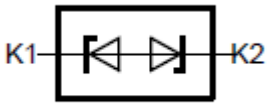
PSpice Model
ESD Protection Diode
Nexperia
PESD18VF1BL



Model Information

Model	A macro model based on general SPICE diode model	
Call Name	MDC_PESD18VF1BL_PS	
Pin Assign	1:K1 2:K2	
File List	Model Library	MDC_PESD18VF1BL_PS01.lib
	Model Report	MDC_PESD18VF1BL_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 11 April 2023
- ●Product name PESD18VF1BL
- ●Company name Nexperia B.V.
- ●Characteristics CjVr,TlpVclIpp,TlpWaveform,SurgeCurrentWaveform,Surge GunWaveform

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	18	V
Temperature	-65	to	150	deg C

Diode

○ : Implemented
× : Not Implemented
— : Not applicable

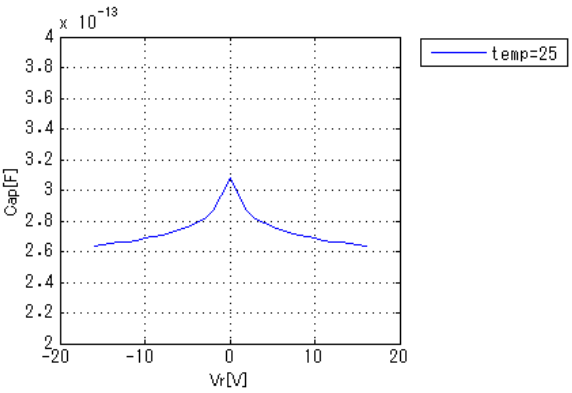
Model Functions Table

	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

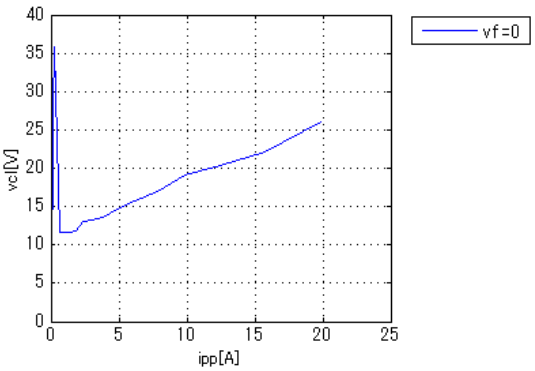
CjVr

Freq = 1000000Hz



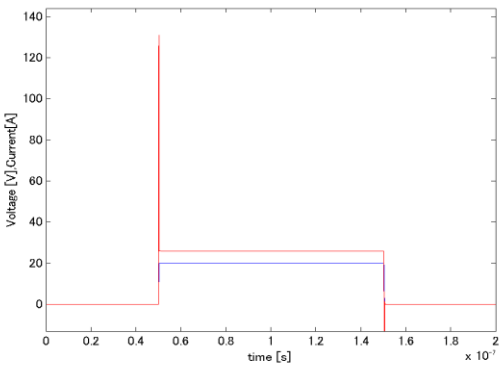
TlpVcIIpp

tp = 1E-07

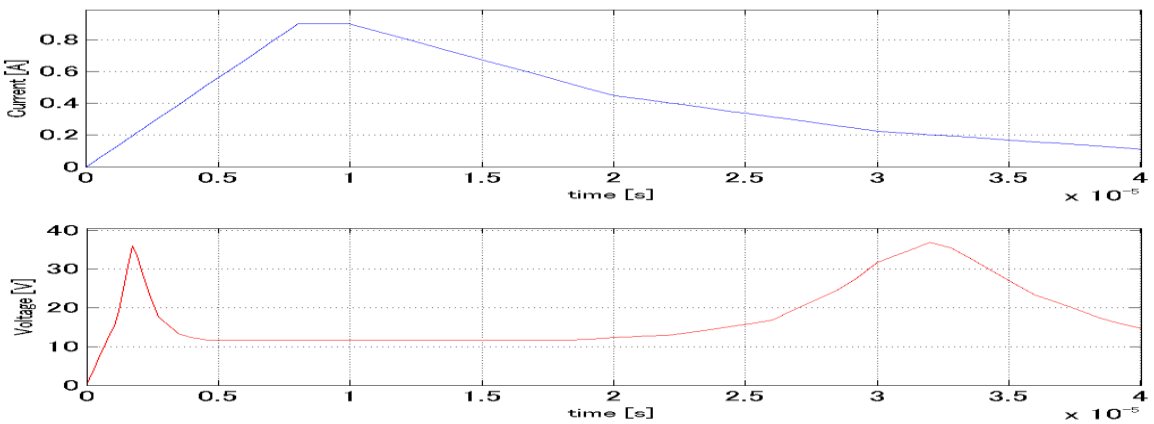


Tlp Waveform (Blue : Current Red : Voltage)

tp = 100ns, INPUT = 25.12A outside of the attenuator)

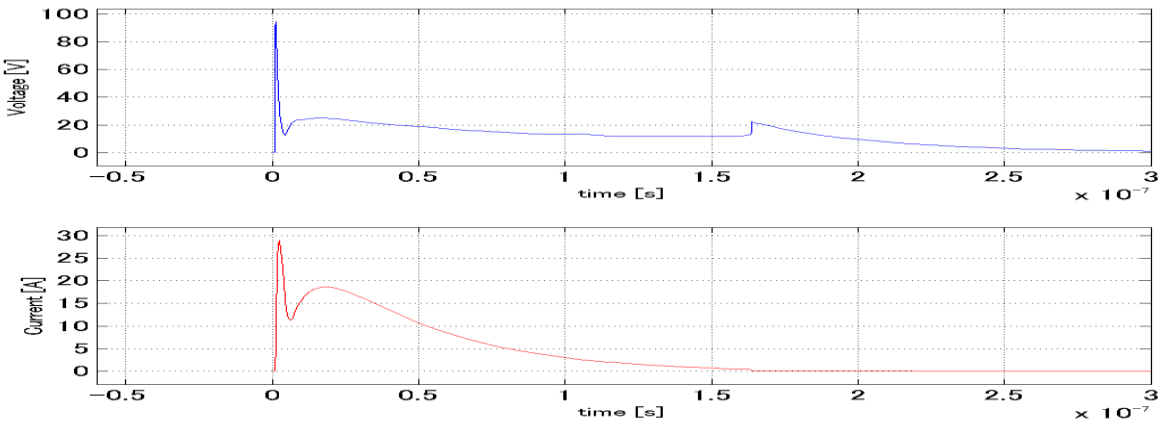


Surge Current Waveform (Reverse 8u/20us)



Simulation results are following.
Explanatory notes —：simulated

Surge Gun Waveform (8kV IEC 61000-4-2)



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