

Device Modeling Report

COMPONENTS: THYRISTOR
PART NUMBER: 03P6MG
MANUFACTURER: NEC



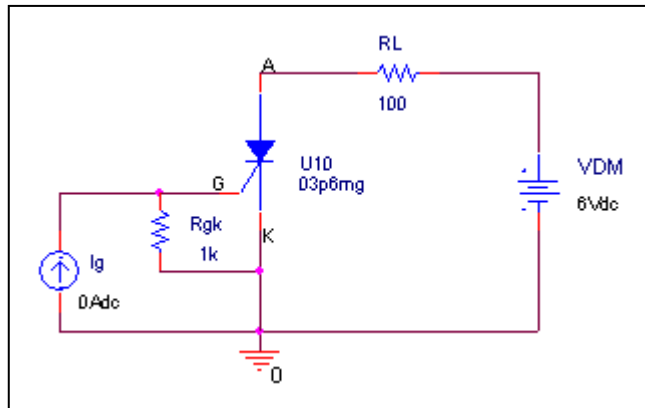
Bee Technologies Inc.

DIODE MODEL

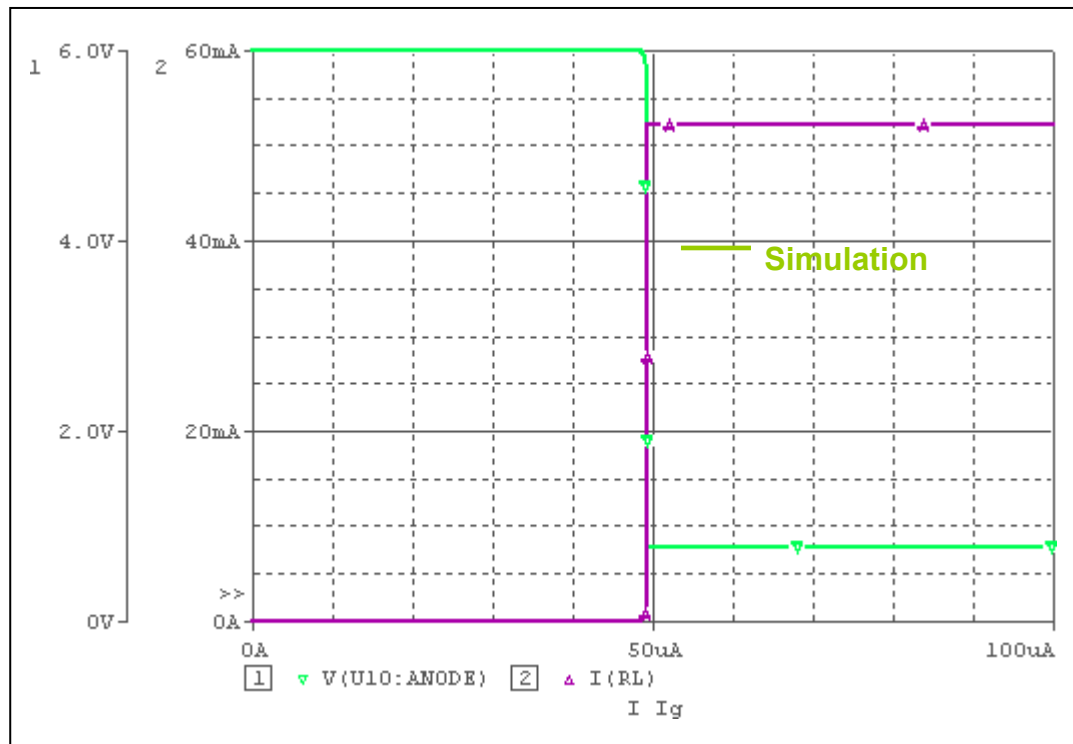
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

