

# PSpice Model

## Fast Recovery Diode

### SHINDENGEN

### D30FD60K



#### Model Information

**Model** A macro model based on general SPICE diode model  
**Call Name** MDC\_D30FD60K\_PS  
**Pin Assign** 1:NC 2:C 3:A 4:C  
**File List** Model Library MDC\_D30FD60K\_PS02.lib  
 Model Report MDC\_D30FD60K\_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.01(2020.01)
- Product name D30FD60K
- Company name Shindengen Electric Manufacturing Co., Ltd.
- Characteristics IfVf[Temp],IrrVr[Temp],CjVr,TrrIflr,TrrWaveform, 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	600	V
Temperature	-55	to	150	deg C

## Diode

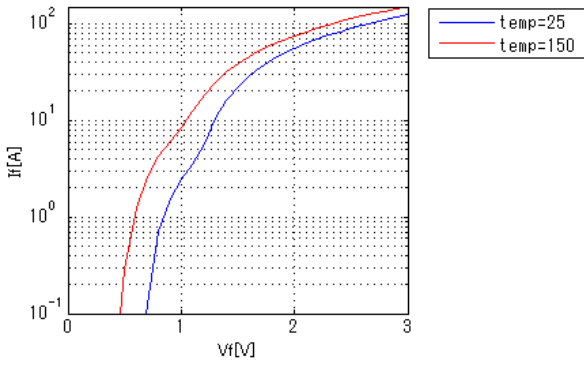
○ : Implemented  
× : Not Implemented  
— : Not applicable

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

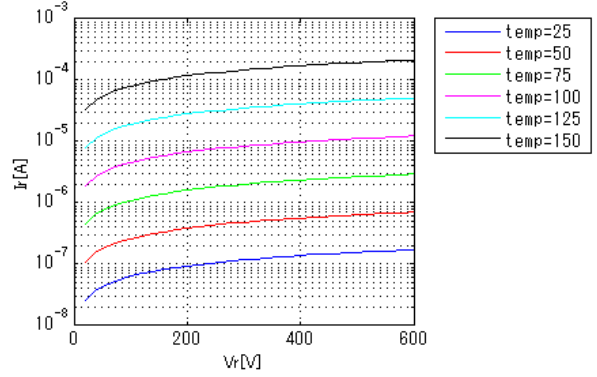
Functions	RANK	Implemented
IF-VF(Temp)	1	○
IR-VR(Temp)	1	○
Capacitance	1	○
Reverse recovery characteristics	1	○
Zz-Iz	1	—
Rectification characteristics(Bridge)	1	—
Surge-Transient	1	○
tlp	1	—

