Device Modeling Report

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MANUFACTURER: ON SEMICONDUCTOR

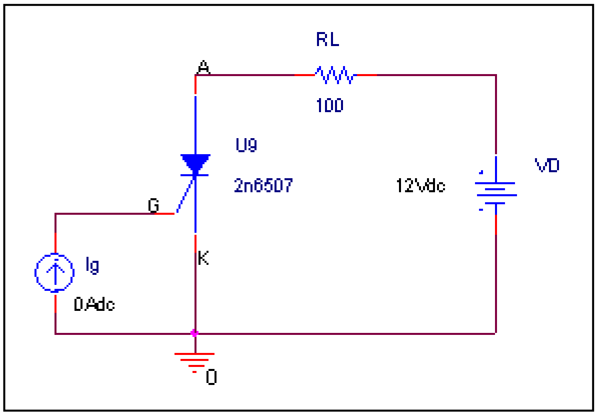
Bee Technologies Inc.

DIODE MODEL

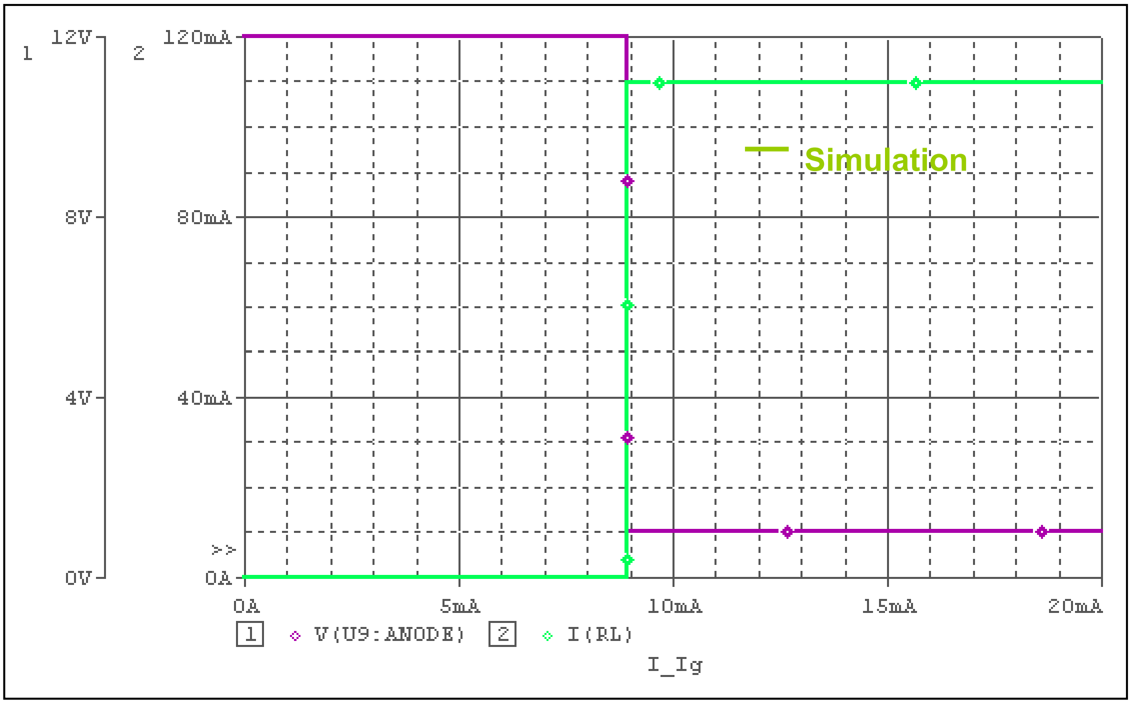
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a positive value)
IBV	Reverse Breakdown Current(a positive value)
TT	Transit Time

