

Device Modeling Report

COMPONENTS: THYRISTOR
PART NUMBER: 2P4M
MANUFACTURER: NEC CORPORATION



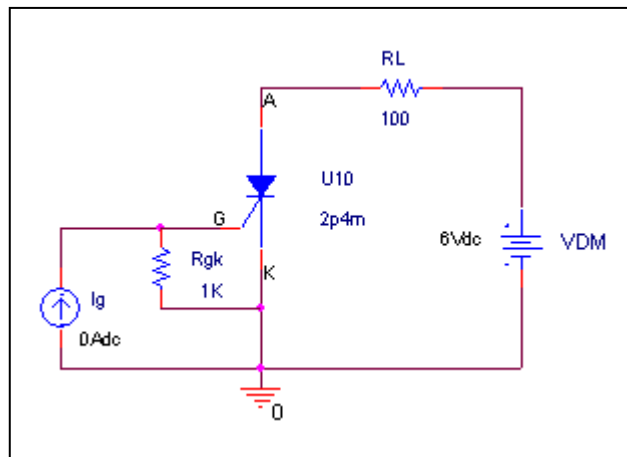
Bee Technologies Inc.

DIODE MODEL

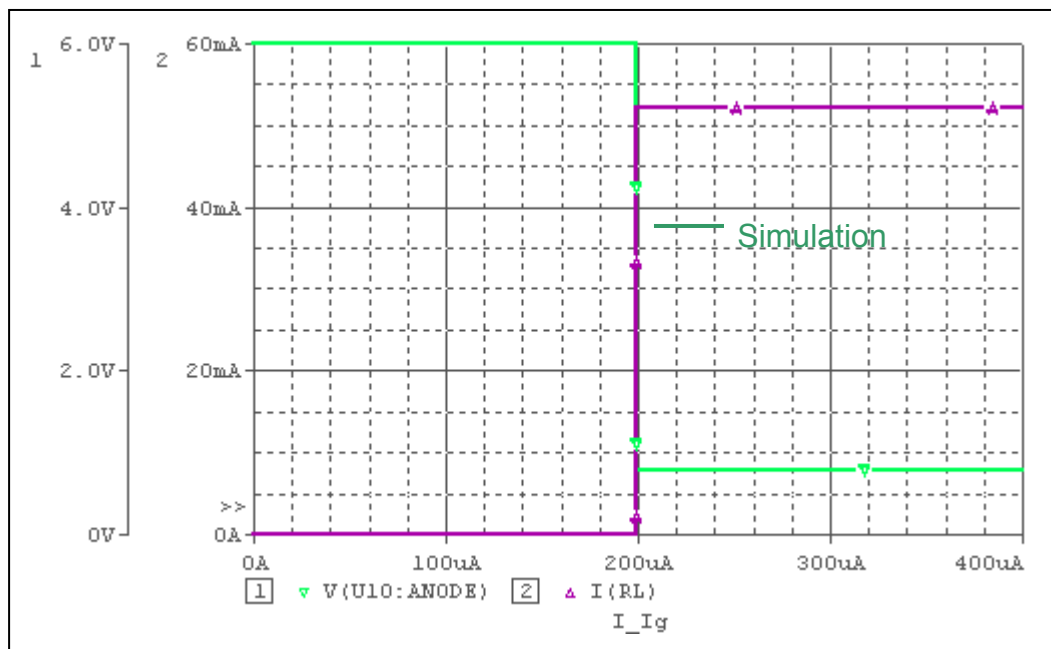
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

