

Device Modeling Report

COMPONENTS: THYRISTOR
PART NUMBER: 3P6MH
MANUFACTURER: NEC



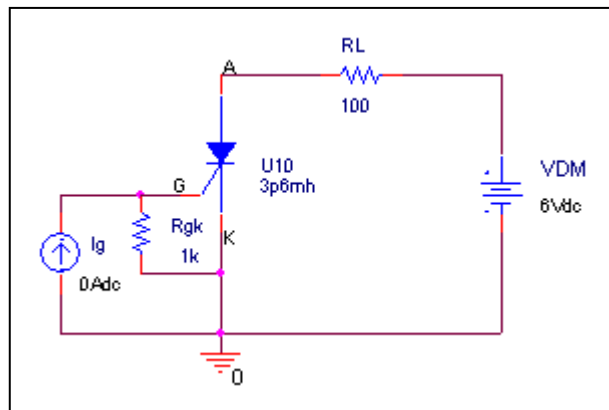
Bee Technologies Inc.

DIODE MODEL

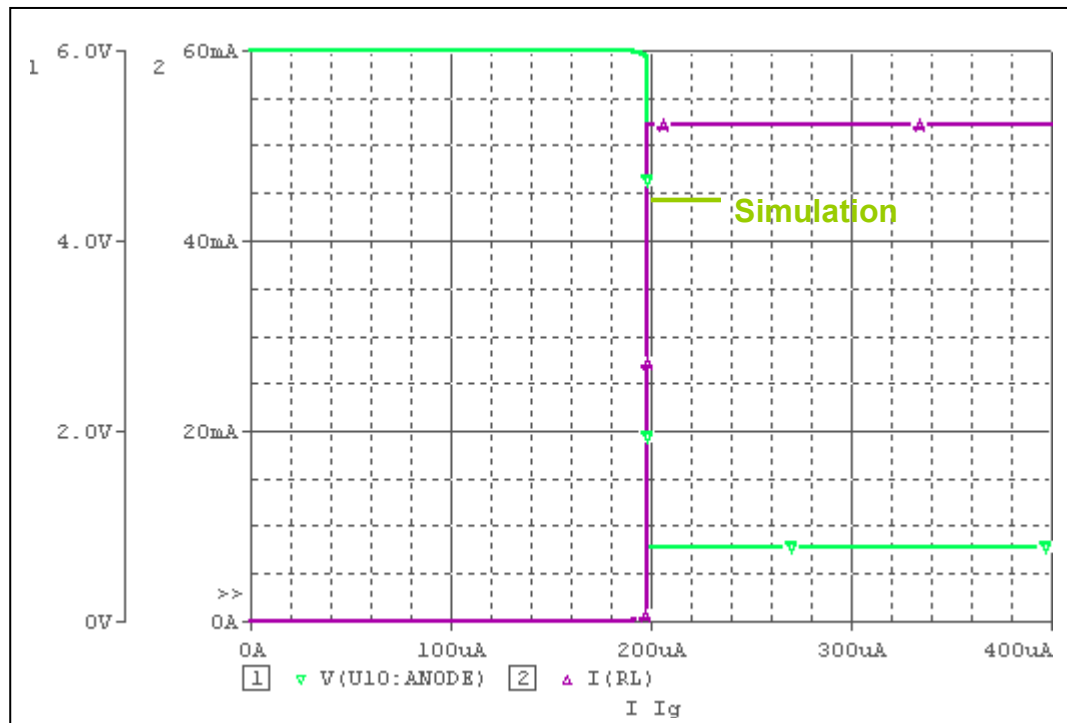
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

