

Device Modeling Report

COMPONENTS: THYRISTOR

PART NUMBER: MCR264-4

MANUFACTURER: MOTOROLA SEMICONDUCTOR



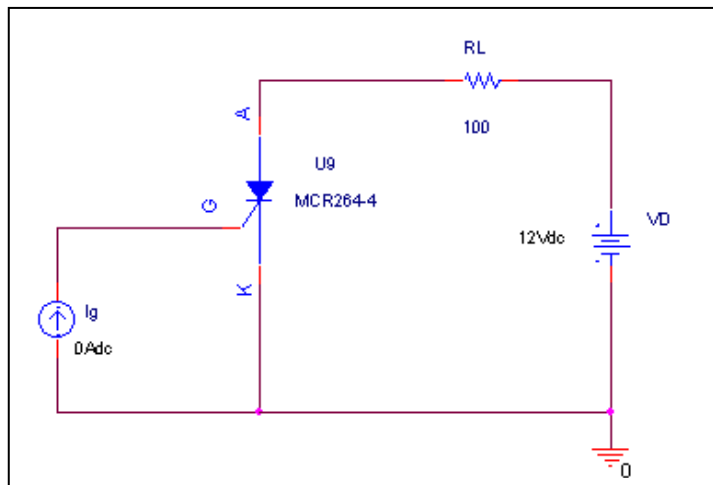
Bee Technologies Inc.

DIODE MODEL

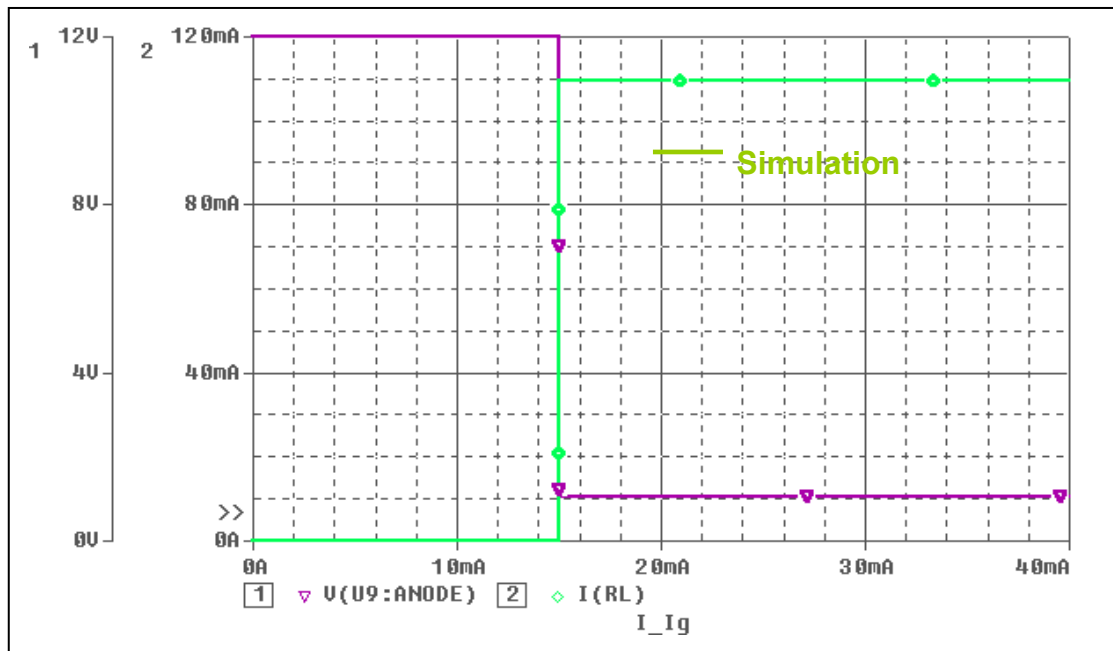
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

