

PSpice Model

Rectifier Diode

VISHAY POLYTECH

MSQ1PJ



Model Information

Model A macro model based on general SPICE diode model
Call Name MDC_MSQ1PJ_PS
Pin Assign 1:A 2:C
File List Model Library MDC_MSQ1PJ_PS01.lib
 Model Report MDC_MSQ1PJ_PS.pdf (this file)

Verified Simulator Version PSpice version 17.2
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version 04-Aug-2020
- Product name MSQ1PJ
- Company name Vishay Polytech Co., Ltd.
- Characteristics IrVr[Temp],CjVr,I_fV_f[Temp],T_{rr}I_{flr},T_{rr}Waveform, SurgeWaveform

Simulation Range

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

Item	Range			Unit
	Min.		Max.	
Reverse Voltage	0	to	660	V
Temperature	-55	to	175	deg C

Diode

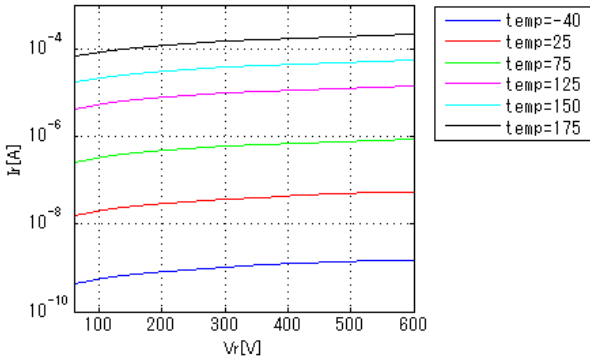
○ : Implemented
× : Not Implemented
— : Not applicable

Model Functions Table
RANK=1

Functions	RANK	Implemented
IF-VF(Temp)	1	○
IR-VR(Temp)	1	○
Capacitance	1	○
Reverse recovery characteristics	1	○
Rectification characteristics(Bridge)	1	—
Surge forward current-Transient	1	○

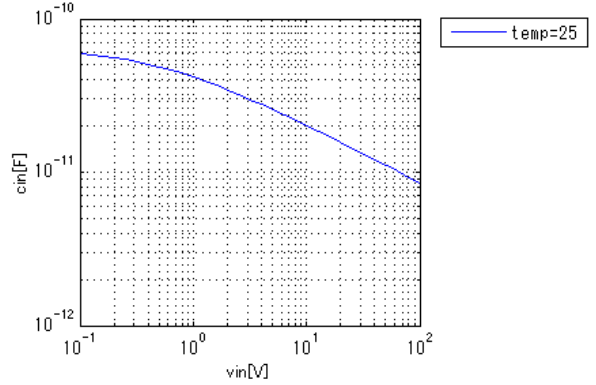
Simulation results are following.
 Explanatory notes — : simulated

IrVr[Temp]

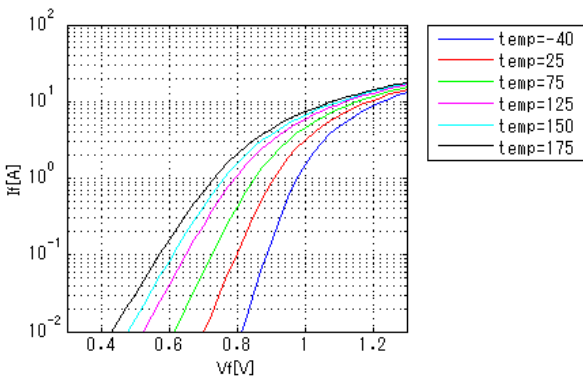


CjVr

Freq. = 1MHz

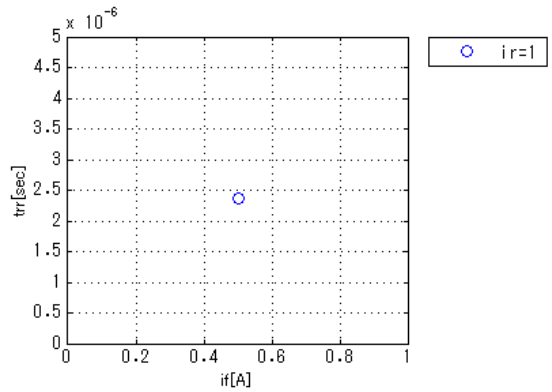


IfVf[Temp]



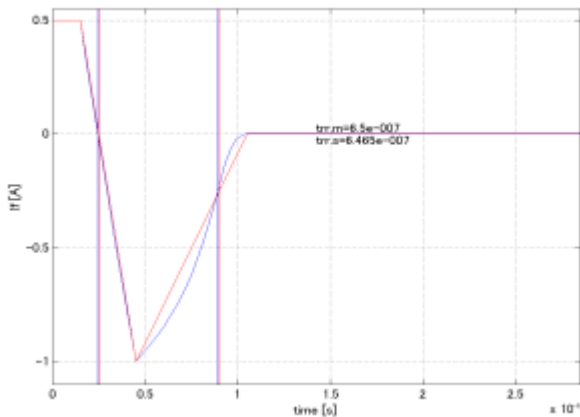
TrrIfIr

irr = 0.25A, didt = 2A/us



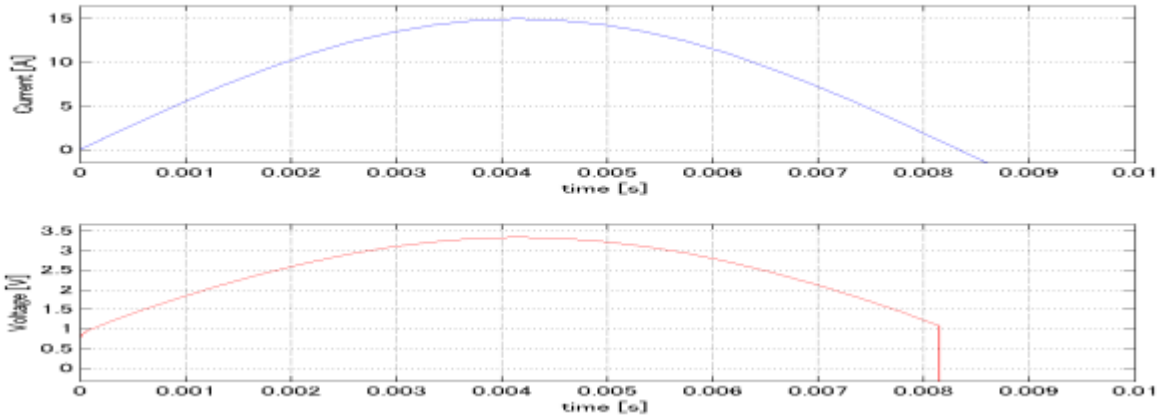
TrrWaveform

If = 0.5A, ir = 1A, irr = 0.25A, didt = 2A/us



Simulation results are following.
Explanatory notes — : simulated

Surge Forward Current Waveform



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