IG-VT Characteristic

Evaluation Circuit



Simulation result

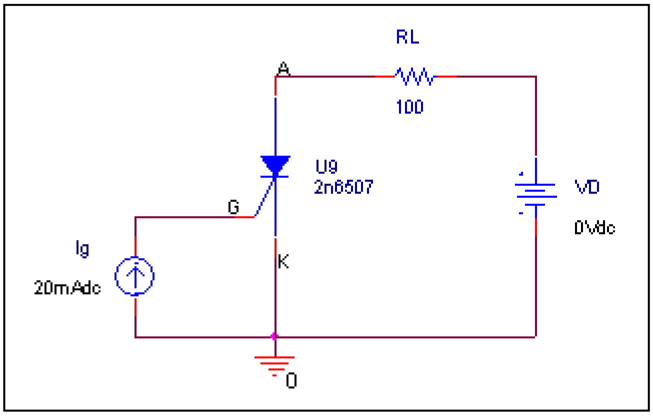


Comparison Table

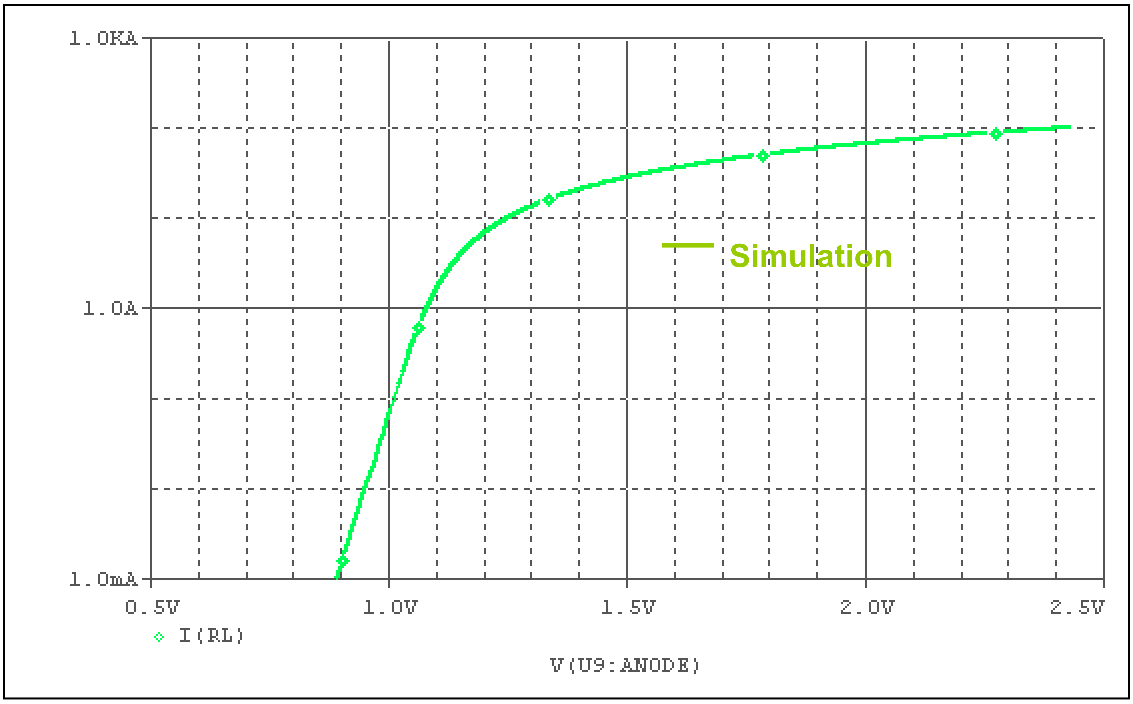
	Measurement	Simulation	% Error
IG_T (mA)	**9**	**8.9048**	**-1.05778**
V_{GT} (V)	**1.0**	**1.0135**	**1.35000**

