

Device Modeling Report

COMPONENTS: THYRISTOR
PART NUMBER: MCR68-2
MANUFACTURER: ON SEMICONDUCTOR



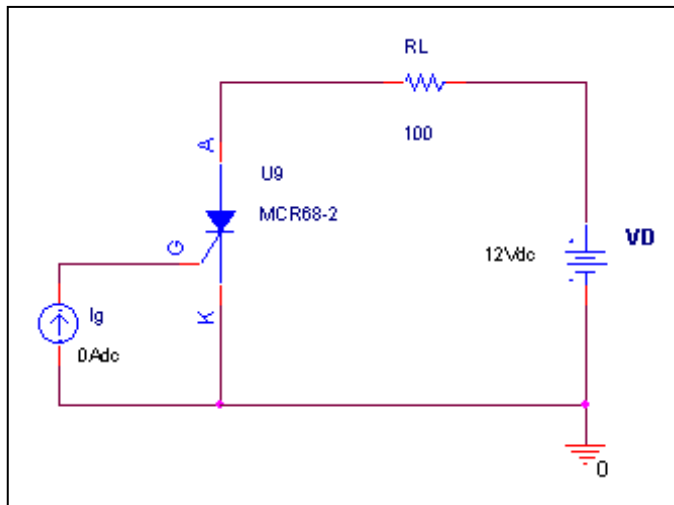
Bee Technologies Inc.

DIODE MODEL

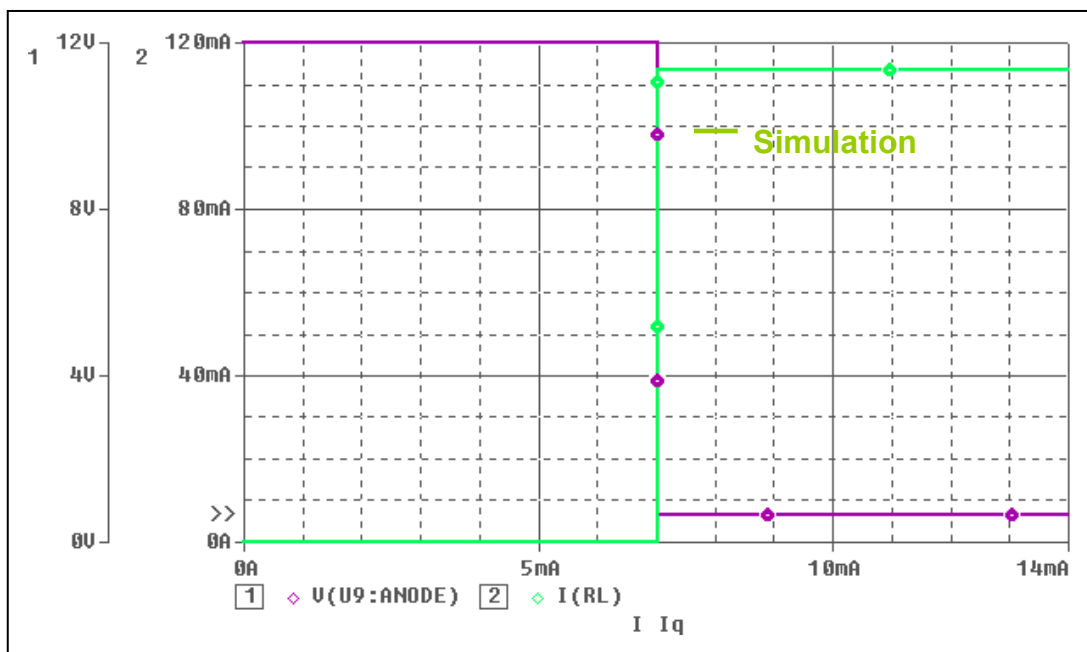
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

