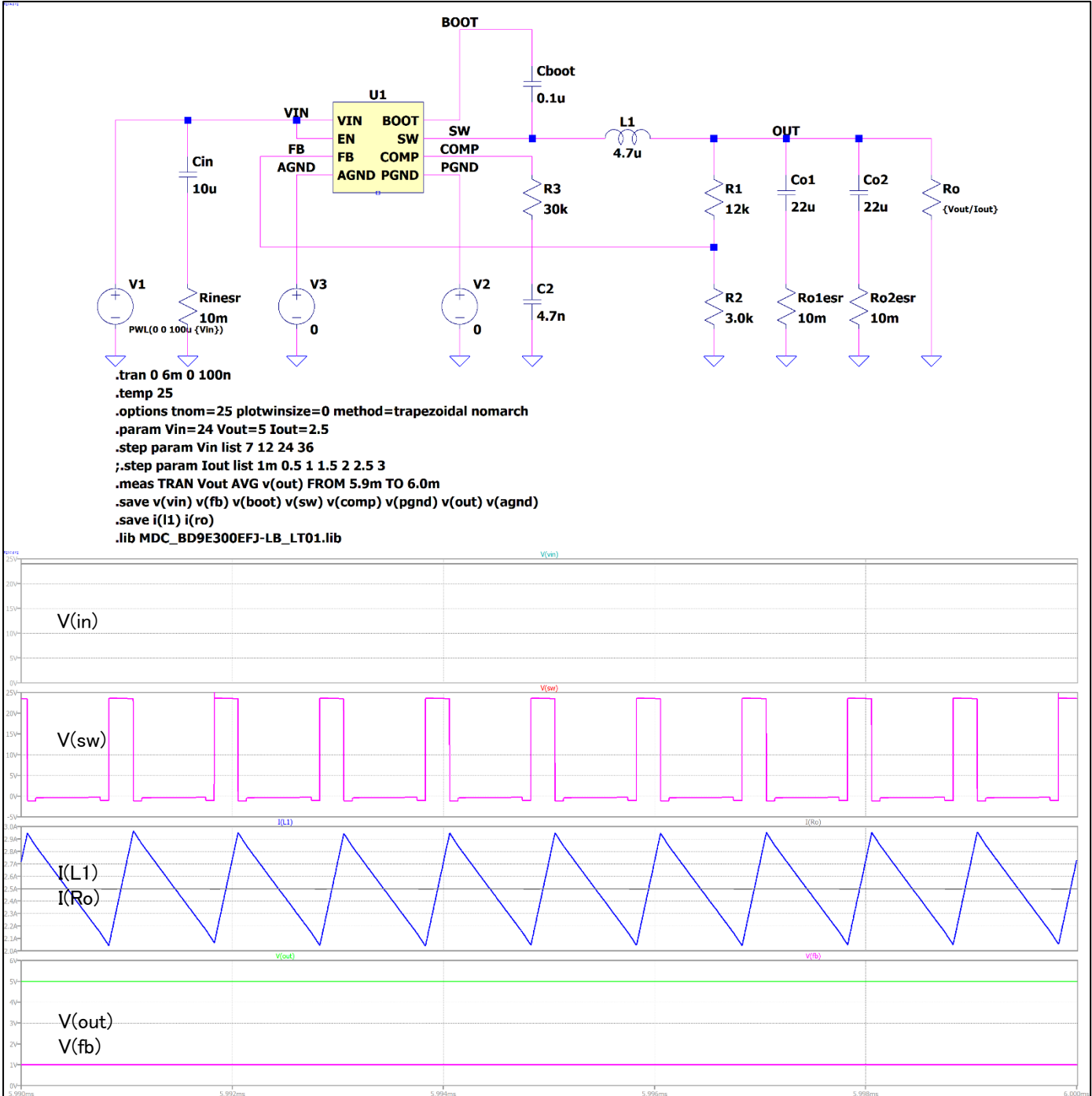
Buck converter Operation ( $V_{in} = 24V$ ,  $V_{out}=5.0V$ ,  $I_{out}=2.5A$ ) Testbench