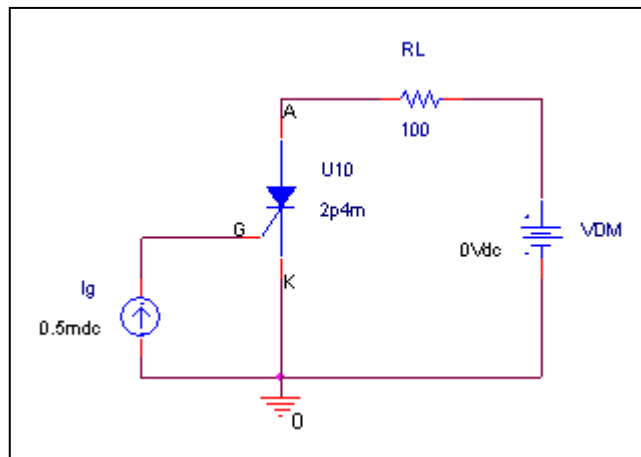


Comparison Table

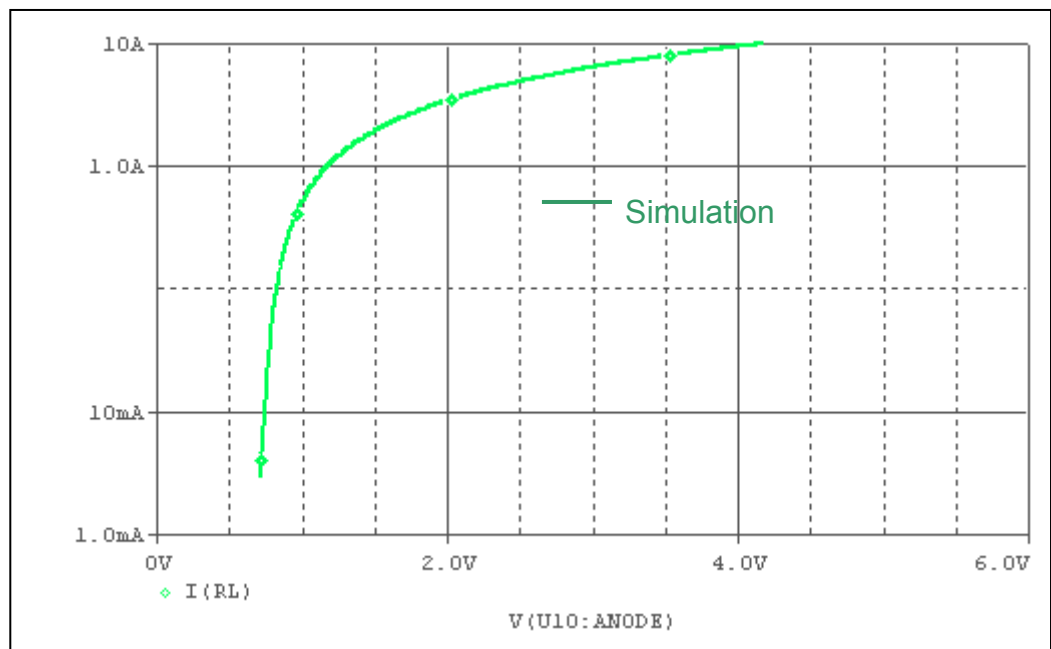
	Measurement	Simulation	% Error
IG (uA)	200(max)	198.571	0.7145
VT (V)	0.8(max)	0.789890	1.2638

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

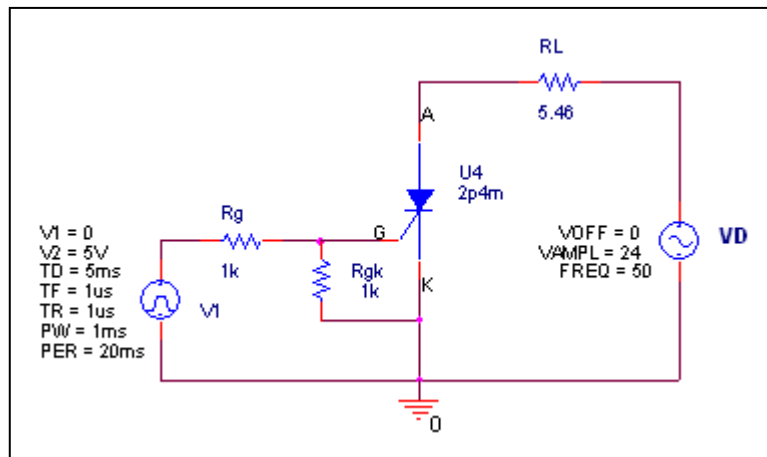


Comparison Table

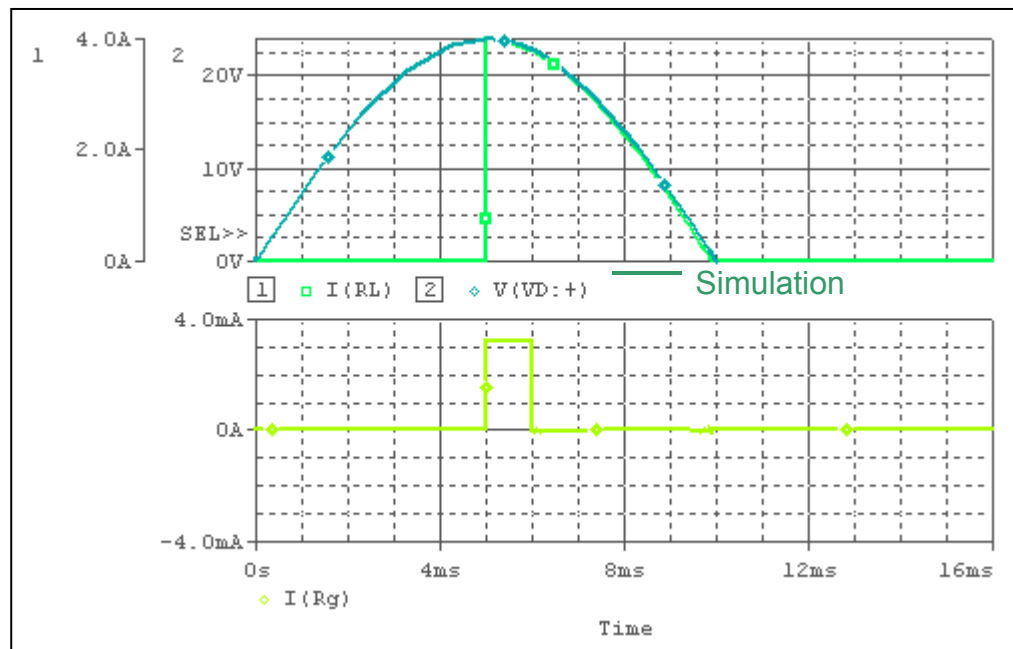
At ITM=4A	Measurement	Simulation	% Error
VTM(V)	2.2(max)	2.1964	0.1636

Holding Characteristic (IH)

Evaluation Circuit



Simulation result



Comparison Table

$V_{DM}=24V, I_{TM}=4A$	Measurement	Simulation	% Error
$I_H(mA)$	1	0.974856	2.5144