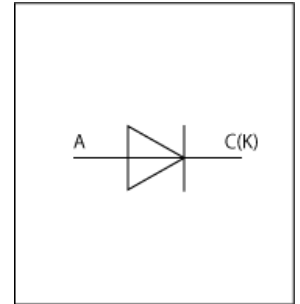


# LTspice Model

## Fast Recovery Diode

### SHINDENGEN

### SG10L20USM



#### Model Information

**Model** A macro model based on general SPICE diode model  
**Call Name** MDC\_SG10L20USM\_LT  
**Pin Assign** 1:C 2:A  
**File List** Model Library MDC\_SG10L20USM\_LT01.lib  
 Model Report MDC\_SG10L20USM\_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 2010.06
- Product name SG10L20USM
- Company name Shindengen Electric Manufacturing Co., Ltd.
- Characteristics IfVf[Temp],CjVr,IrVr[Temp],TrrIfIr,TrrWaveform,SurgeWaveform

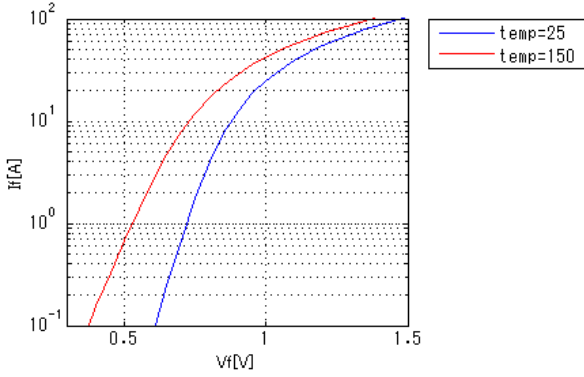
#### Simulation Range

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	200	V
Temperature	-55	to	150	deg C

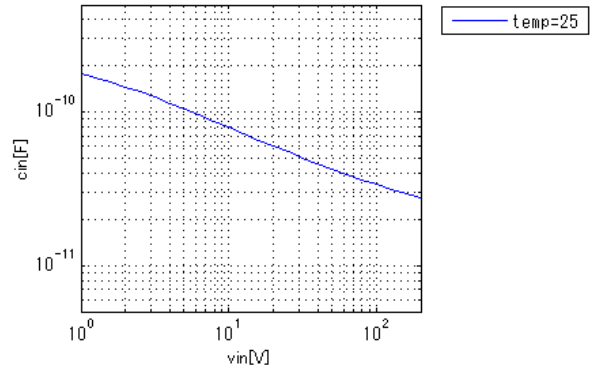
Simulation results are following.  
 Explanatory notes — : simulated