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

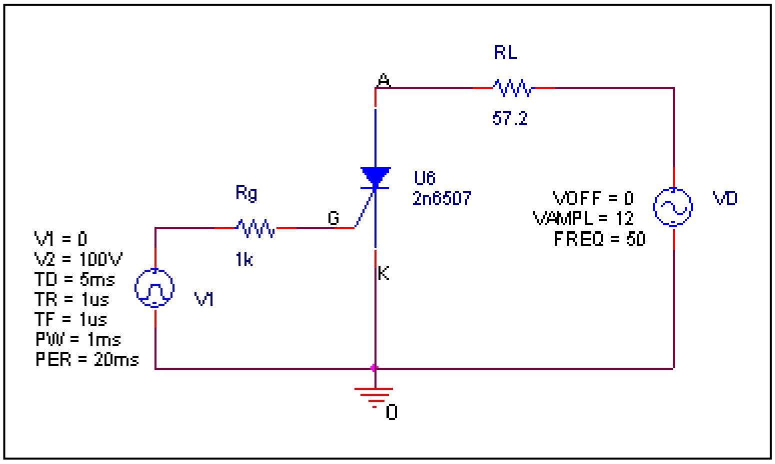


Comparison Table

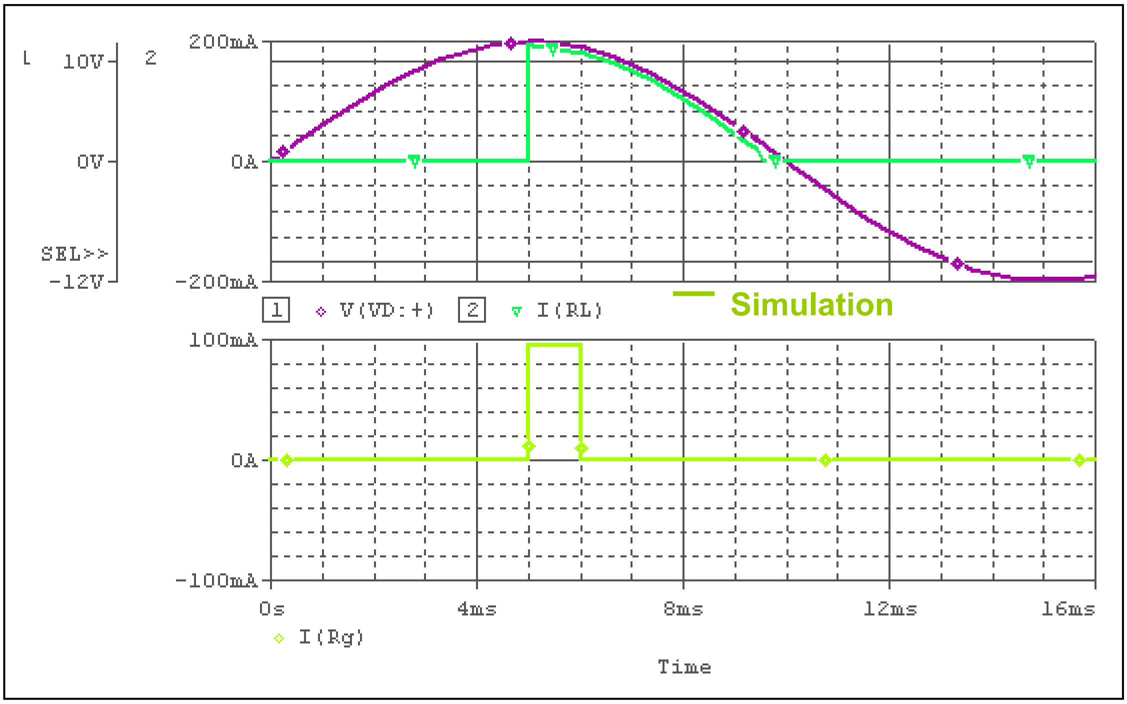
At ITM=50	Measurement	Simulation	% Error
VTM(V)	1.8(max)	1.7919	-0.45000

