

Device Modeling Report

COMPONENTS: THYRISTOR
PART NUMBER: 03P2M
MANUFACTURER: NEC



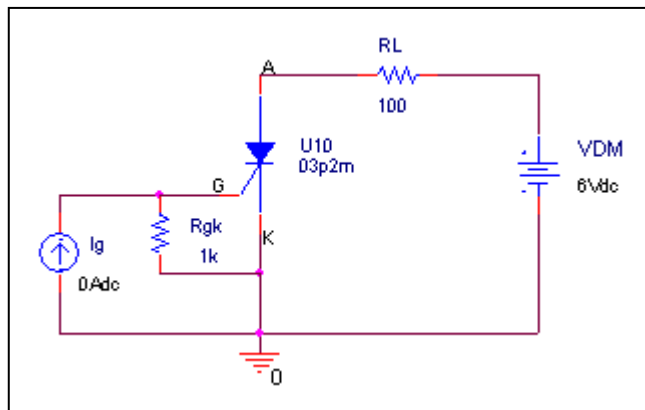
Bee Technologies Inc.

DIODE MODEL

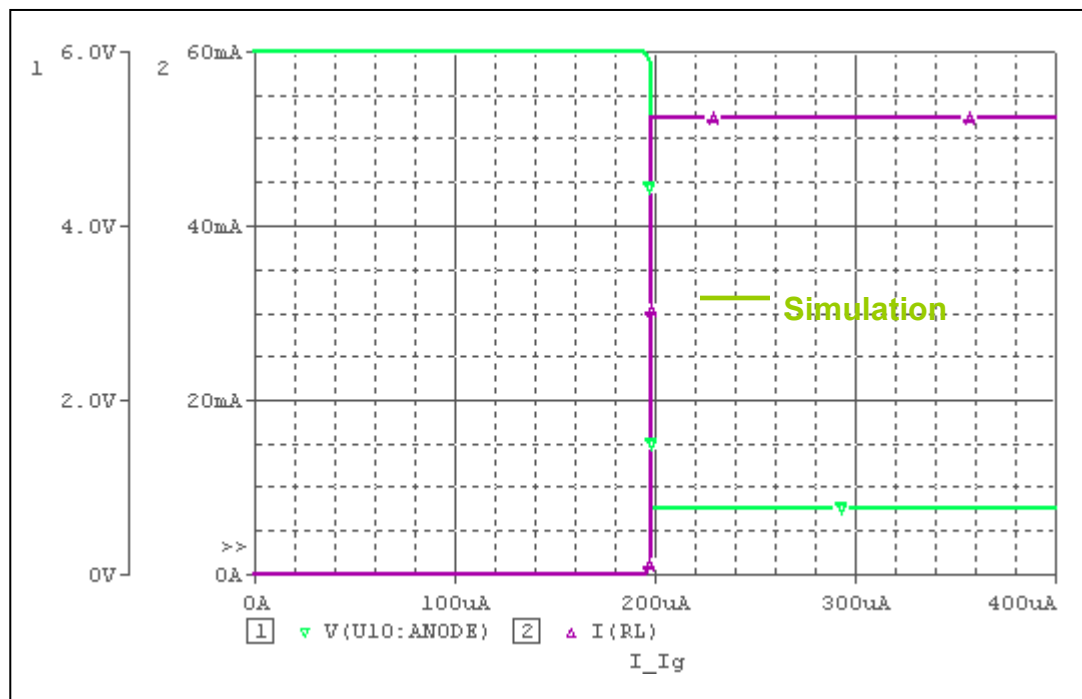
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

