

LTspice Model

Zener Diode

RENESAS

RD20FM-T1-AY



Model Information

Model A macro model based on general SPICE diode model
Call Name MDC_RD20FM-T1-AY_LT
Pin Assign 1:A 2:C
File List Model Library MDC_RD20FM-T1-AY_LT01.lib
 Model Report MDC_RD20FM-T1-AY_LT.pdf (this file)

Verified Simulator Version LTspice version XVII
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version March 2002
- Product name RD20FM-T1-AY
- Company name Renesas Electronics Corporation
- Characteristics VrI_r[Temp], VrI_r[Temp]², IrV_r[Temp], SzI_z, ParV_zI_z, ZzI_z

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. | |
| Zener Voltage (at 5mA) | 18.8 | to | 21.2 | V |
| Temperature | -55 | to | 150 | deg C |

Diode

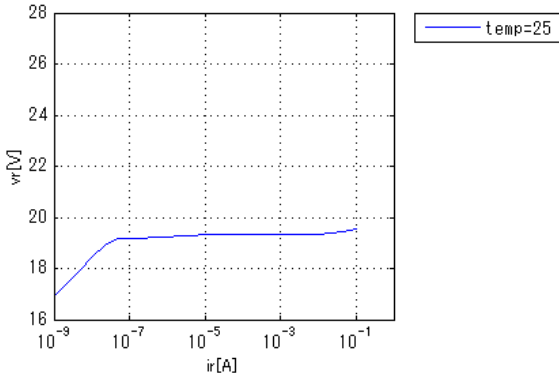
○ : Implemented
× : Not Implemented
— : Not applicable

Model Functions Table
RANK=1

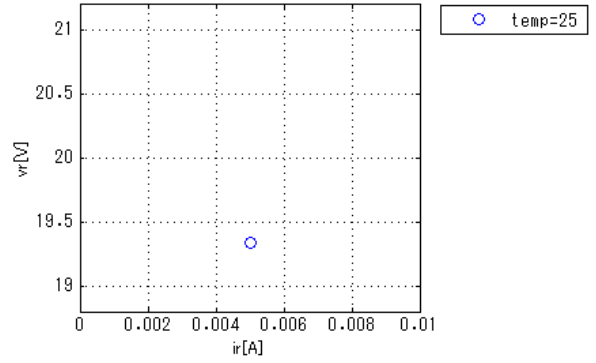
| Functions | RANK | Implemented |
|---------------------------------------|------|-------------|
| IF-VF(Temp) | 1 | ○ |
| IR-VR(Temp) | 1 | ○ |
| Capacitance | 1 | ○ |
| Reverse recovery characteristics | 1 | — |
| Zz-Iz | 1 | ○ |
| Rectification characteristics(Bridge) | 1 | — |
| Surge-Transient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

Simulation results are following.
 Explanatory notes — : simulated

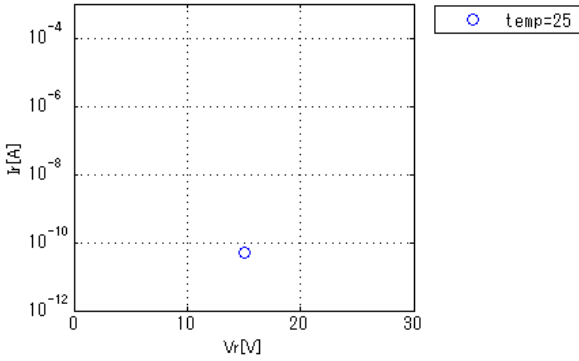
Vrlr[Temp]



Vrlr[Temp]2

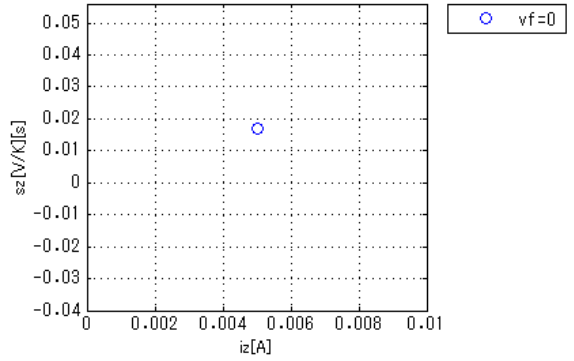


IrVr[Temp]

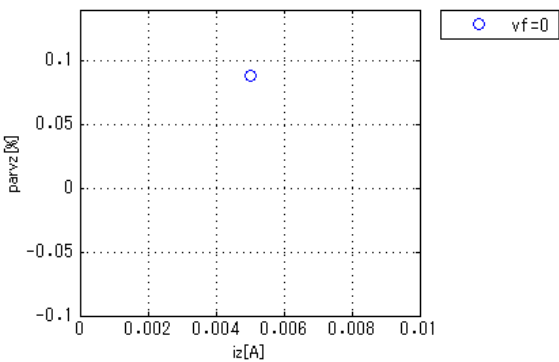


SzIz

temp1 = 20degC, temp2 = 30degC

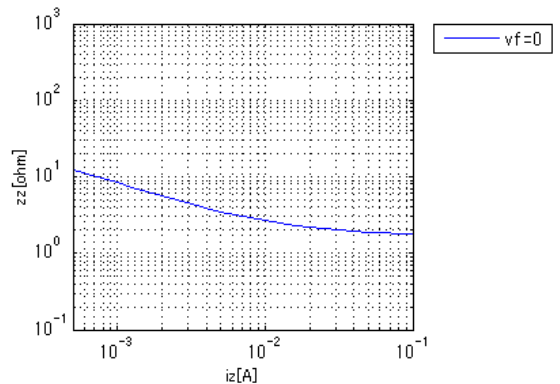


ParVzIz



ZzIz

izl = 0.9, izh = 1.1



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