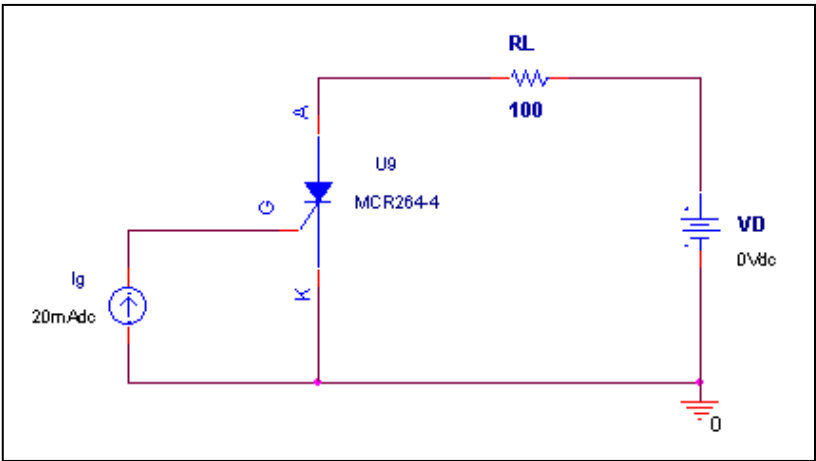


Comparison Table

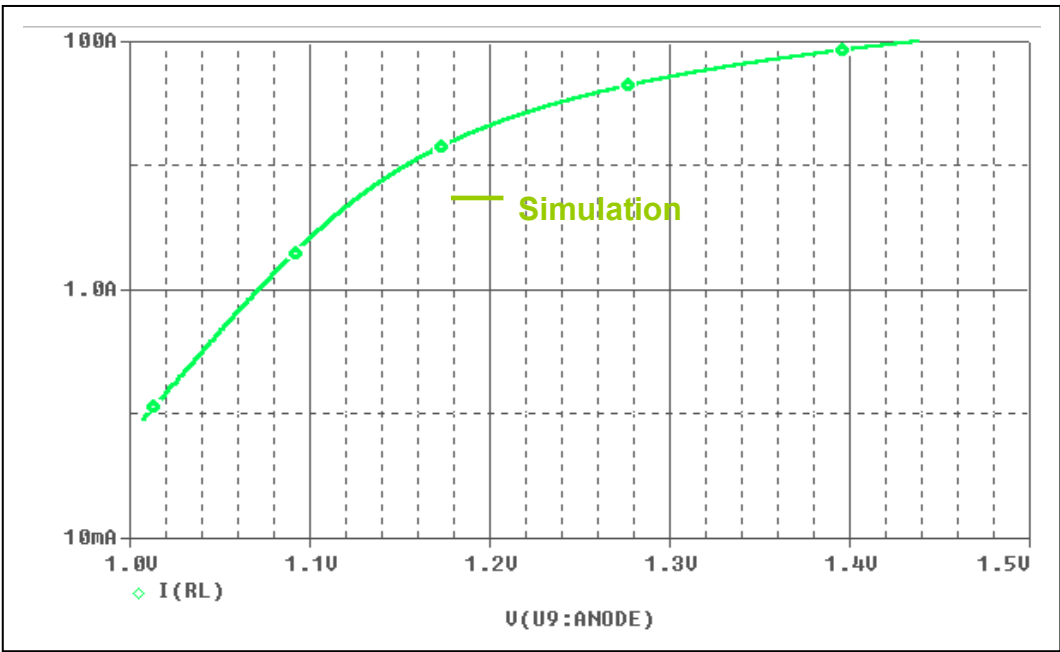
	Measurement	Simulation	% Error
I_{GT} (mA)	15	14.952	-0.32000
V_{GT} (V)	1	1.0124	1.24000

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

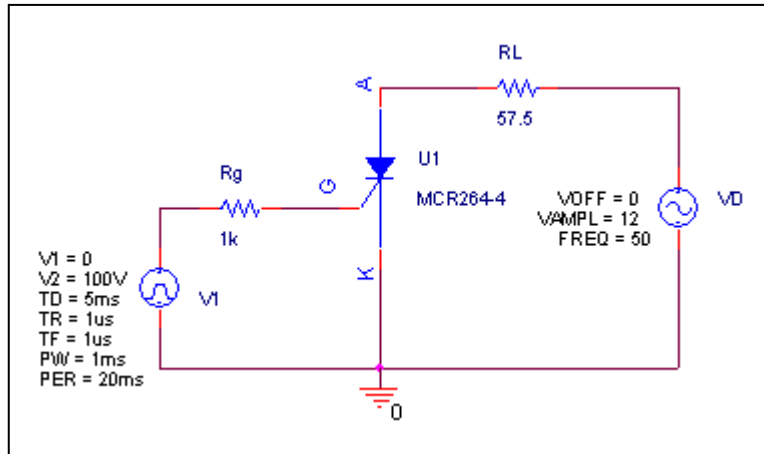


Comparison Table

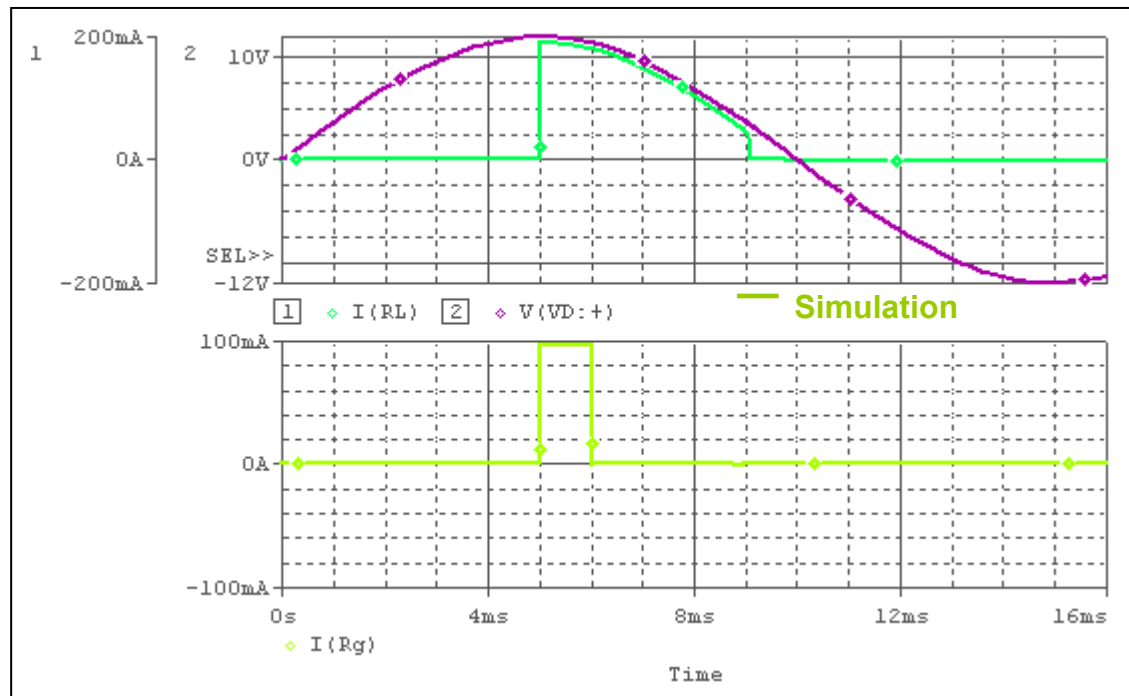
At ITM=80A	Measurement	Simulation	% Error
VTM(V)	1.4	1.3828	-1.22857