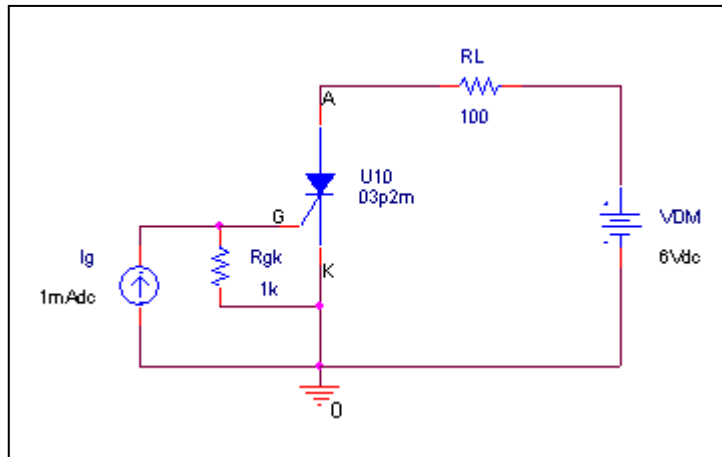


Comparison Table

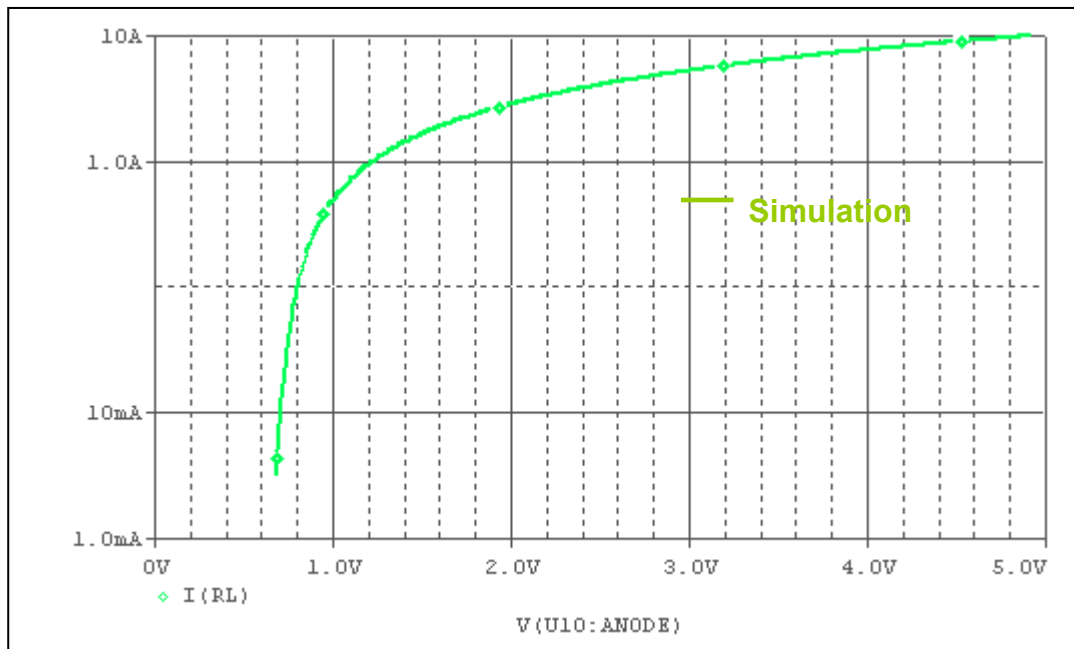
	Measurement	Simulation	% Error
I_{GT} (uA)	200(max.)	198.010	0.9950
V_{GT} (V)	0.8(max)	0.764159	4.4801

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

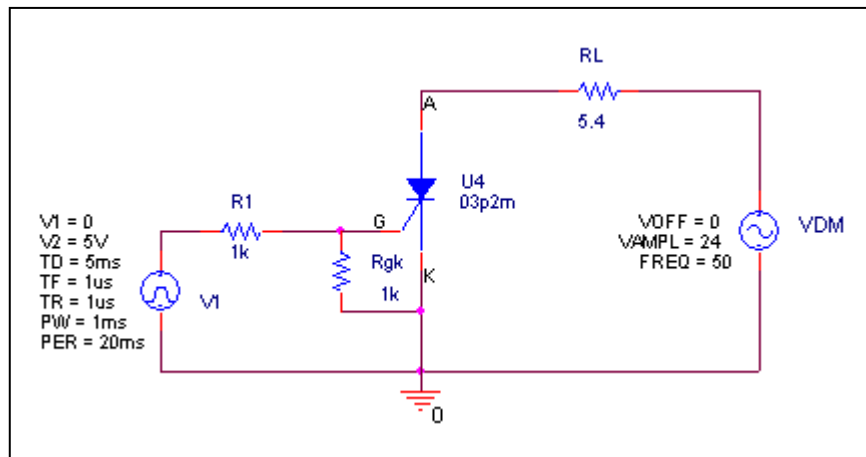


Comparison Table

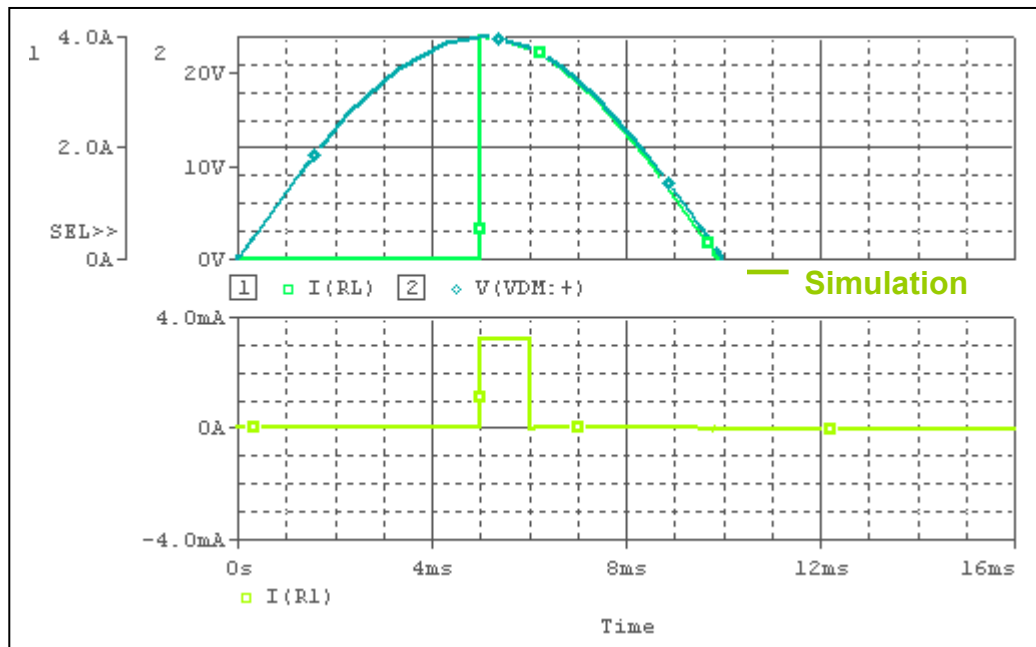
At ITM=4A	Measurement	Simulation	% Error
VTM(V)	2.5(max)	2.4798	0.8080

