

# PSpice Model

## BRT

## ON Semiconductor

## SMUN5111T1G

### Model Information

**Model** A macro model  
**Call Name** MDC\_SMUN5111T1G\_PS  
**Pin Assign** 1:BASE 2:EMITTER 3:COLLECTOR  
**File List** Model Library MDC\_SMUN5111T1G\_PS.lib  
 Model Report MDC\_SMUN5111T1G\_PS.pdf(this file)  
**Verified Simulator Version** PSpice v17.2

### Note

### References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version July, 2018 – Rev. 9
- Product name SMUN5111T1G
- Company name ON Semiconductor Corporation

[Characteristics listed]

- Characteristics VCEsat-IC[temp]  
hFE-IC[temp]  
Cob-VR  
IC-Vin[temp]  
Vin-IC[temp]

### Simulation Condition

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

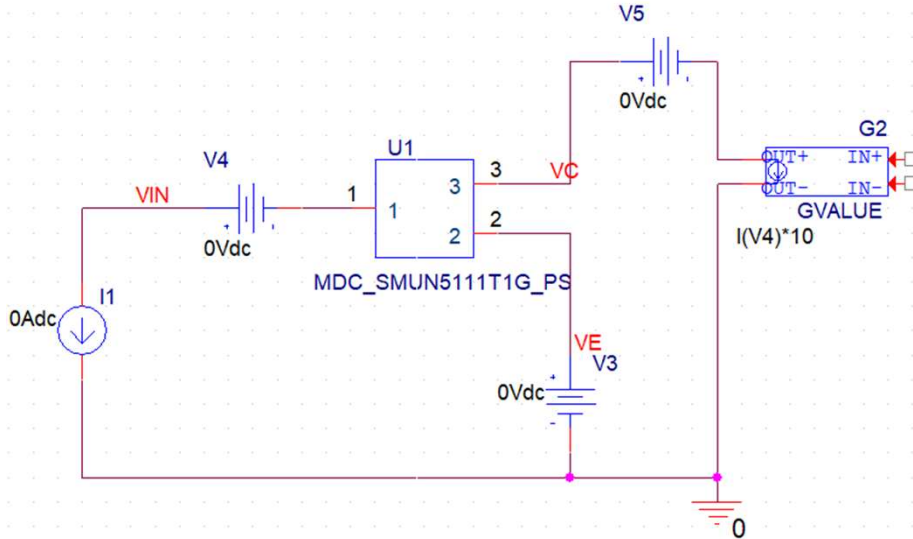
Item	Condition	Unit
Temperature	25	deg C

○ : Implemented  
 × : Not Implemented  
 — : Not applicable

**Model Functions Table**

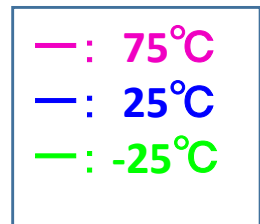
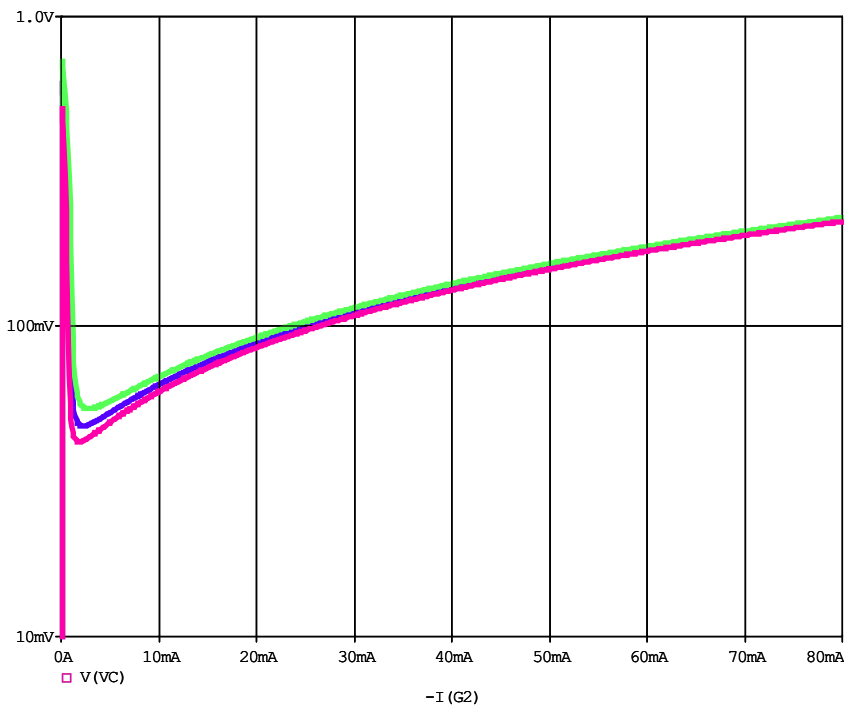
		RANK=1
Functions	RANK	Implemented
VIN(on)-Iout(Temp)	1	○
Iout-VIN(off)(Temp)	1	○
Iout-Vo-Iin	1	—
DC_Current_Gain-Iout	1	○
VOUT(on)-Iout(Temp)	1	—
VOUT(sat)-Iin(Temp)	1	○
Capacitance	1	○
Transition Frequency	1	—
Switching(Typ.)	1	—

