

Device Modeling Report

COMPONENTS: THYRISTOR
PART NUMBER: BT151U-800C
MANUFACTURER: PHILIPS SEMICONDUCTOR



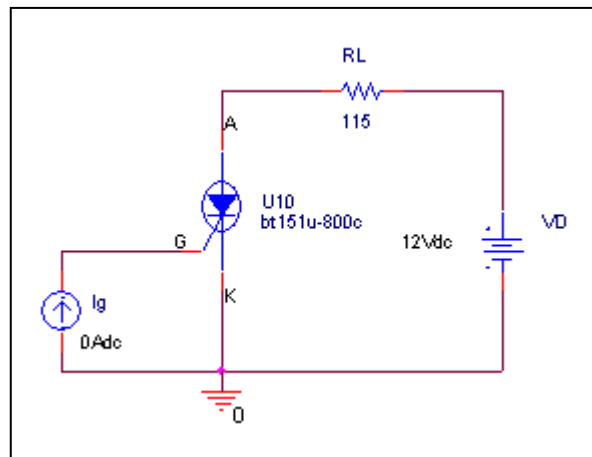
Bee Technologies Inc.

DIODE MODEL

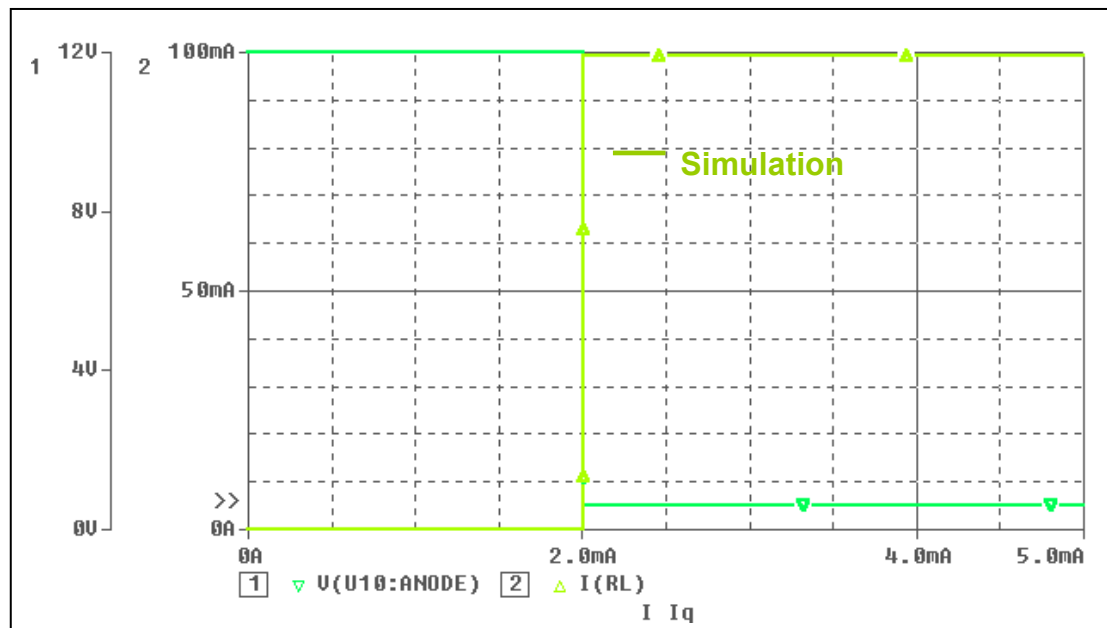
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