**IfVf[Temp]**

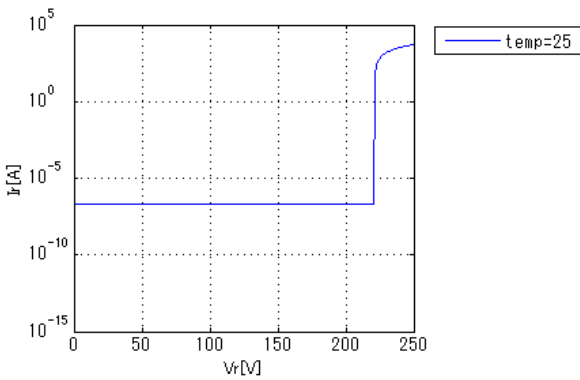


**CjVr**

Freq. = 1MHz

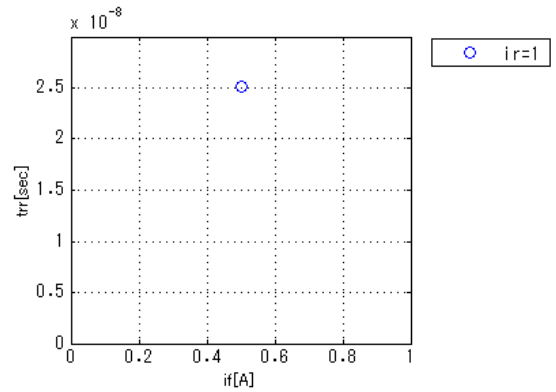


**IrVr[Temp]**



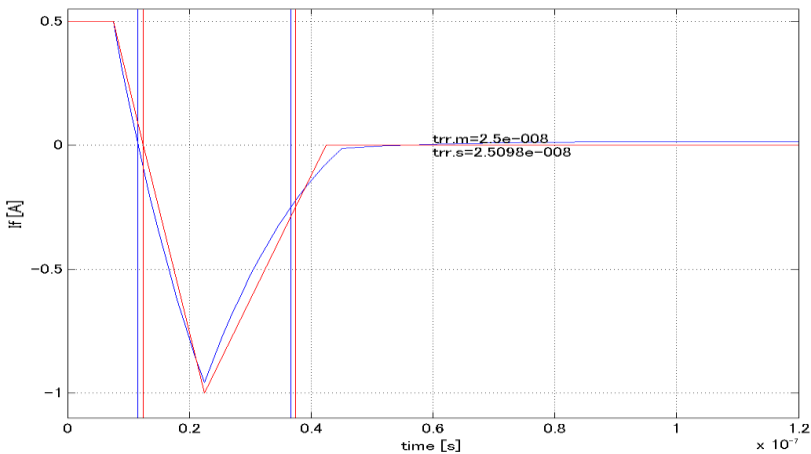
**TrrIfIr**

Irr. = 0.25A, didt. = 100A/us



**TrrWaveform red : datasheet(MAX Trr=25ns) blue : simulation**

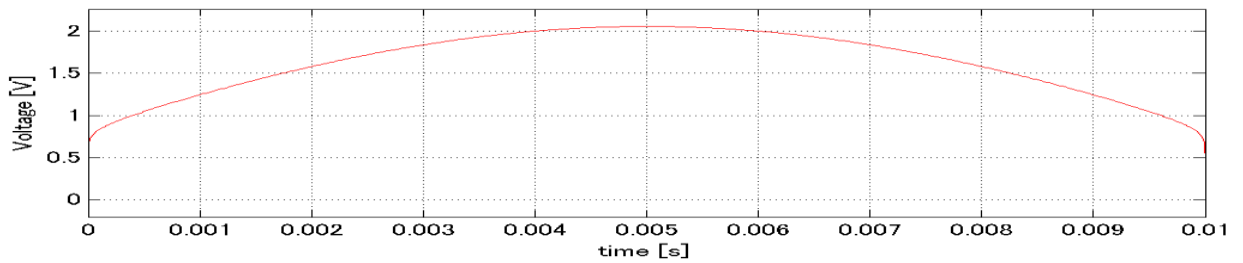
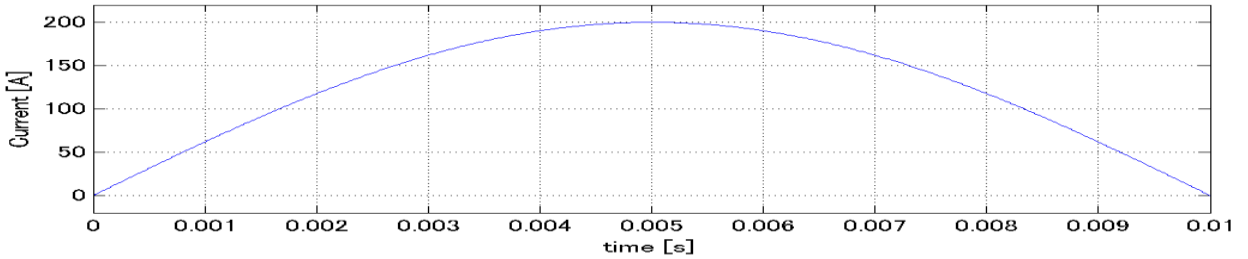
If = 0.5A, Ir = 1A, Irr. = 0.25A, didt. = 100A/us



Simulation results are following.  
Explanatory notes — : simulated

**Surge Waveform**

50Hz Sine Half IFSM = 200A



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MoDeCH Inc.

Head Office

Location: Taiju-Seimei-Hachioji Bldg., 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/>