Simulation results are following.  
 Explanatory notes — : simulated

**IfVf[Temp]**

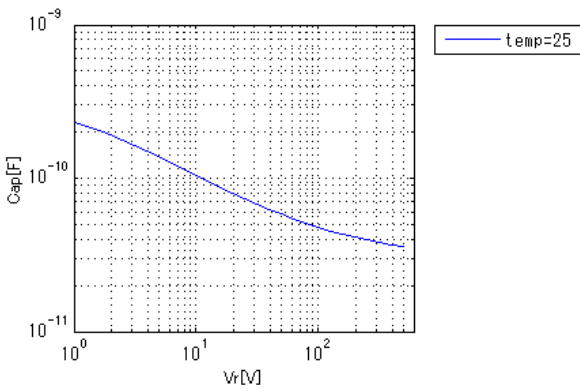


**IrVr[Temp]**



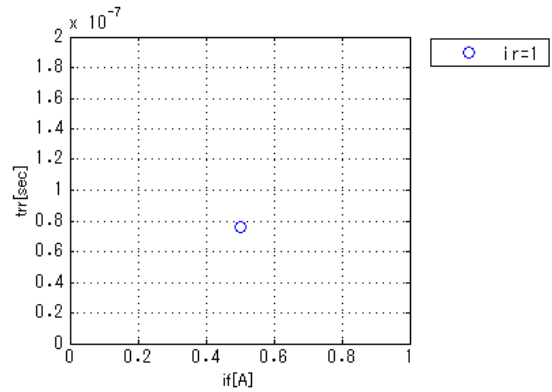
**CjVr**

Freq = 1000000Hz



**TrrIfIr**

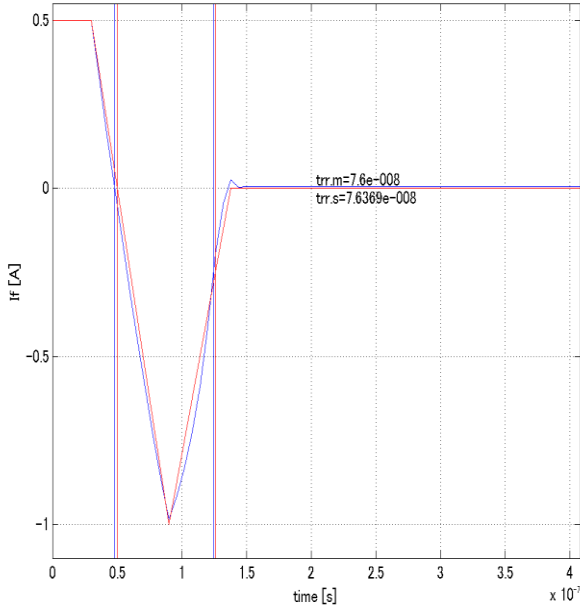
irr = 0.25A, didt = 25A/us



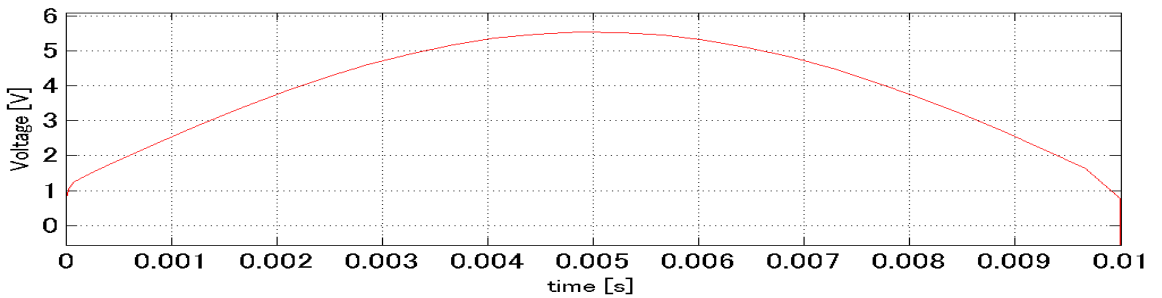
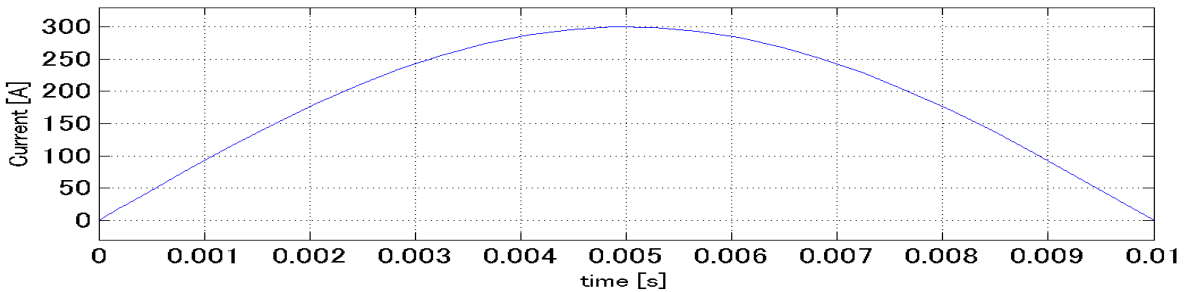
Simulation results are following.  
 Explanatory notes — : simulated

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

didt = 25A/us, if = 0.5A, ir = 1A, irr = 0.25A



**Surge Current Waveform ( Forward sine=50Hz )**



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MoDeCH Inc.

Head Office

Location: 5-15 Yokoyama-cho, Hachioji-Shi, Tokyo 192-0081, Japan

Tel:+81-42-656-3360

E-Mail: [model-on-support@modech.co.jp](mailto:model-on-support@modech.co.jp)

URL: <http://www.modech.com/en/>