VCEsat-IC[temp] Testbench  
 Referred to Data Sheet



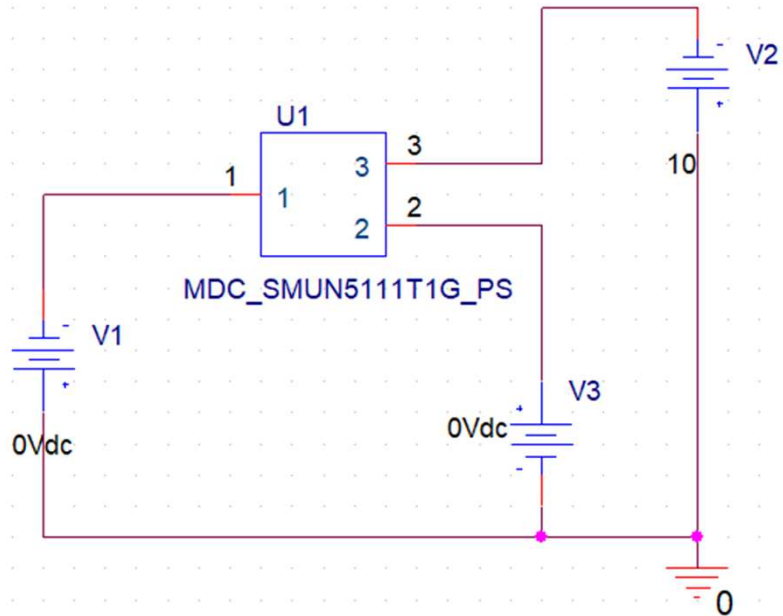
Simulation results are following.  
 Explanatory notes — : simulated

VCEsat-IC[temp]



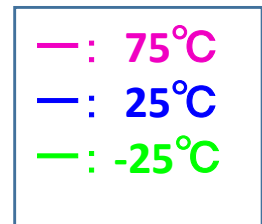
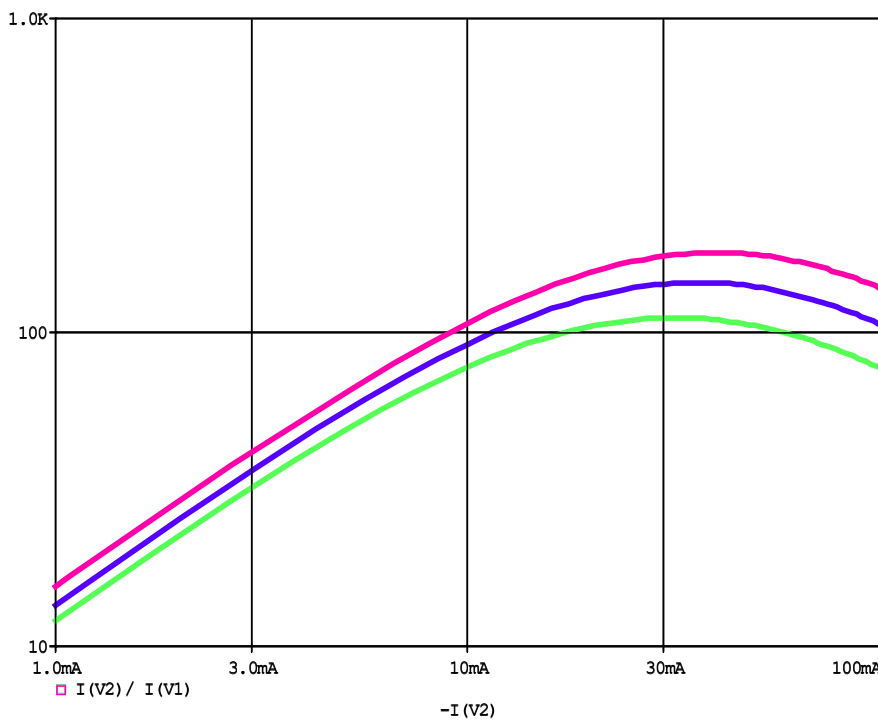
hFE-IC[temp] Testbench