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

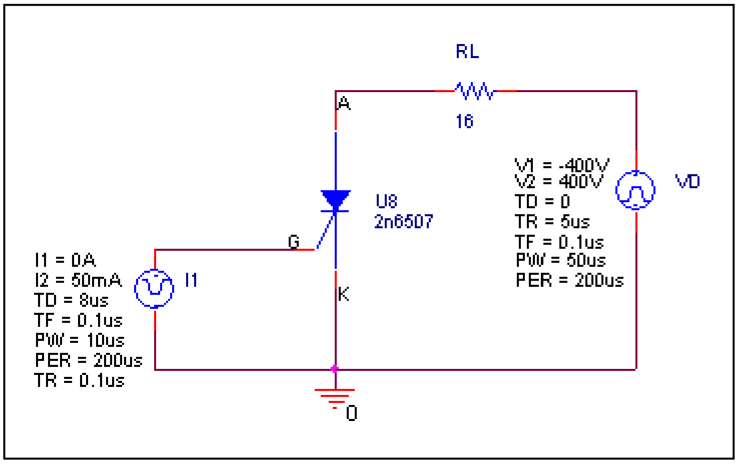


Comparison Table

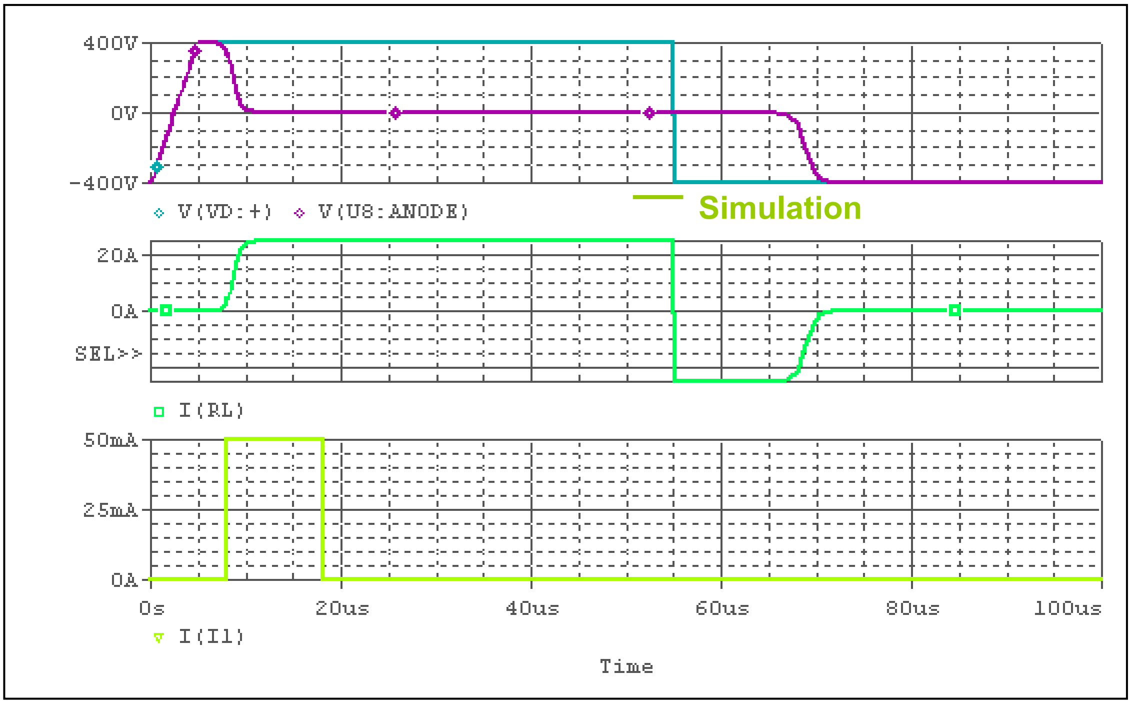
VD=12V	Measurement	Simulation	% Error
IH(mA)	18	17.624	-2.08889

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Ton(us)	**1.5**	**1.4834**	**-1.10667**
Toff(us)	**15**	**15.012**	**0.08000**