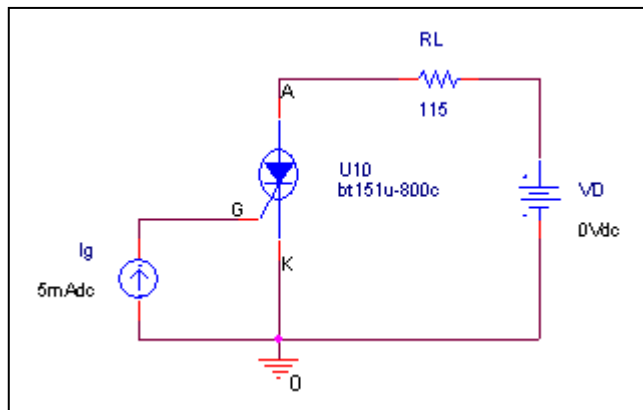


Comparison Table

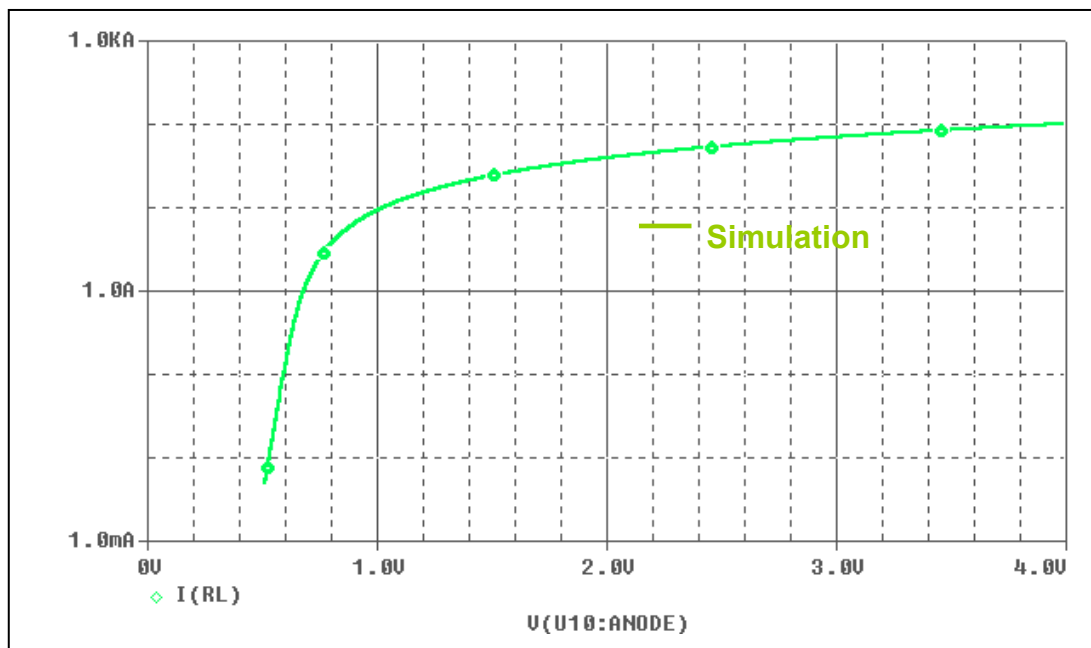
	Measurement	Simulation	% Error
I_{GT} (mA)	2	2	0
V_{GT} (V)	0.6	0.592672	-1.22133

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

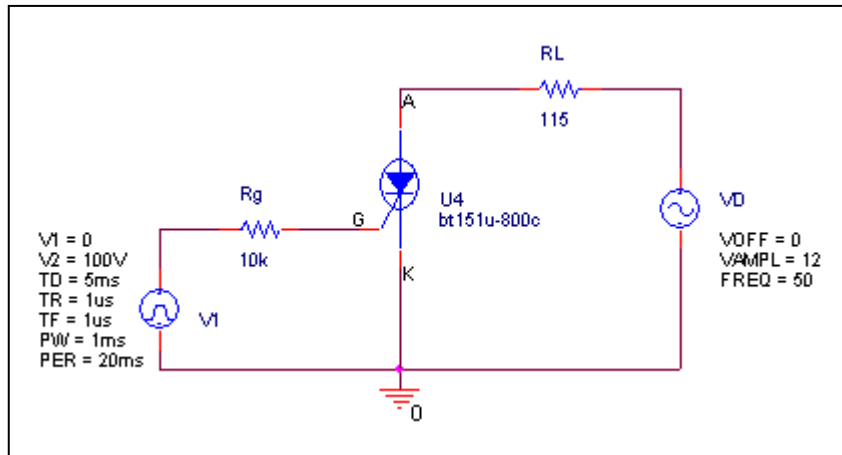


Comparison Table

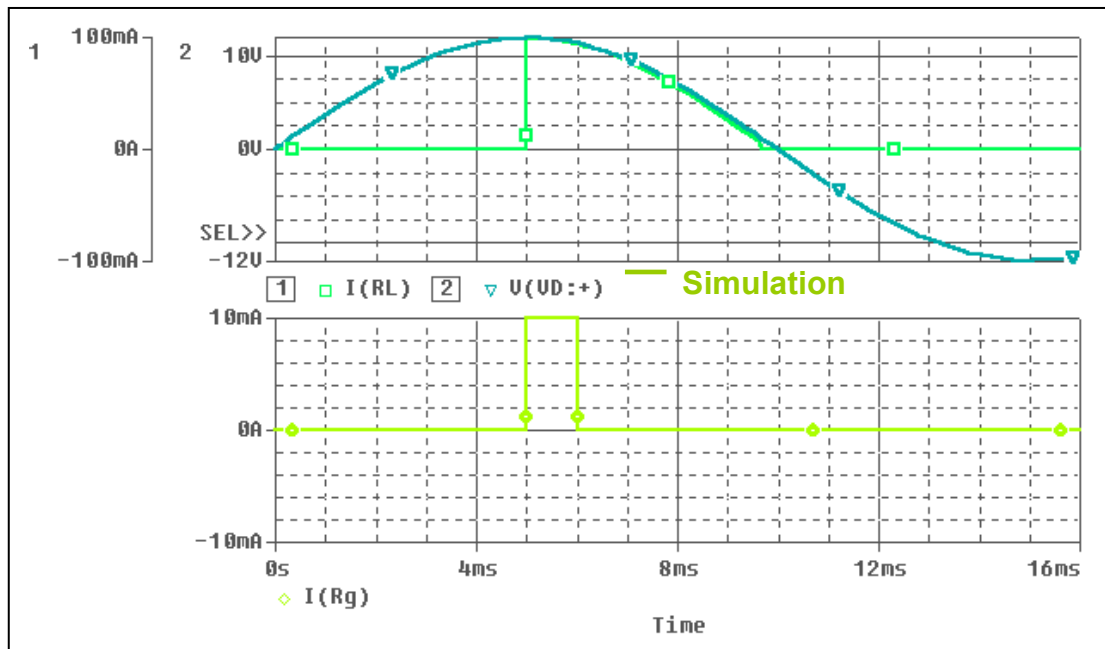
At ITM=23A	Measurement	Simulation	% Error
VTM(V)	1.44	1.4714	2.18056

