

Device Modeling Report

COMPONENTS: THYRISTOR
PART NUMBER: BT300S-600R
MANUFACTURER: PHILIPS SEMICONDUCTOR



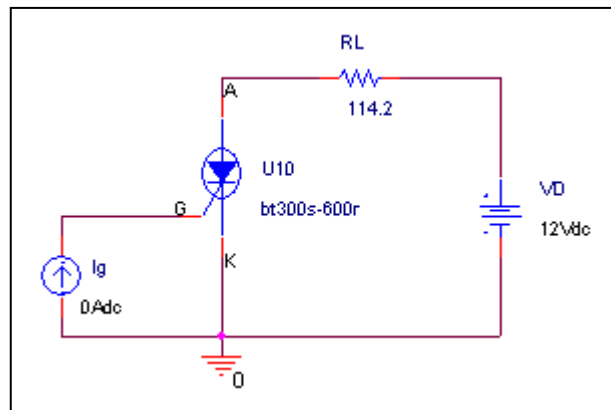
Bee Technologies Inc.

DIODE MODEL

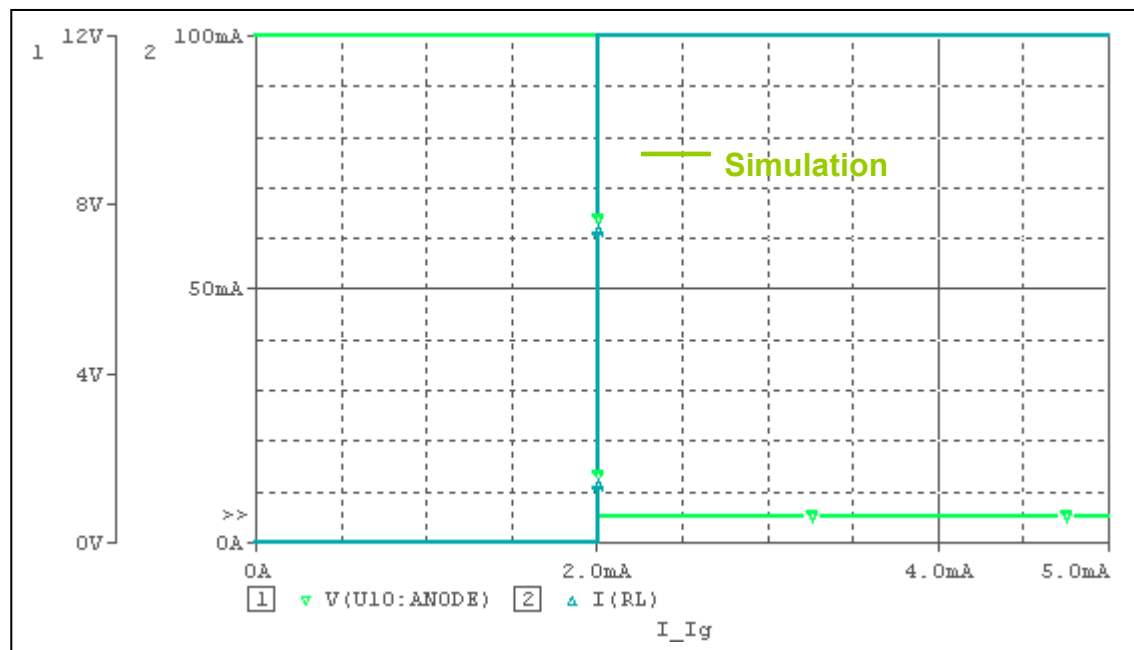
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