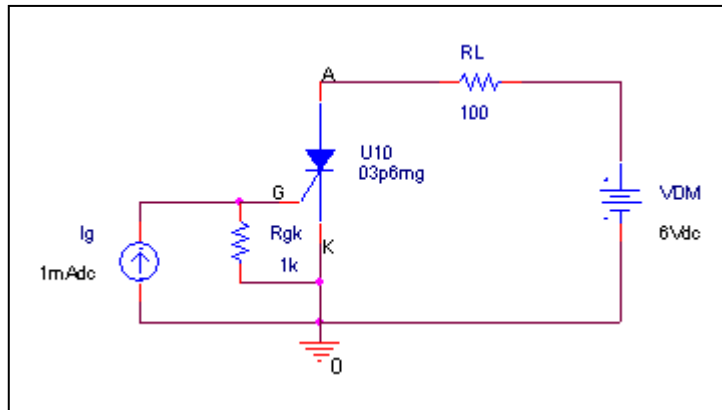


Comparison Table

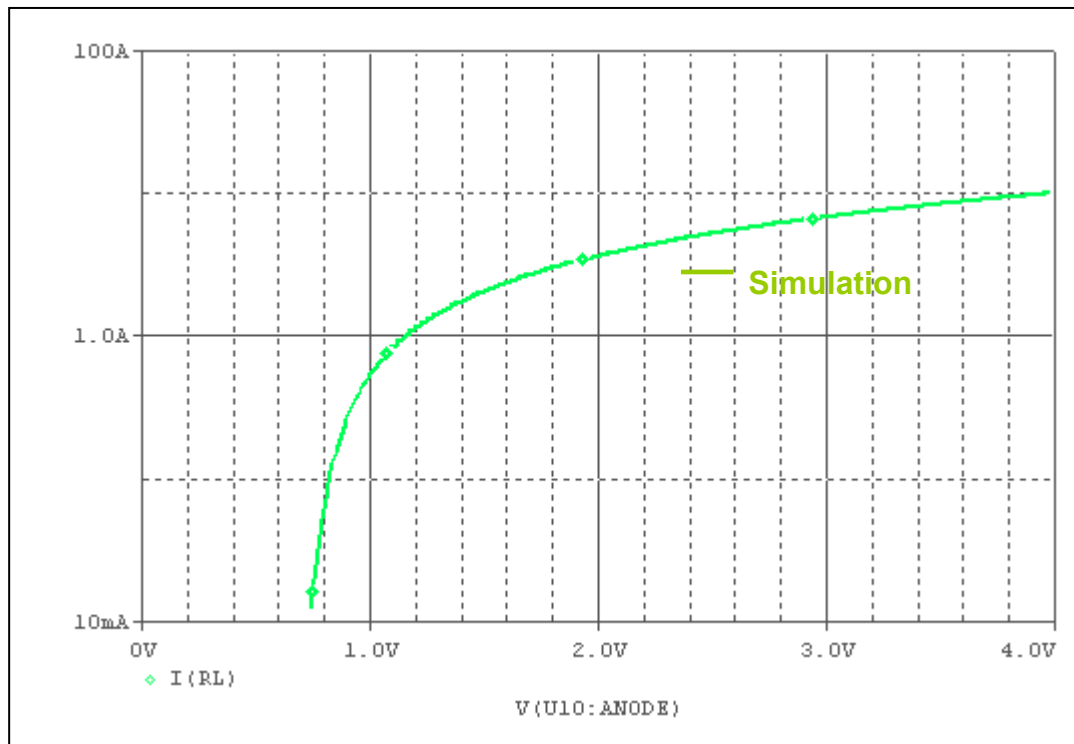
	Measurement	Simulation	% Error
I_{GT} (uA)	50(max)	48.691	2.6180
V_{GT} (V)	0.8(max)	0.788856	1.3930