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

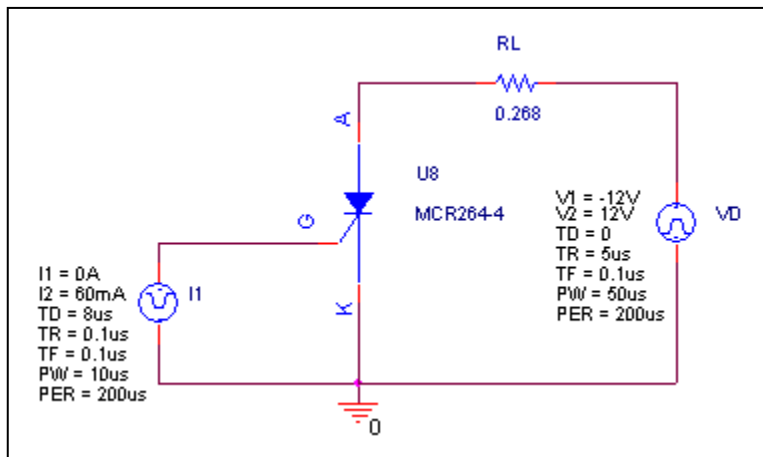


Comparison Table

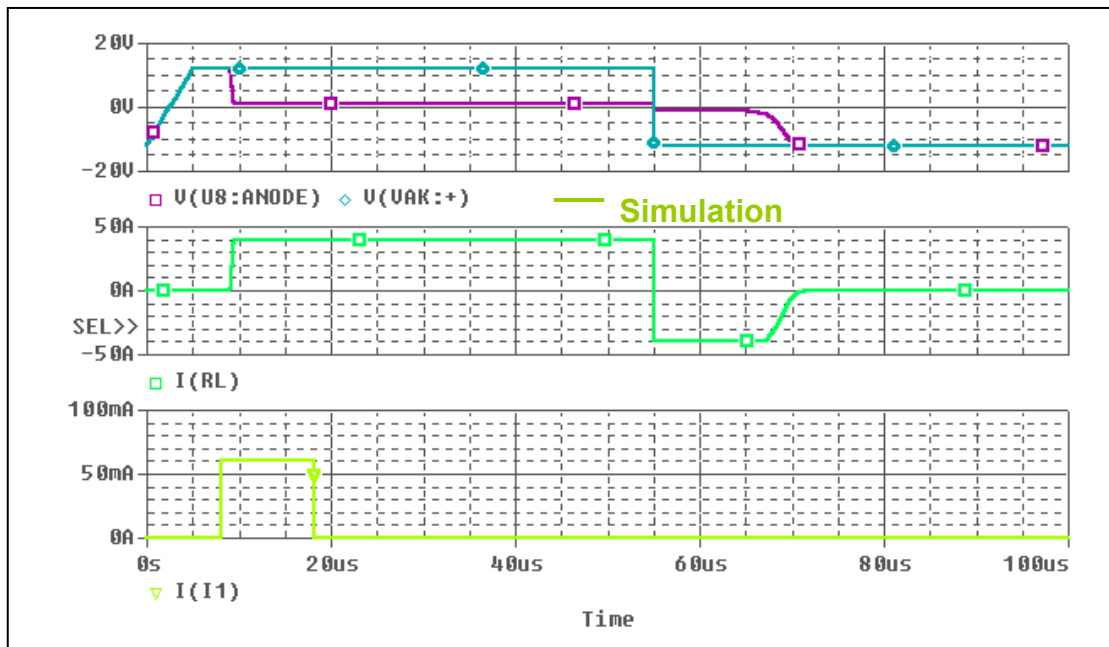
VD=12V	Measurement	Simulation	% Error
IH(mA)	30	29.823	-0.59000

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Ton(us)	1.5	1.4968	-0.21333