Referred to Data Sheet



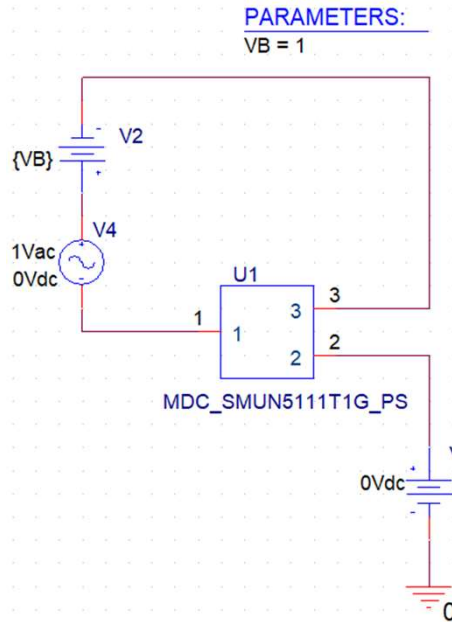
Simulation results are following.  
 Explanatory notes — : simulated

hFE-IC[temp]



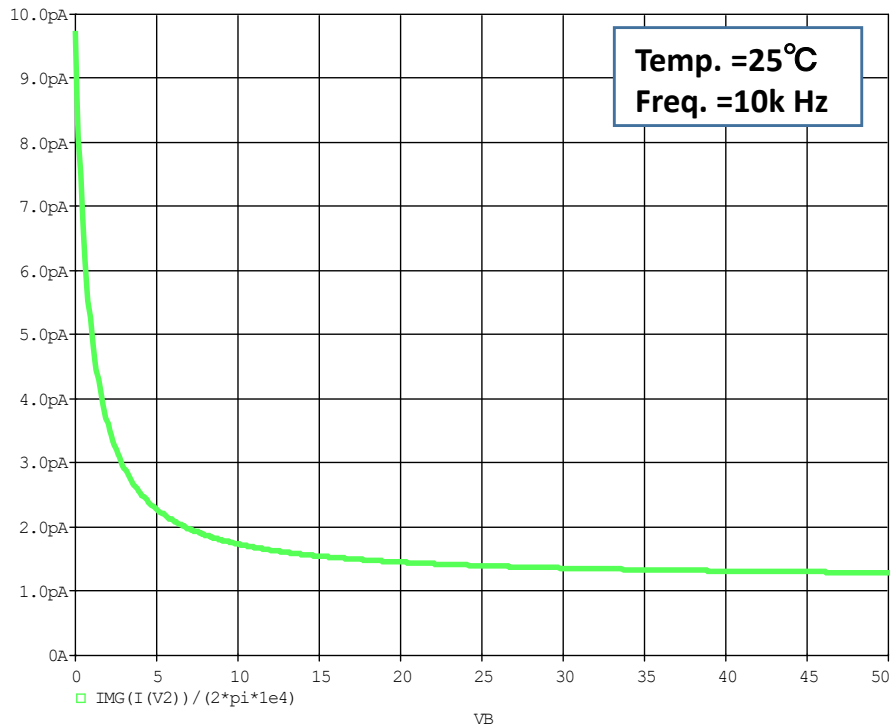
Cob-VR Testbench

Referred to Data Sheet