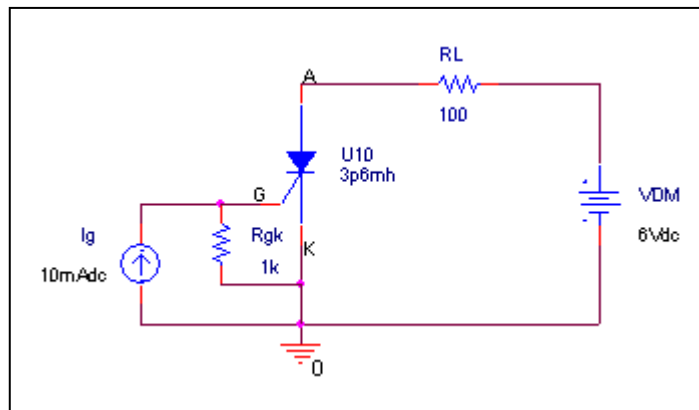


Comparison Table

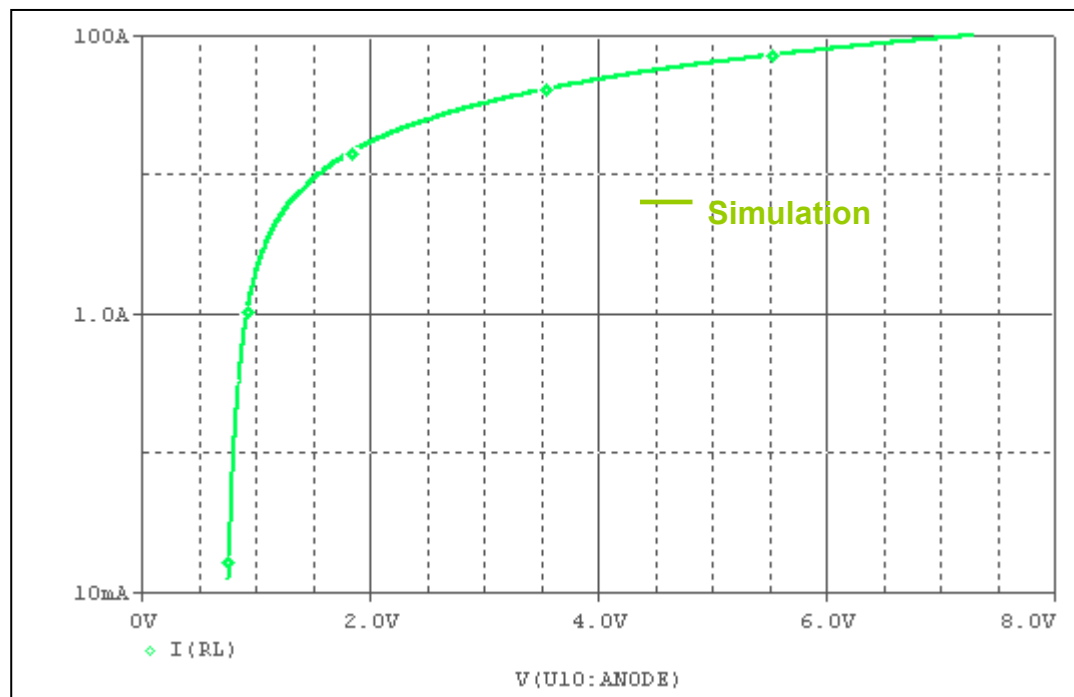
	Measurement	Simulation	% Error
I_{GT} (mA)	0.2(max)	0.197584	1.2080
V_{GT} (V)	0.8(max)	0.786130	1.7338

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

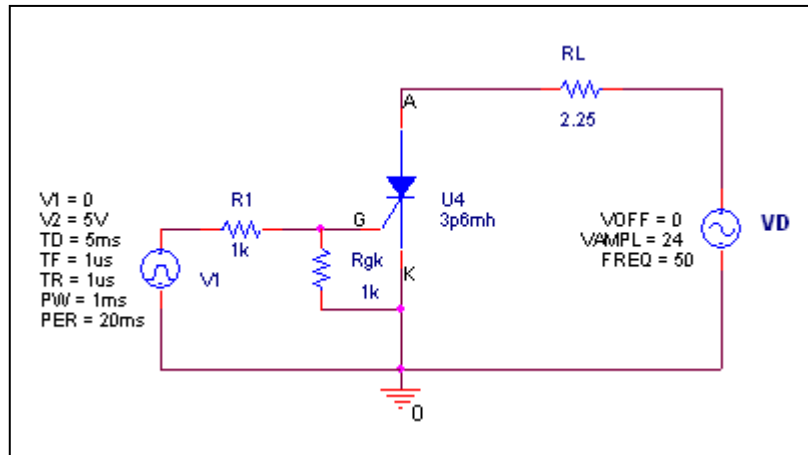


Comparison Table

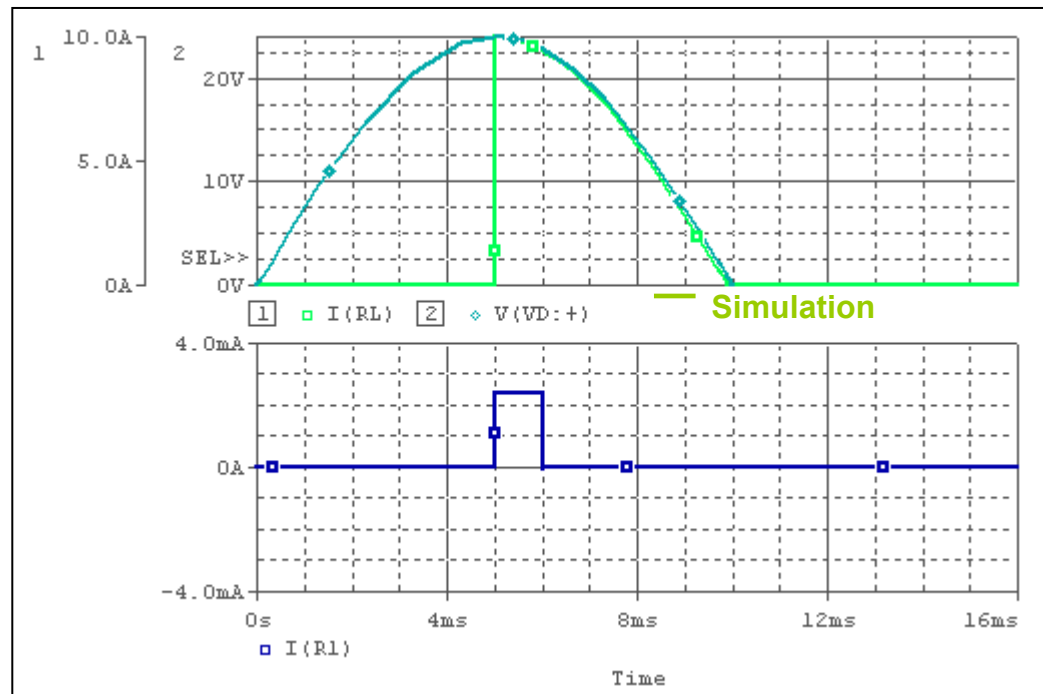
At ITM=10A	Measurement	Simulation	% Error
VTM(V)	1.6(max)	1.5522	2.9875

