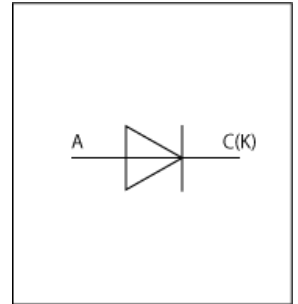


# LTspice Model

## Rectifier Diode

### VISHAY POLYTECH

### MSQ1PJ



#### Model Information

**Model** A macro model based on general SPICE diode model  
**Call Name** MDC\_MSQ1PJ\_LT  
**Pin Assign** 1:A 2:C  
**File List** Model Library MDC\_MSQ1PJ\_LT01.lib  
 Model Report MDC\_MSQ1PJ\_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 04-Aug-2020
- Product name MSQ1PJ
- Company name Vishay Polytech Co., Ltd.
- Characteristics IrVr[Temp],CjVr,IvVf[Temp],Trrlflr,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	660	V
Temperature	-55	to	175	deg C

## Diode

○ : Implemented  
× : Not Implemented  
— : Not applicable

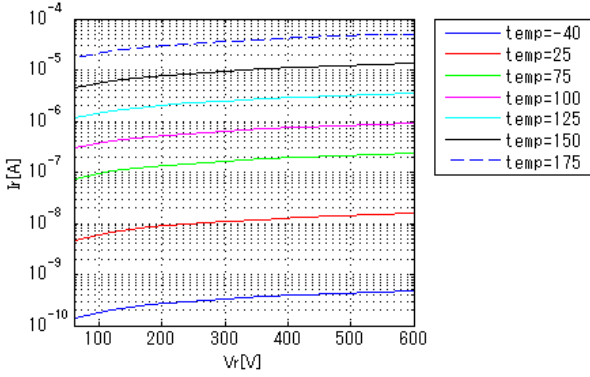
**Model Functions Table**

RANK=1

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

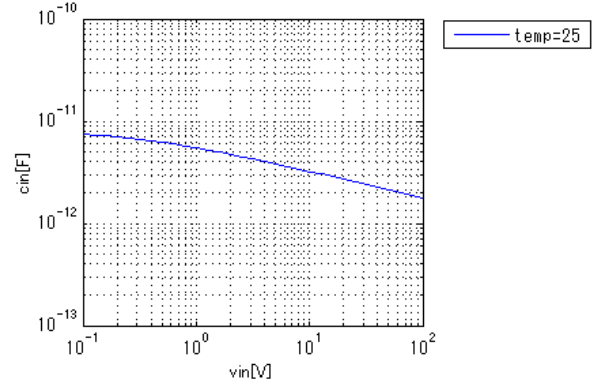
Simulation results are following.  
 Explanatory notes — : simulated

**IrVr[Temp]**

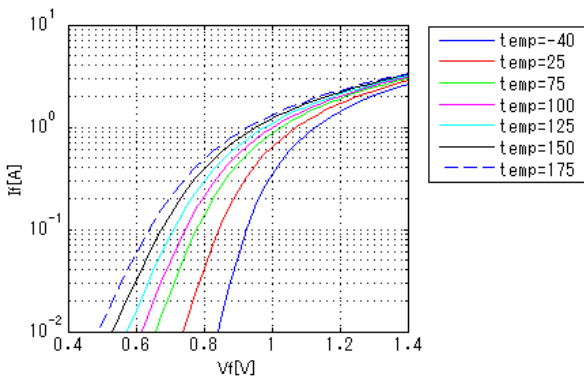


**CjVr**

Freq. = 1MHz

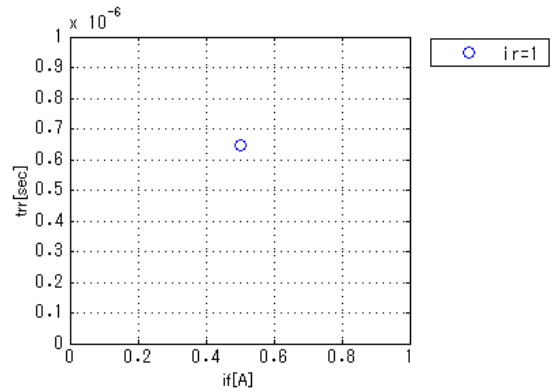


**IfVf[Temp]**



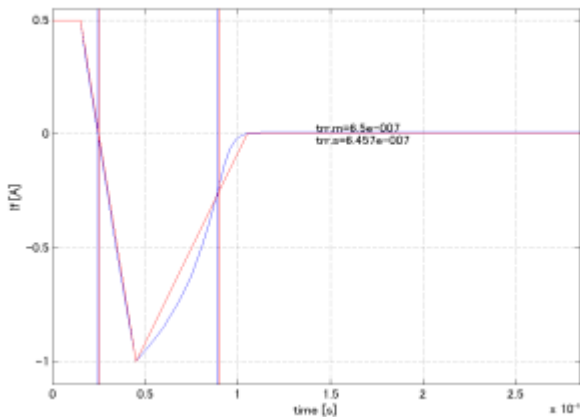
**TrrIfIr**

irr = 0.25A, didt = 5A/us



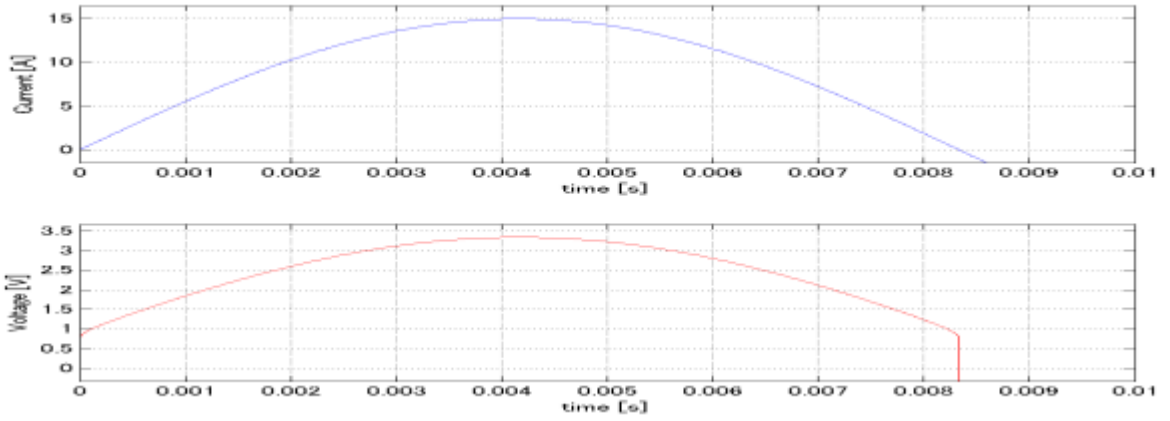
**Trr Waveform ( Red : Datasheet Blue : Simulation )**

If = 0.5A, ir = 1A, irr = 0.25A, didt = 5A/us



Simulation results are following.  
Explanatory notes — : simulated

### Surge Forward Current Waveform



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