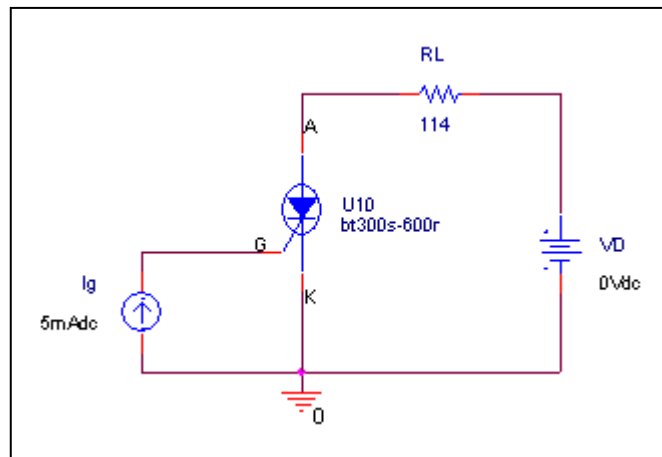


Comparison Table

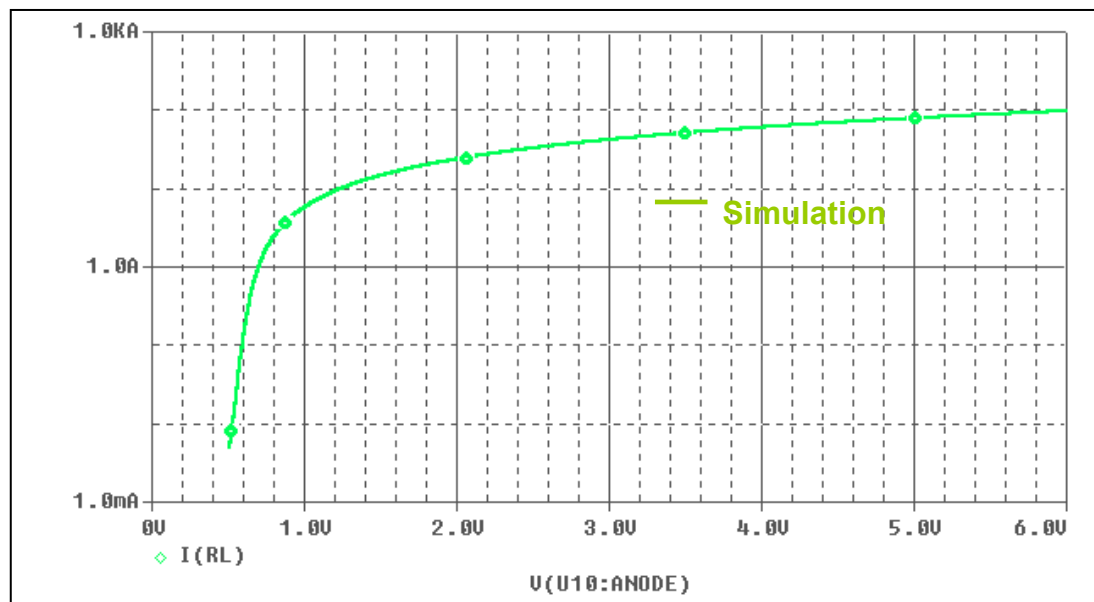
	Measurement	Simulation	% Error
I_{GT} (mA)	2	2	0
V_{GT} (V)	0.6	0.595065	-0.82250

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

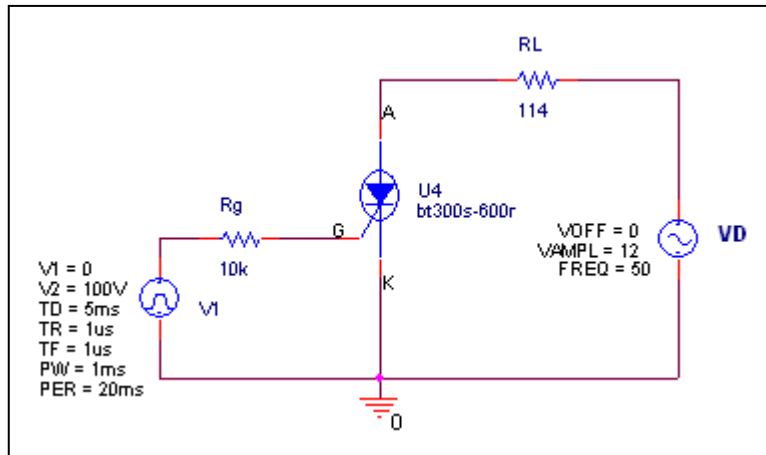


Comparison Table

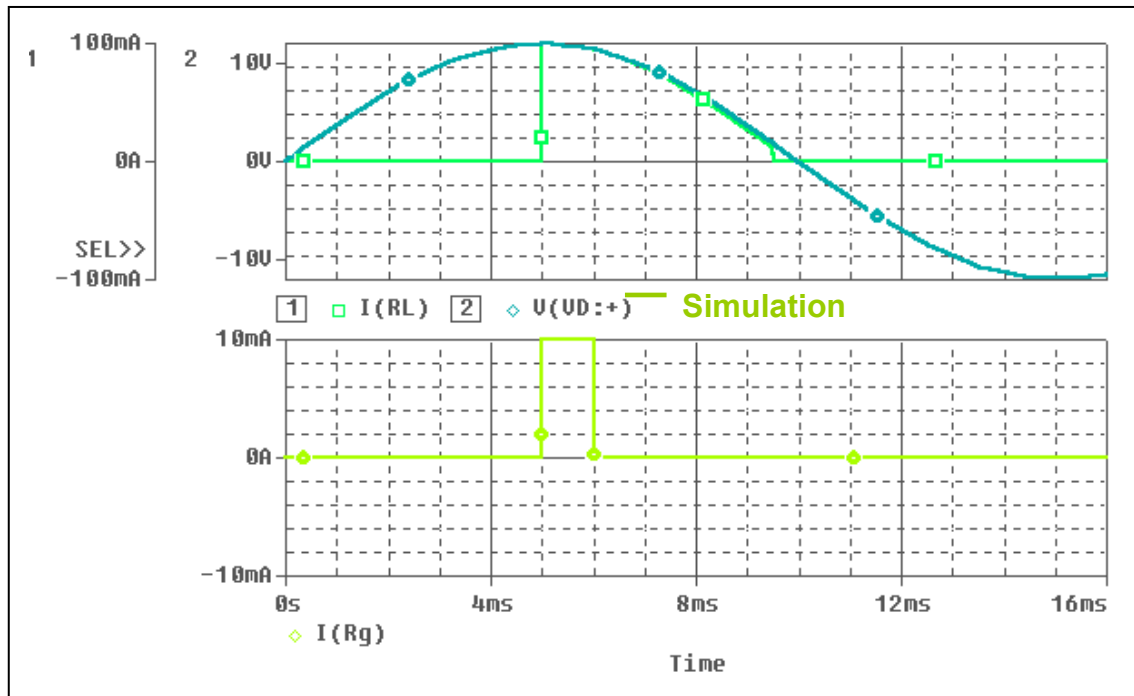
At ITM=12A	Measurement	Simulation	% Error
VTM(V)	1.35	1.3690	1.40741

