

# PSpice Model

## LDO

## ROHM

## BA00DD0WHFP

### Model Information

**Model** A macro model  
**Call Name** MDC\_BA00DD0WHFP\_PS  
**Pin Assign** 1:CTL 2:VCC 3:GND 4:OUT 5:C 6:FIN  
**File List** Model Library MDC\_BA00DD0WHFP\_PS.lib  
Model Report MDC\_BA00DD0WHFP\_PS.pdf

### Verified Simulator Version

### Note

### References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version December 25 2016
- Product name BA00DD0WHFP
- Company name ROHM

[Characteristics listed]

- Characteristics VIN-VOUT, Vdrop, Ilimit, Line-Reg, Load-Reg, CE Rise, CE Fall,

### Simulation Condition

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

| Item        | Condition | Unit  |
|-------------|-----------|-------|
| Temperature | 25        | deg C |

**LDO**

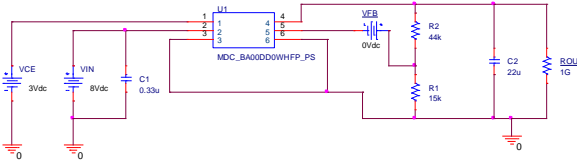
○ : Implemented  
 × : Not Implemented  
 — : Not applicable

**Model Functions Table**
**RANK=1**

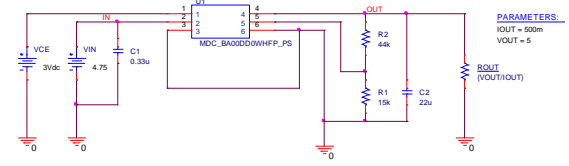
| Functions            | RANK | Implemented |
|----------------------|------|-------------|
| Input/Output Voltage | 1    | ○           |
| Dropout Voltage      | 1    | ○           |
| Line Regulation      | 1    | ○           |
| Load Regulation      | 1    | ○           |
| Line Transient       | 2    | —           |
| Load Transient       | 2    | —           |
| Ripple Rejection     | 3    | —           |
| Enable               | 1    | ○           |
| UVLO                 | 1    | —           |
| Current Limit        | 1    | ○           |
| Auto Discharge       | 1    | —           |

