

PSpice Model

Zener Diode

Nexperia

PZU4.7BA



Model Information

Model A macro model based on general SPICE diode model
Call Name MDC_PZU4_7BA_PS
Pin Assign 1:C 2:A
File List Model Library MDC_PZU4_7BA_PS02.lib
 Model Report MDC_PZU4_7BA_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 Rev.3 5 April 2024
- Product name PZU4.7BA
- Company name Nexperia B.V.
- Characteristics $I_f V_f[Temp], V_{rI_r}[Temp], V_{rI_r}[Temp]^2, Z_{zI_z}, Z_{zI_z}^2, I_{rV_r}[Temp], S_{zI_z}, C_j V_r$

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	4.42	to	4.90	V
Temperature	-65	to	150	deg C

Diode

○ : Implemented
× : Not Implemented
— : Not applicable

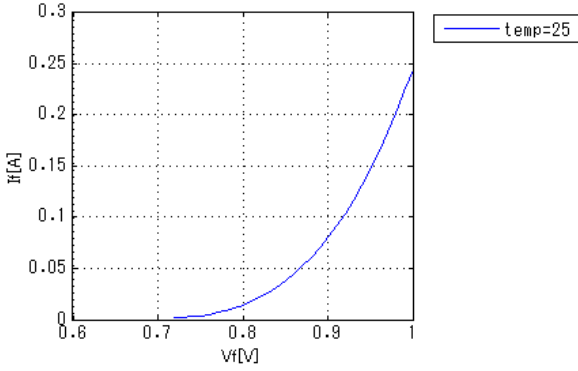
Model Functions Table

RANK=1

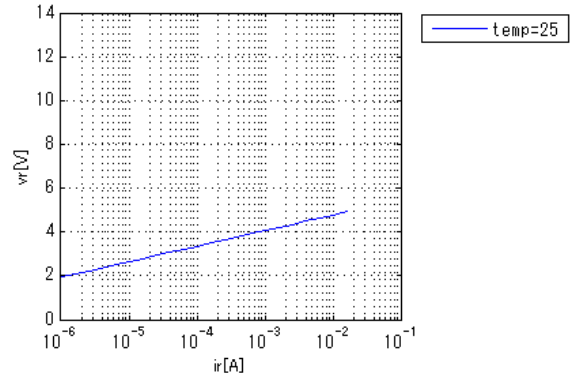
Functions	RANK	Implemented
IF-VF(Temp)	1	○
IR-VR(Temp)	1	○
Capacitance	1	○
Reverse recovery characteristics	1	—
Zz-Iz	1	○
Rectification characteristics(Bridge)	1	—
Surge-Transient	1	—
tlp	1	—

Simulation results are following.
 Explanatory notes — : simulated

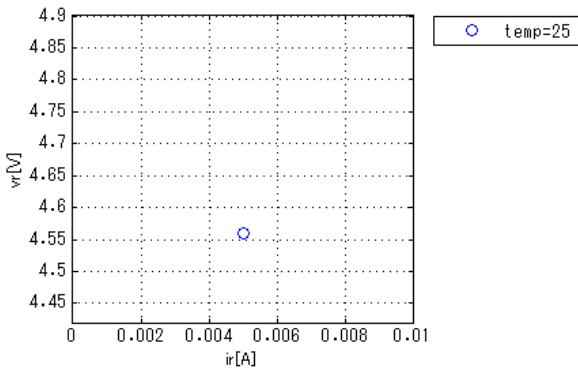
IfVf[Temp]



VrIr[Temp]

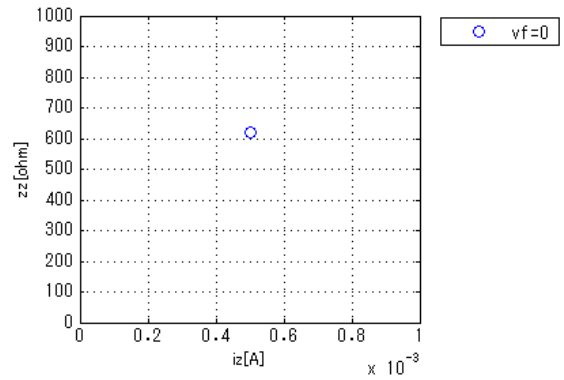


VrIr[Temp]2



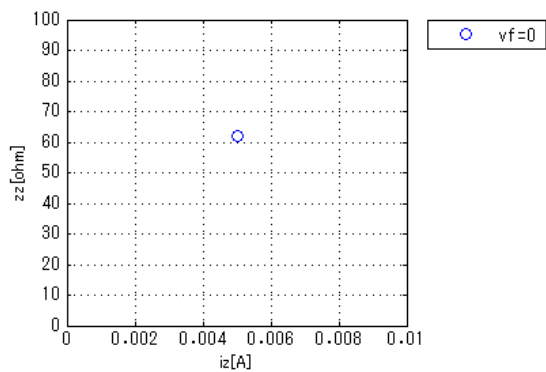
ZzIz

izl = 0.9, izh = 1.1

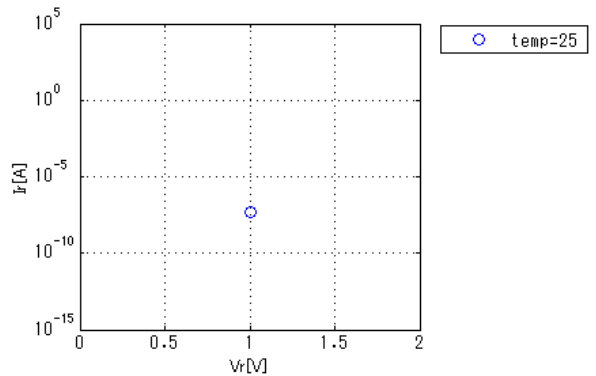


ZzIz2

izl = 0.9, izh = 1.1



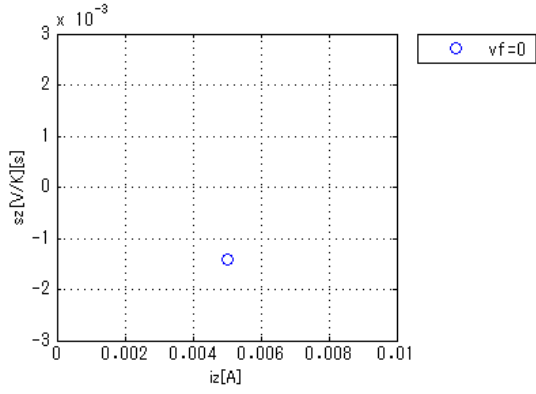
IrVr[Temp]



Simulation results are following.
 Explanatory notes — : simulated

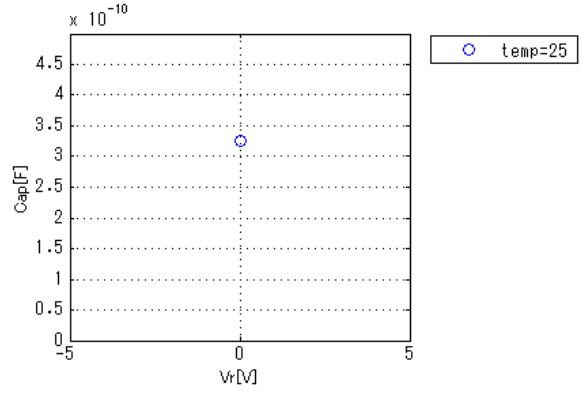
SzIz

temp1 = 25degC, temp2 = 150degC



CjVr

Freq = 1000000Hz



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