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

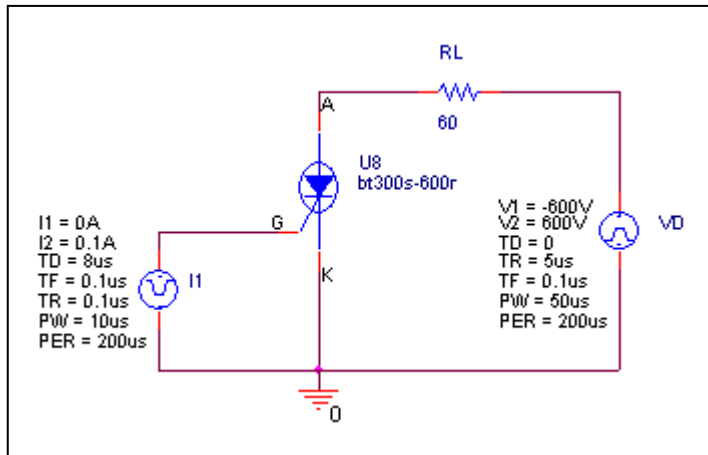


Comparison Table

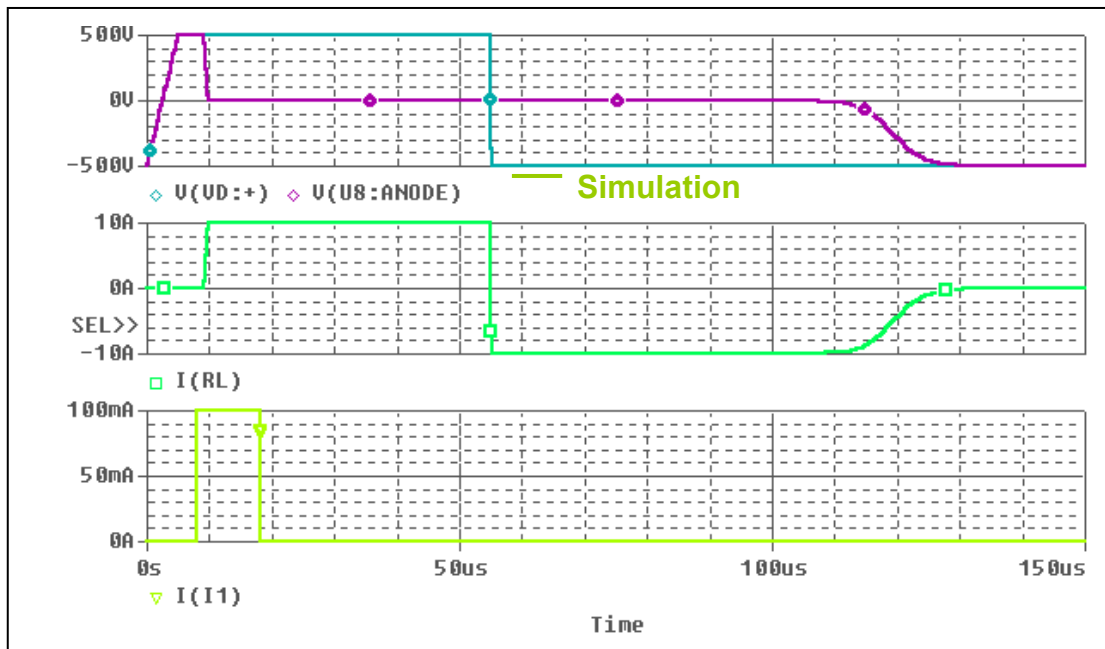
VD=12V	Measurement	Simulation	% Error
IH(mA)	10	10.089	0.89000

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Ton(us)	2	2.0112	0.56000
Toff(us)	70	69.585	-0.59286