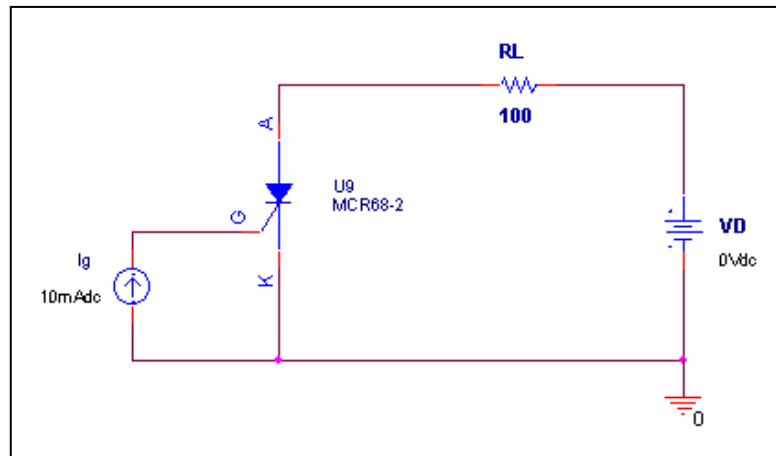


Comparison Table

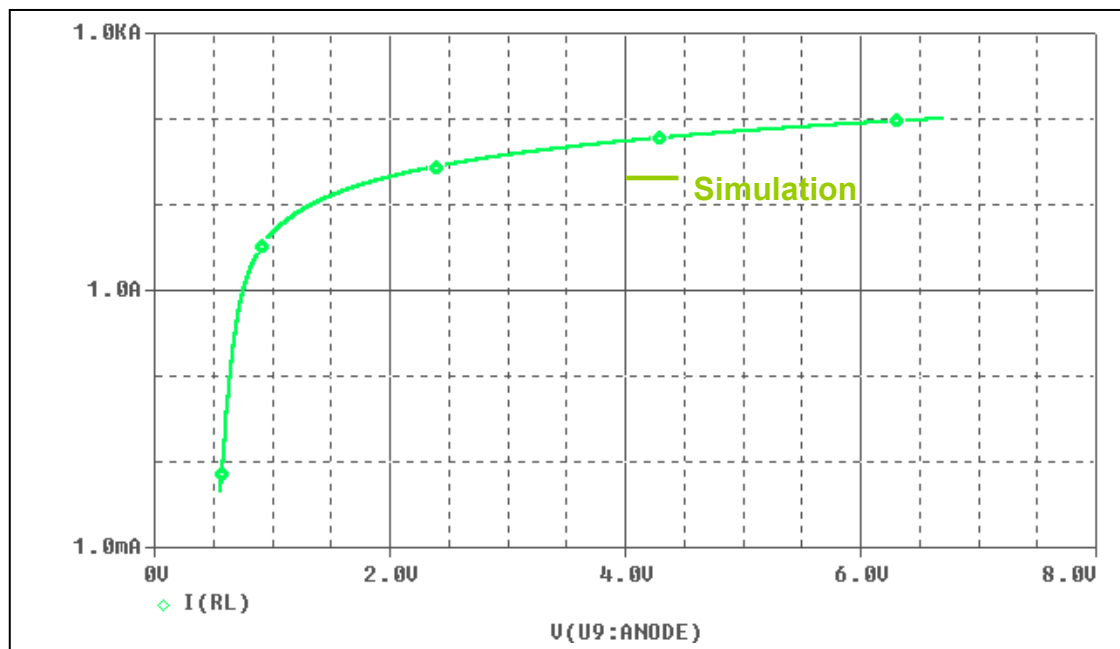
	Measurement	Simulation	% Error
I_{GT} (mA)	7	6.996	-0.05714
V_{GT} (V)	0.65	0.6496	-0.06154