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

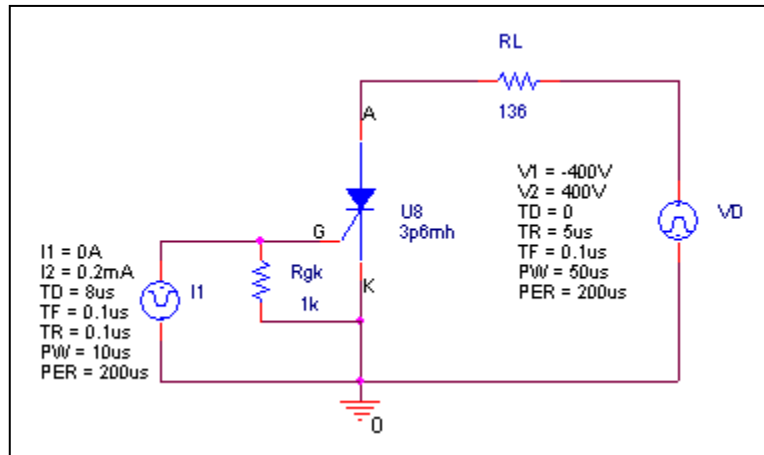


Comparison Table

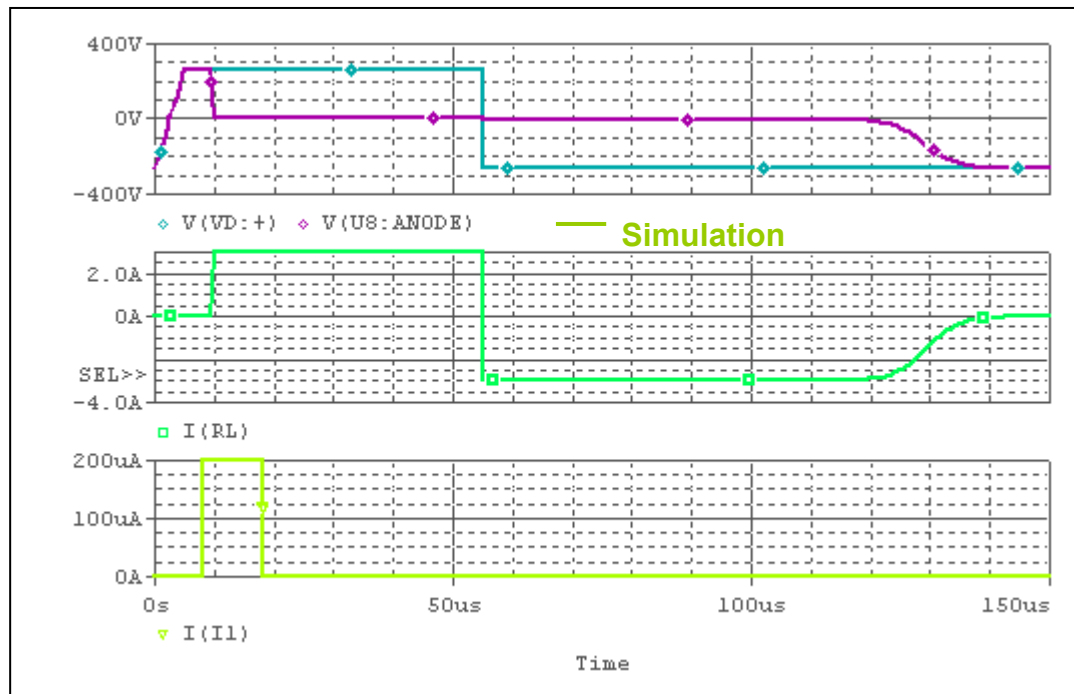
$V_{DM}=24V, I_{TM}=10A$	Measurement	Simulation	% Error
$I_H(mA)$	5(max)	4.9663	0.6740

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Toff(us)	80	80.670	-0.8375