Referred to Data Sheet

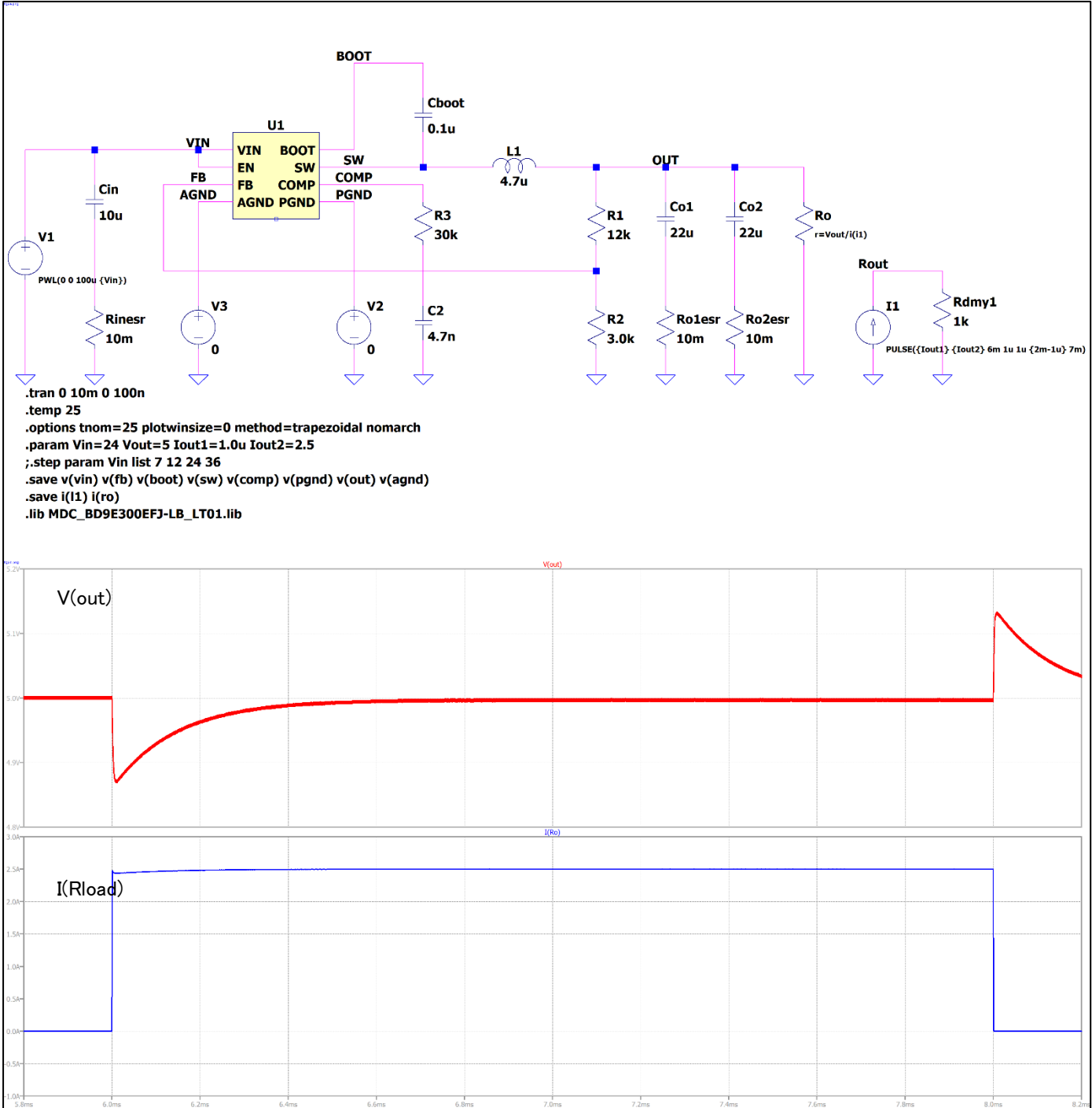


**Buck converter Operation ( $V_{in} = 24V$ ,  $V_{out}=5.0V$ ,  $I_{out}=2.5A$  [scale down]) Testbench**

**Referred to Data Sheet**



**Buck converter Operation ( $V_{in} = 24V$ ,  $V_{out}=5.0V$ ,  $I_{out}=0.0A - 2.5A$  [Load transient response]) Testbench**  
**Referred to Data Sheet**



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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/>