

PSpice Model

TVS

Taiwan Semiconductor

5.0SMDJ78AHM6G

Model Information

Model A macro model based on general SPICE diode model
Call Name MDC_5_0SMDJ78AHM6G_PS
Pin Assign 1:C 2:A
File List Model Library MDC_5_0SMDJ78AHM6G_PS.lib
 Model Report MDC_5_0SMDJ78AHM6G_PS.pdf(this file)
Verified Simulator Version PSpice version 17.4

Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version A2102
- Product name 5.0SMDJ78AHM6G
- Company name Taiwan Semiconductor

[Characteristics listed]

- Characteristics IfVf[Temp], IrVr[Temp], CjVr, SurgeReverseCurrentWaveform

Simulation Range

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

Diode

○ : Implemented
 × : Not Implemented
 — : Not applicable

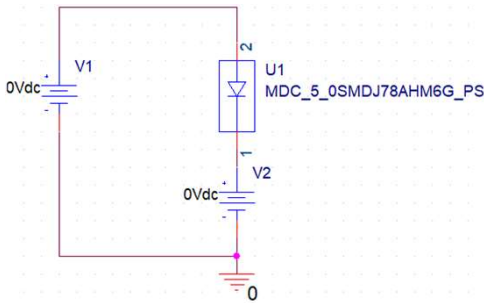
Model Functions Table

RANK=1

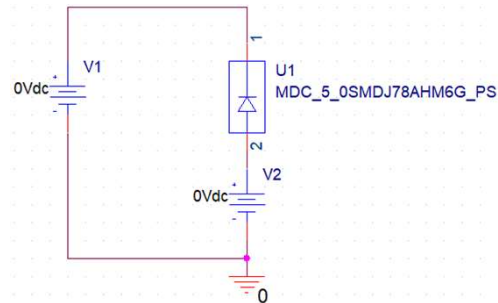
Functions	RANK	Implemented
IF-VF(Temp)	1	○
IR-VR(Temp)	1	○
Capacitance	1	○
Surge Reverse Current-Transient	1	○

**IfVf[Temp], IrVr[Temp] Testbench
Referred to Data Sheet**

IfVf[Temp]



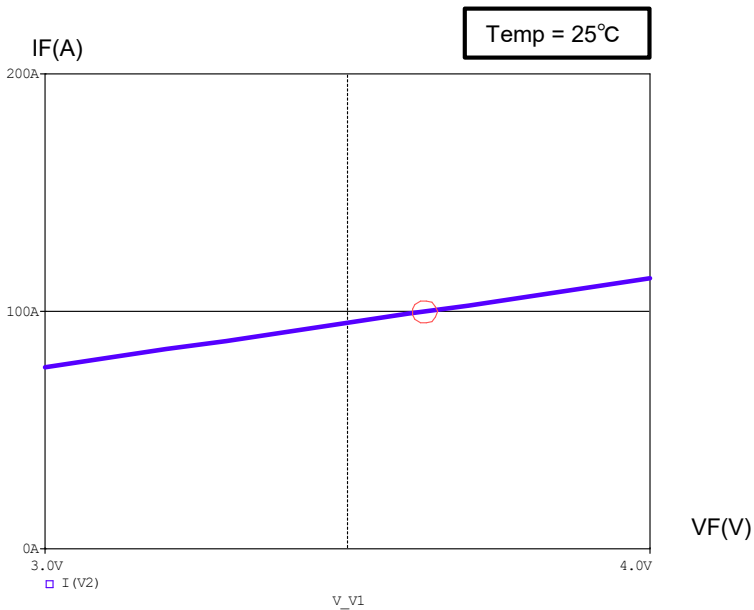
IrVr[Temp]



Simulation results are following.
Explanatory notes — : simulated

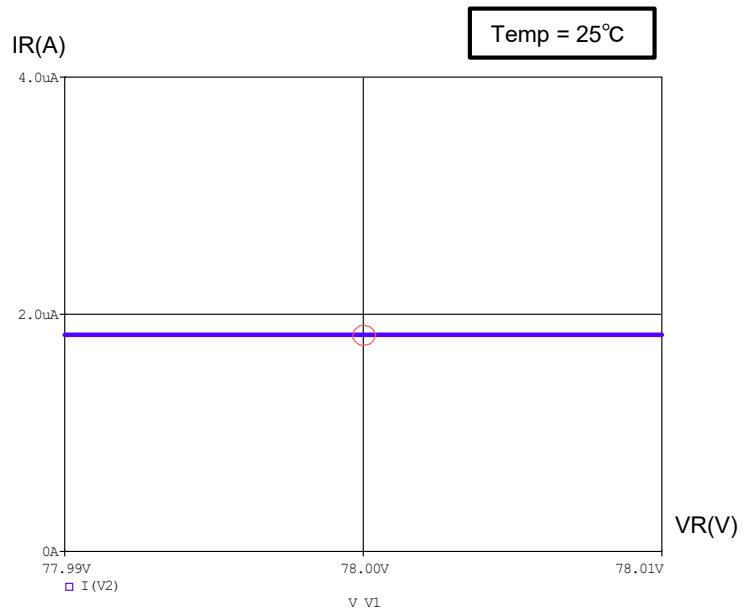
IfVf[Temp]