Simulation results are following.  
 Explanatory notes — : simulated

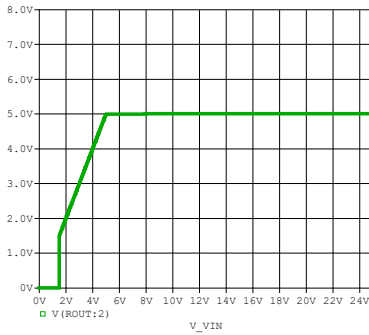
**VIN-VOUT Testbench**



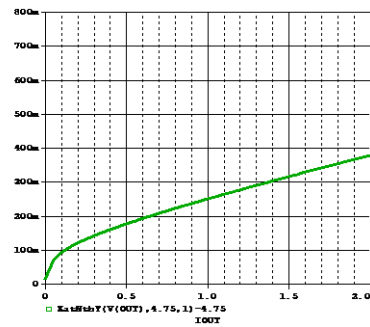
**Vdrop Testbench**



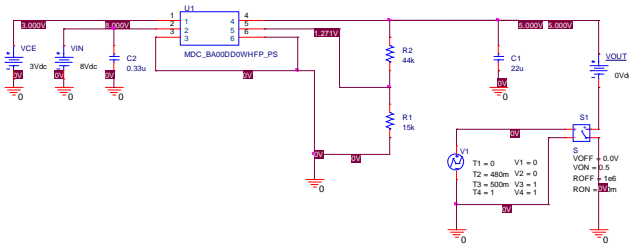
**VIN-VOUT Data Sheet**



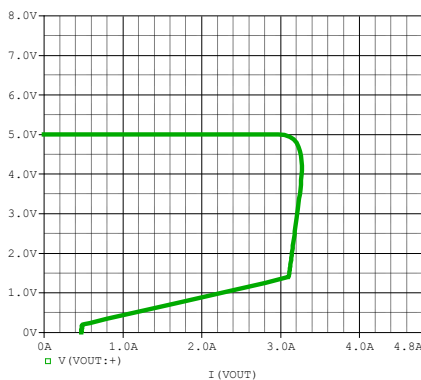
**Vdrop Data sheet**



**Ilimit(VOUT-IOUT) Testbench**



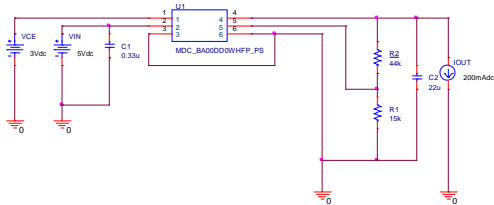
**Ilimit(VOUT-IOUT) Data Sheet**



Simulation results are following.  
 Explanatory notes — : simulated

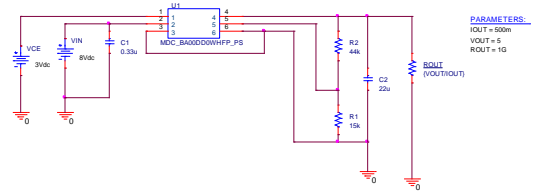
**Line-Reg Testbench**

| symbol | CONDITIONS          | MIN. | TYP. | MAX. | UNIT |
|--------|---------------------|------|------|------|------|
| Reg.I  | Vcc=5.7V→25V,Io=0mA | -    | 15   | 35   | mV   |



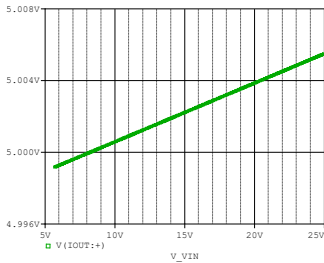
**Load-Reg Testbench**

| symbol | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--------|------------|------|------|------|------|
| Reg.L  | Io=0mA→2A  | -    | 50   | 100  | mV   |



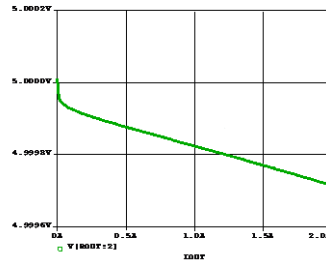
**Line-Reg Data Sheet**

| Trace Color | Trace Name | Y1     | Y2     | Y1 - Y2 |
|-------------|------------|--------|--------|---------|
|             | X Values   | 24.990 | 5.7000 | 19.290  |
| CURSOR 1,2  | V(ROUT:2)  | 5.0055 | 4.9992 | 6.3260m |

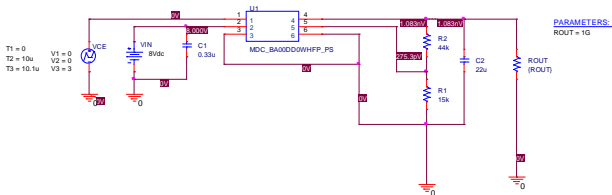


**Load-Reg Data Sheet**

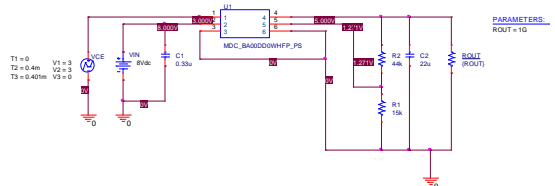
| Trace Color | Trace Name | Y1      | Y2     | Y1 - Y2  |
|-------------|------------|---------|--------|----------|
|             | X Values   | 1.0000n | 1.9800 | -1.9800  |
| CURSOR 1,2  | V(ROUT:2)  | 5.0000  | 4.9997 | 2901.98u |



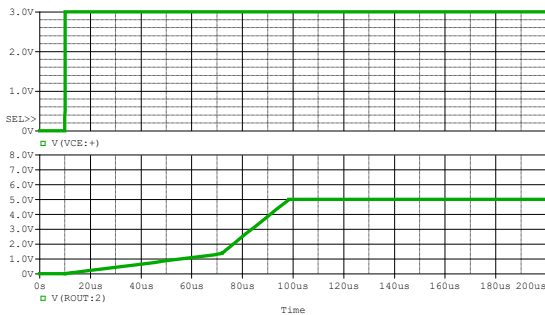
**CE Rise Testbench**



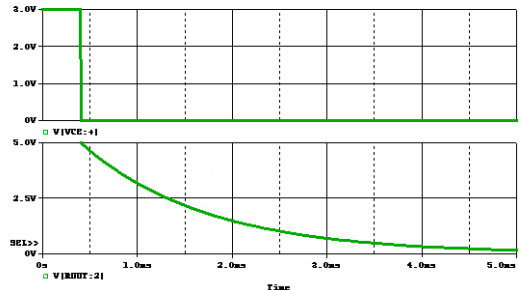
**CE Fall Testbench**



**CE Rise Data Sheet**



**CE Fall Data Sheet**



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