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

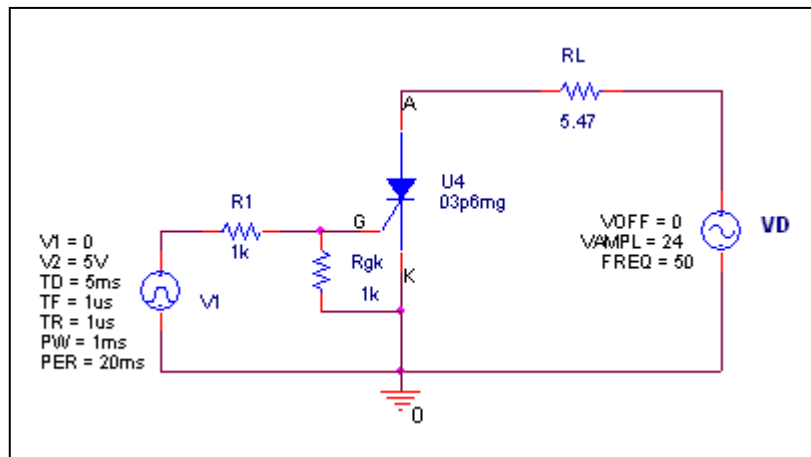


Comparison Table

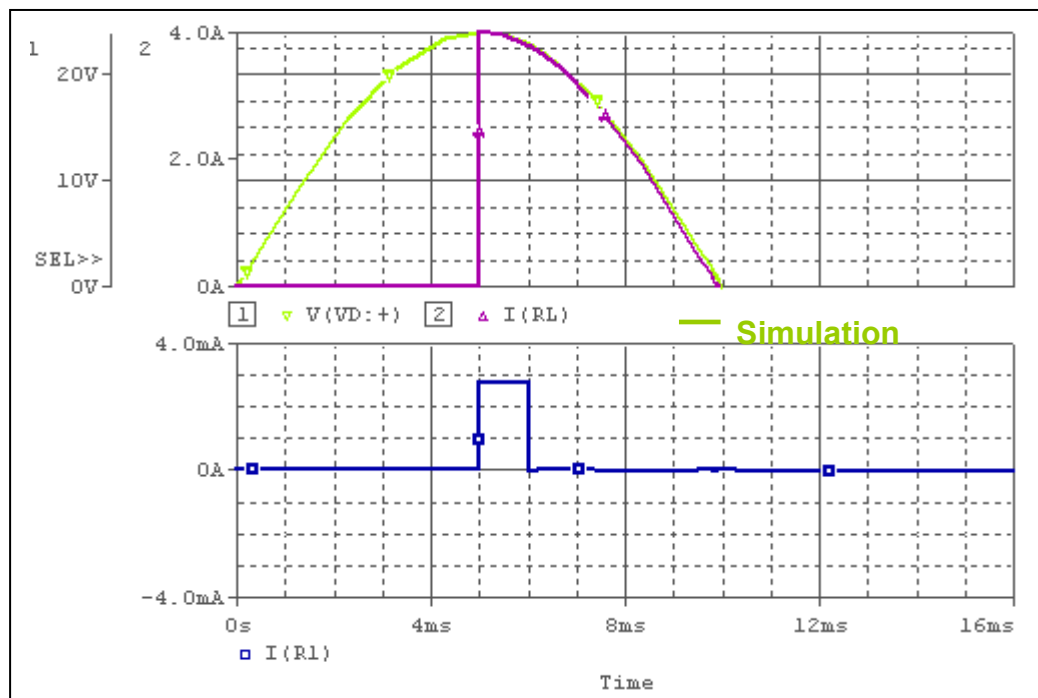
At ITM=4A	Measurement	Simulation	% Error
VTM(V)	2.2(max)	2.1172	3.7636

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

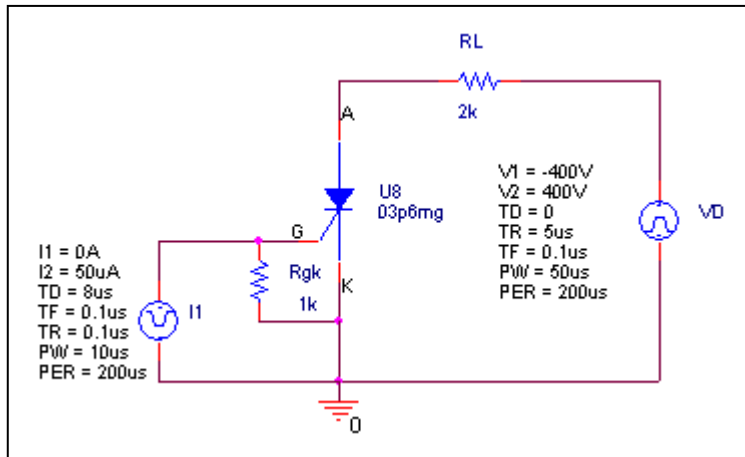


Comparison Table

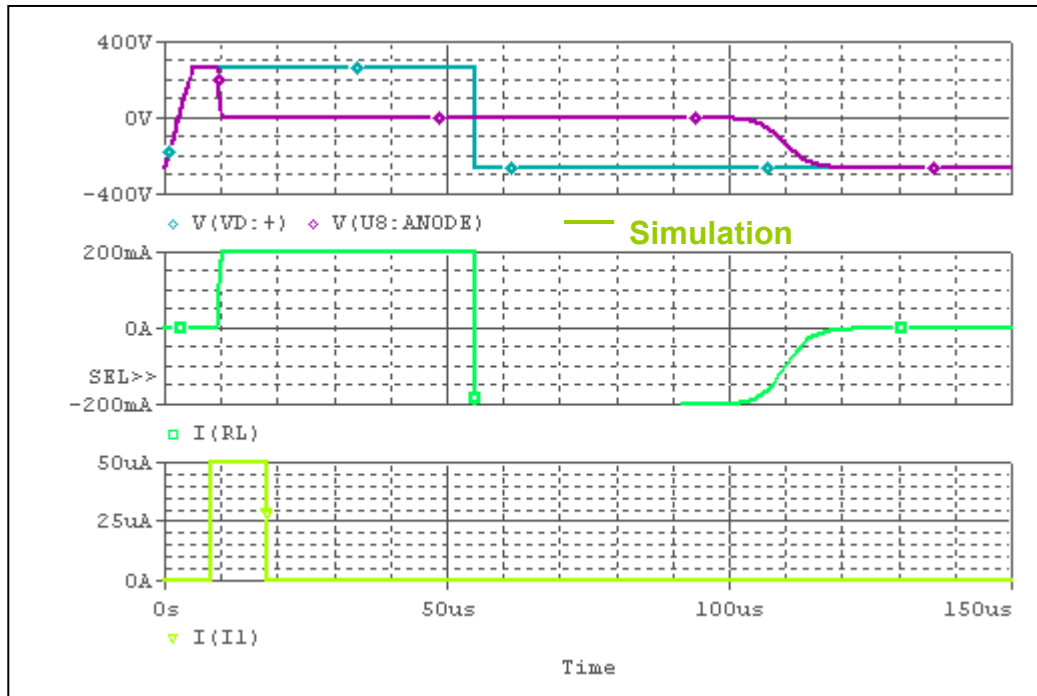
$V_{DM}=24V, I_{TM}=4A$	Measurement	Simulation	% Error
IH(mA)	5(max)	3.3024	0

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Toff(us)	60	59.765	0.3917