When IF=100 A, VF<5V



IrVr[Temp]

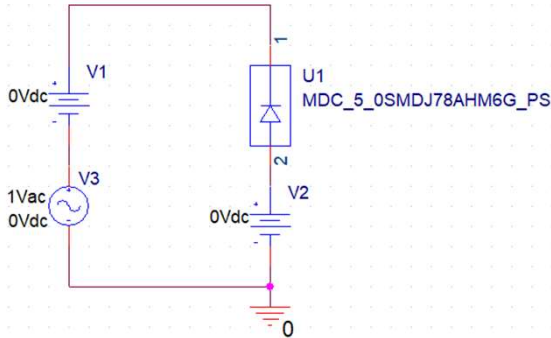
When VR=78V, IR<2μA



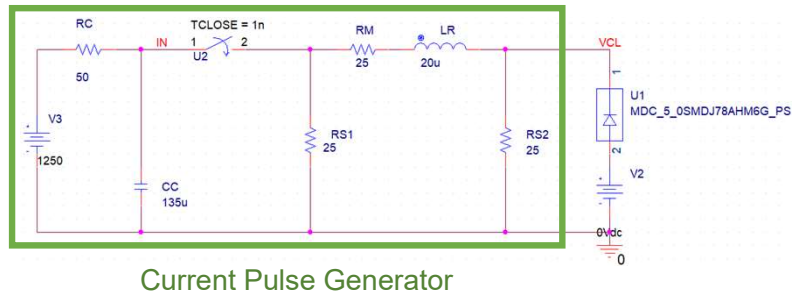
CjVr, Surge Reverse Current Waveform Testbench

Referred to Data Sheet

CjVr



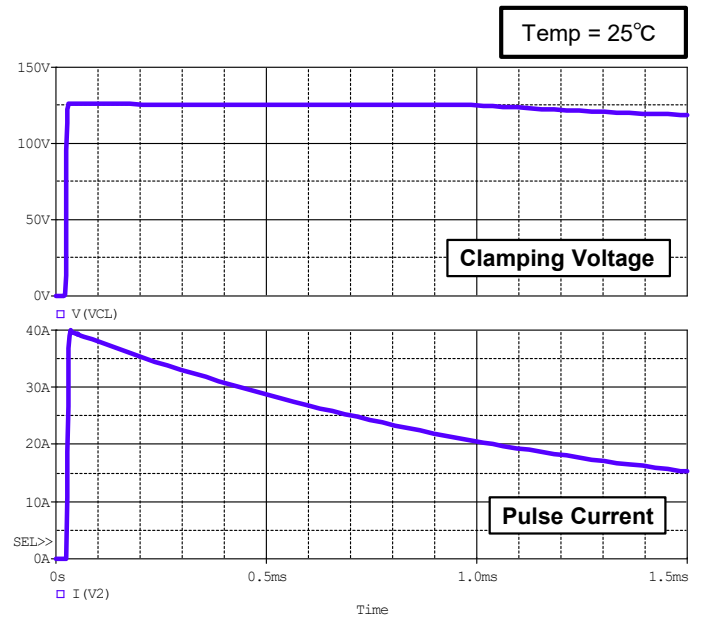
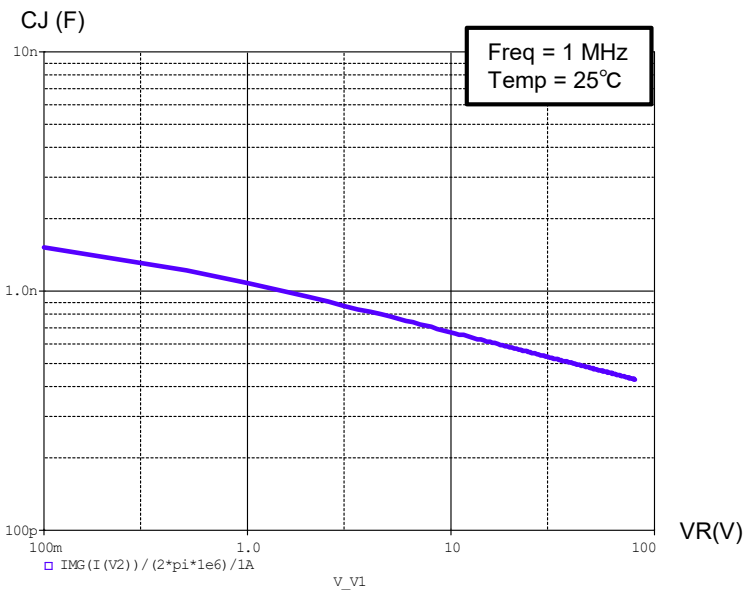
Surge Reverse Current Waveform



Simulation results are following.
Explanatory notes — : simulated

CjVr

Surge Reverse Current Waveform



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