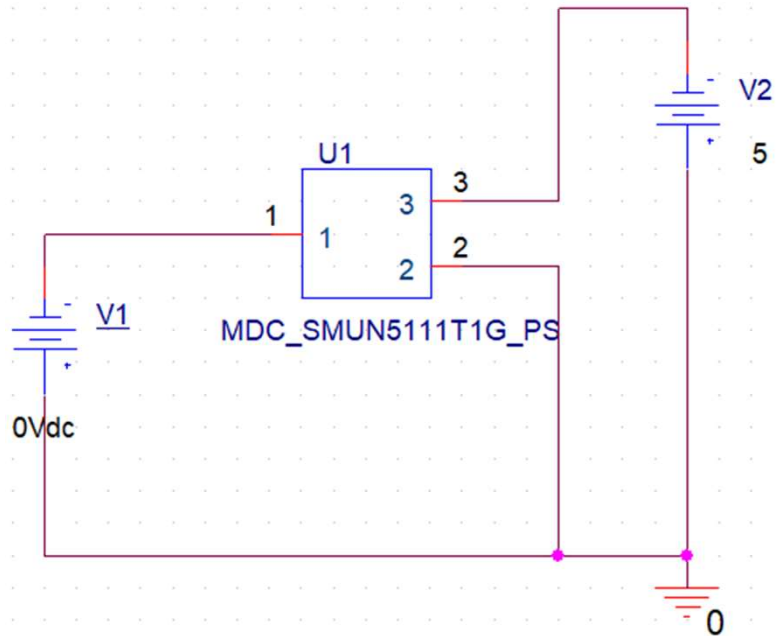
Simulation results are following.  
Explanatory notes — : simulated

Cob-VR



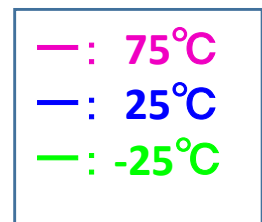
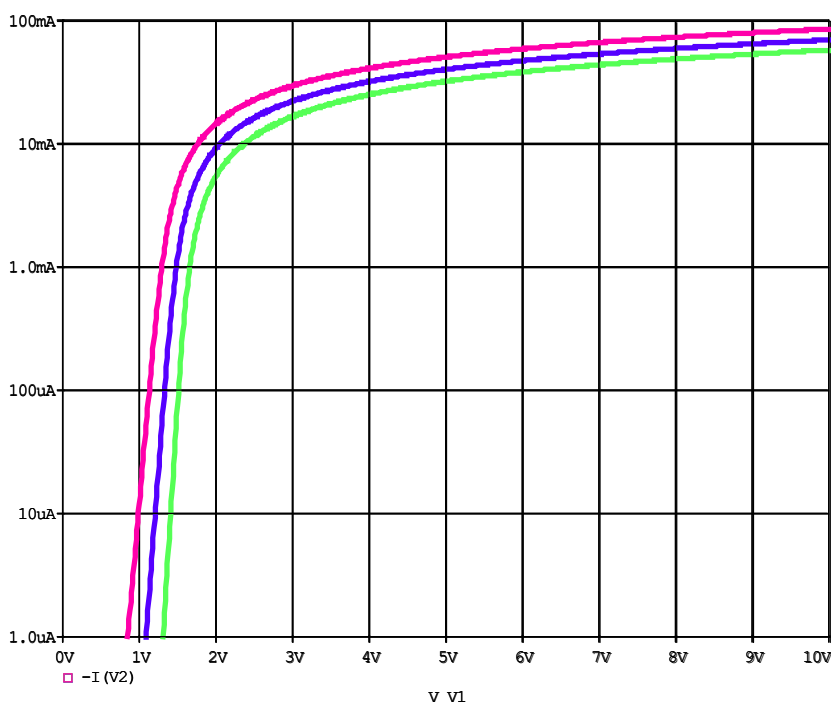
IC-Vin[temp] Testbench

