

# ADS Model

## Switching Diode

### SanKen

### SARS05VR



### Model Information

**Model** A macro model based on general SPICE diode model  
**Call Name** MDC\_SARS05VR\_AD  
**Pin Assign** 1:C 2:A  
**File List** Model Library MDC\_SARS05VR\_AD.zip  
 Model Report MDC\_SARS05VR\_AD.pdf (this file)

**Verified Simulator Version** ADS version 2022 Update 1  
**Note**

### References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version Feb. 27, 2018
- Product name SARS05VR
- Company name Sanken Electric Co., Ltd.
- Characteristics IfVf[Temp],Irvr[Temp],Trrlflr

### 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	800	V
Temperature	-40	to	150	deg C

**Diode**

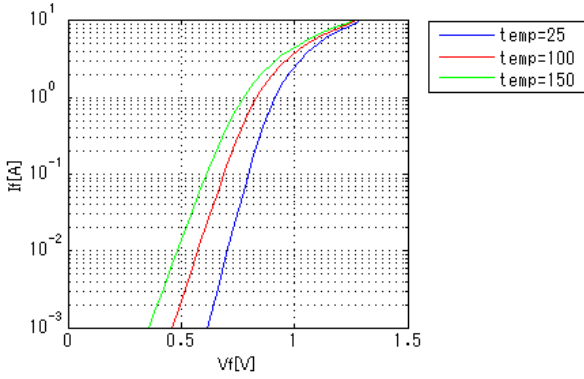
○ : Implemented  
× : Not Implemented  
— : Not applicable

**Model Functions Table**
**RANK=1**

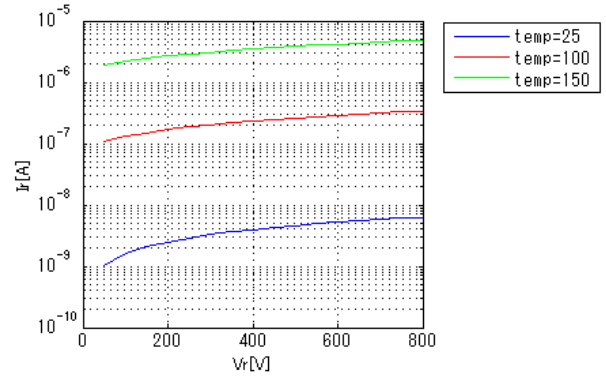
Functions	RANK	Implemented
IF-VF(Temp)	1	○
IR-VR(Temp)	1	○
Capacitance	1	—
Reverse recovery characteristics	1	○
Zz-Iz	1	—
Rectification characteristics(Bridge)	1	—
Surge current-Transient	1	○

Simulation results are following.  
 Explanatory notes — : simulated

**IfVf[Temp]**

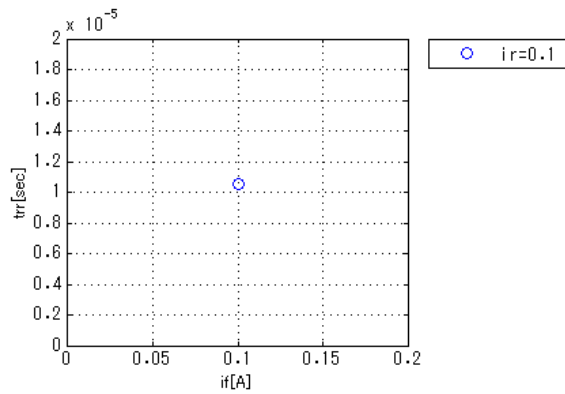


**IrVr[Temp]**



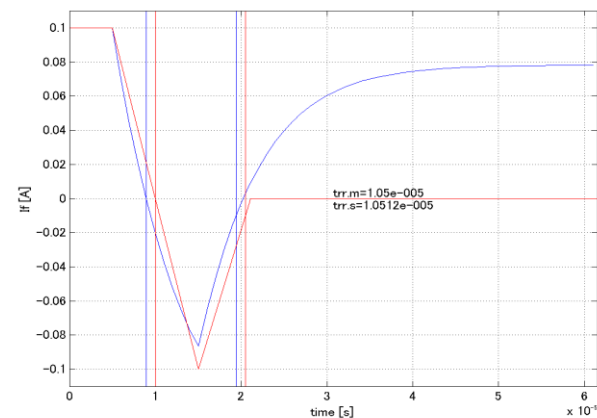
**Trrflr**

irr = 0.01A, didt = 0.02A/us



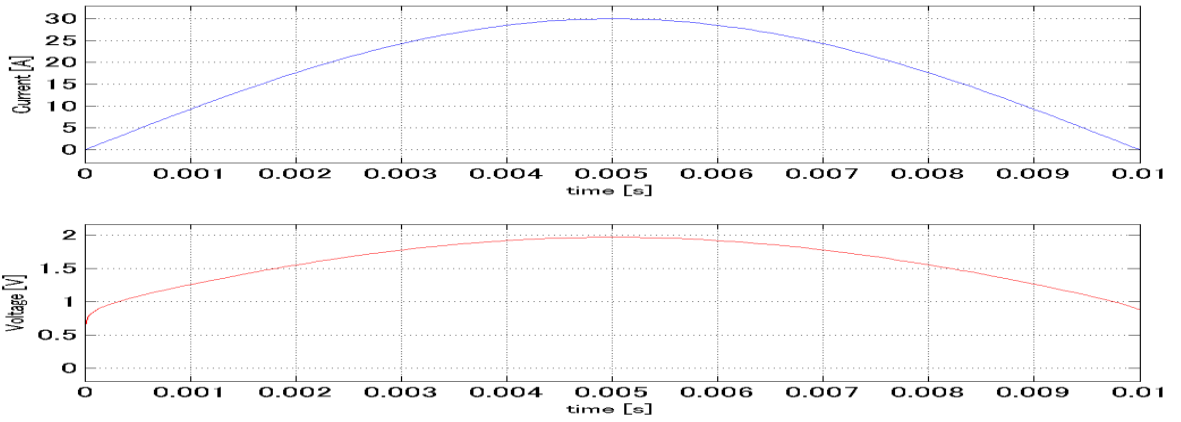
**Trr Waveform ( Red : Datasheet Blue : Simulation )**

If = 0.1A, ir = 0.1A, irr = 0.01A, didt = 0.02A/us



Simulation results are following.  
Explanatory notes — : simulated

**Surge Current Waveform ( Forward Sine Half 50Hz )**



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