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

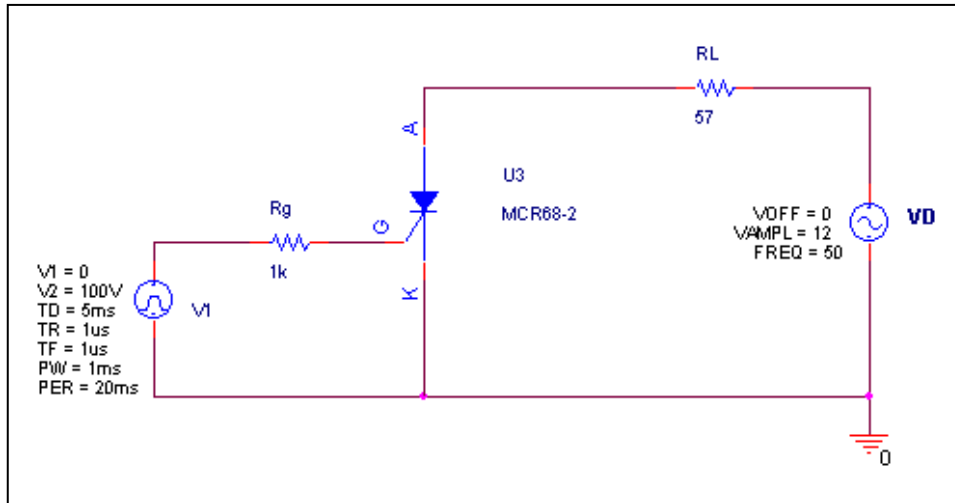


Comparison Table

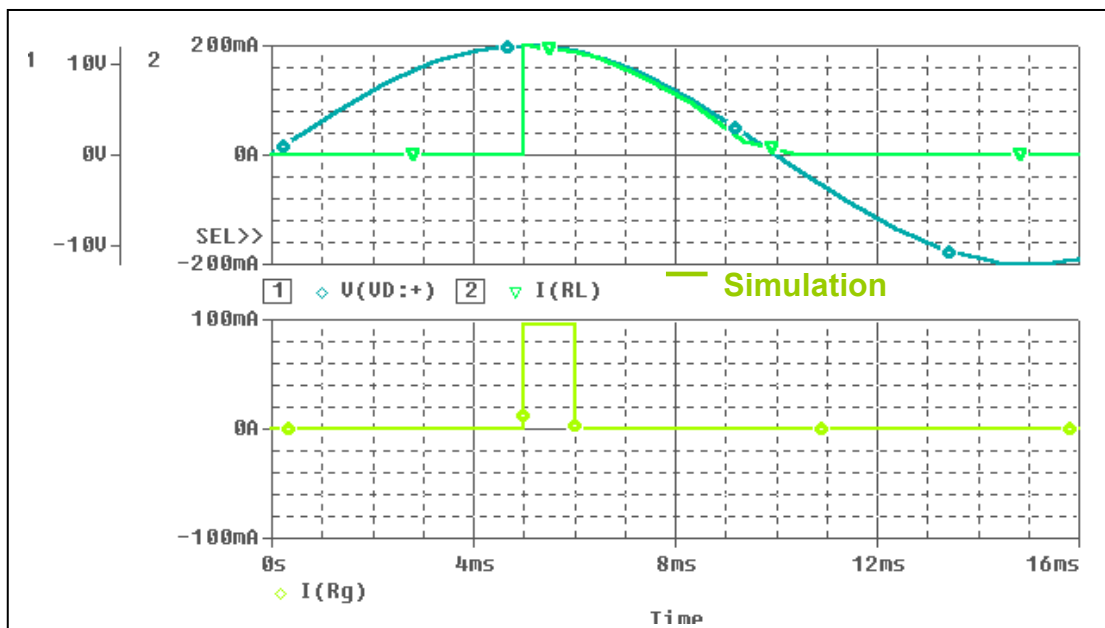
At ITM=24A	Measurement	Simulation	% Error
VTM(V)	2.2(max)	2.1913	-0.39545

Holding Characteristic (IH)