Referred to Data Sheet



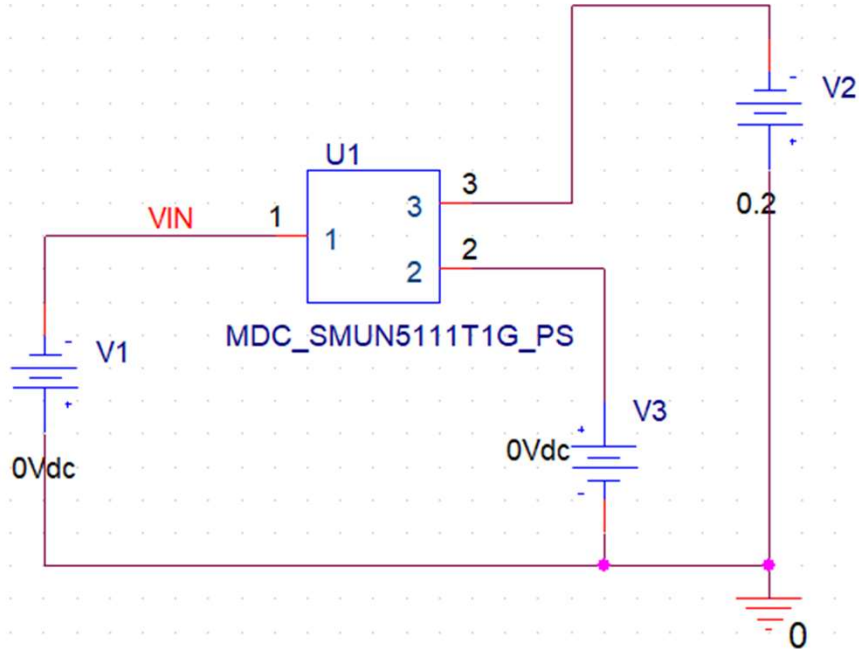
Simulation results are following.  
 Explanatory notes — : simulated

IC-Vin[temp]



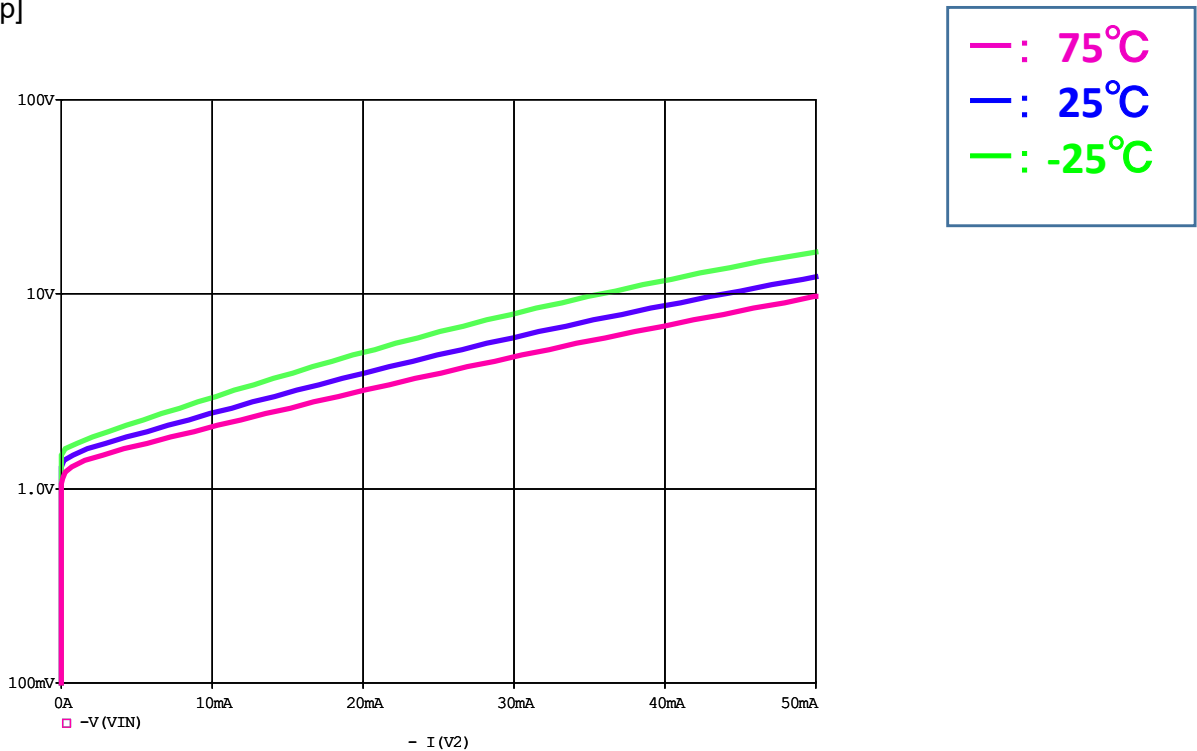
Vin-IC[temp] Testbench

Referred to Data Sheet



Simulation results are following.  
 Explanatory notes — : simulated

Vin-IC[temp]



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