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

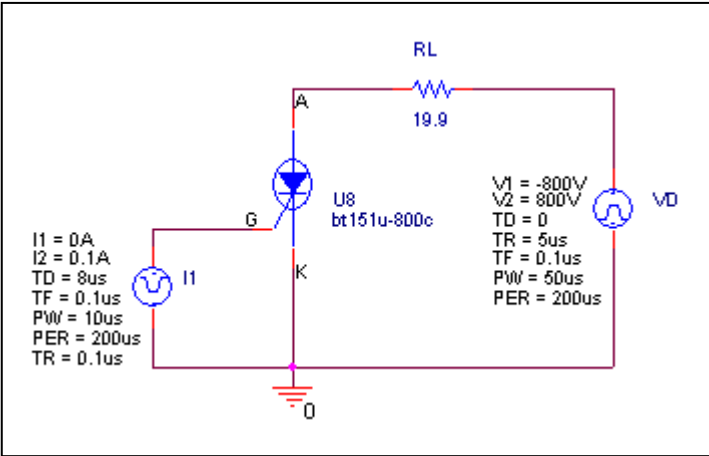


Comparison Table

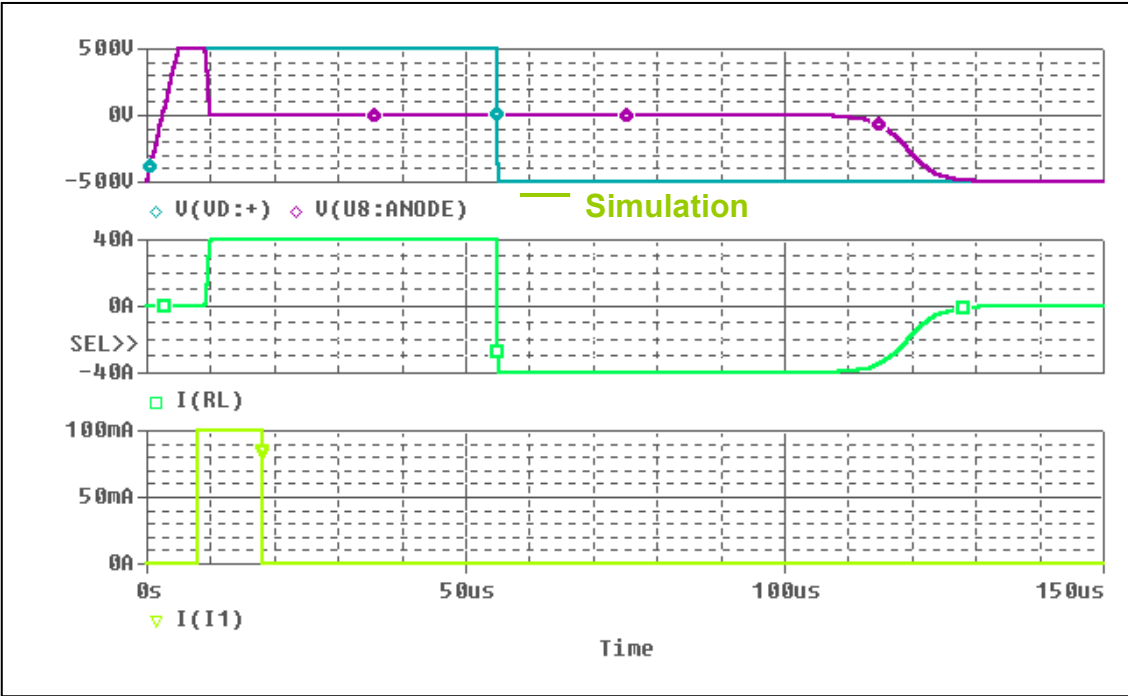
VD=12V	Measurement	Simulation	% Error
IH(mA)	7	6.7430	-3.6714

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Ton(us)	2	2.0861	4.3050
Toff(us)	70	69.441	-0.7986