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

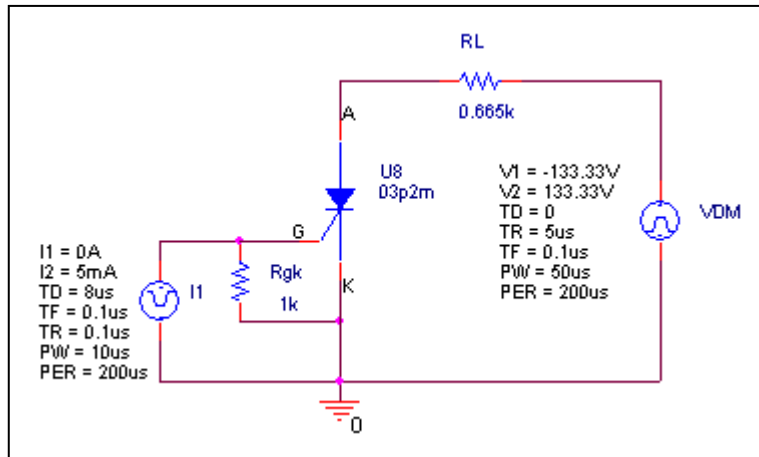


Comparison Table

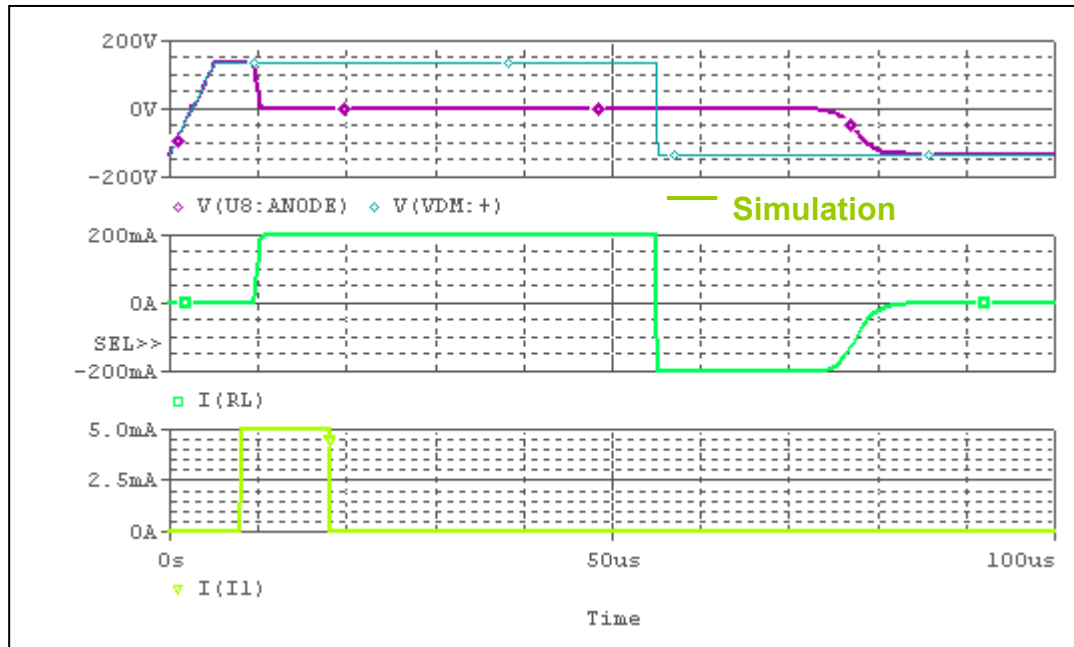
$V_{DM}=24V$	Measurement	Simulation	% Error
IH(mA)	5(max)	3.5851	0

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Toff(us)	25	25.014	-0.0560