Evaluation Circuit



Simulation result



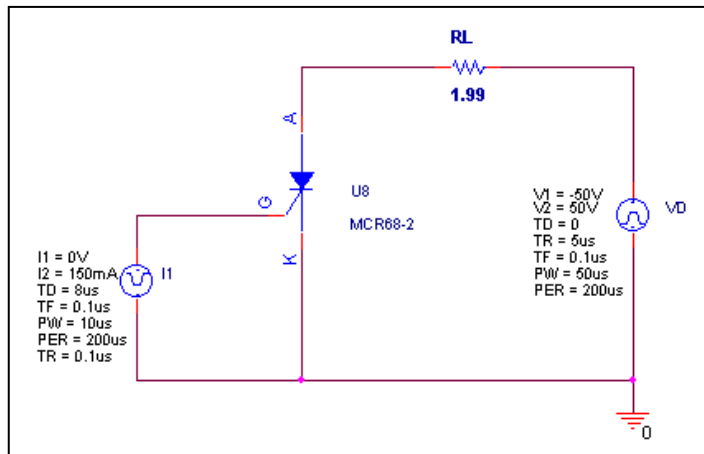
Comparison Table

VD=12V	Measurement	Simulation	% Error
IH(mA)	15	15.336	2.24000

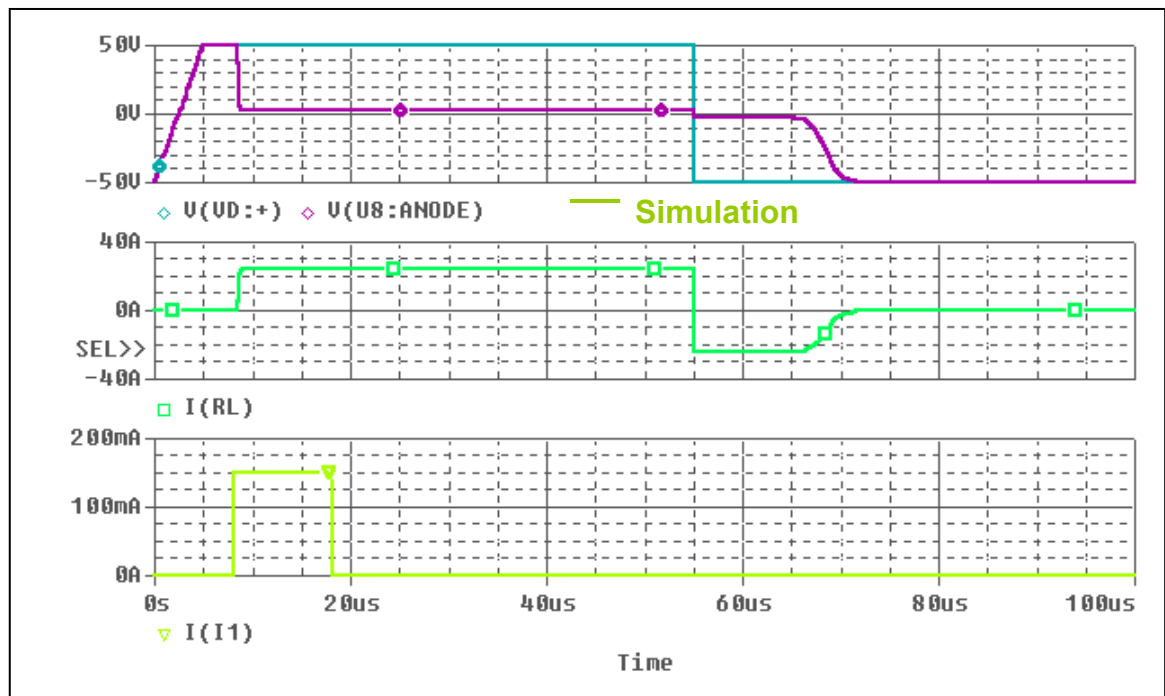
S

witching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Ton(us)	1	0.9523	-4.77000