Device Modeling Report

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PART NUMBER:MCR72-8
MANUFACTURER: MOTOROLA SEMICONDUCTOR

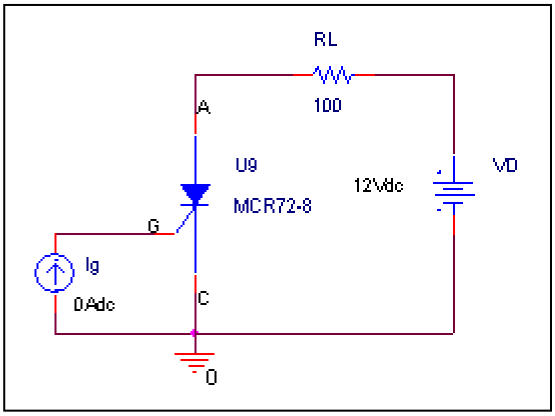
Bee Technologies Inc.

DIODE MODEL

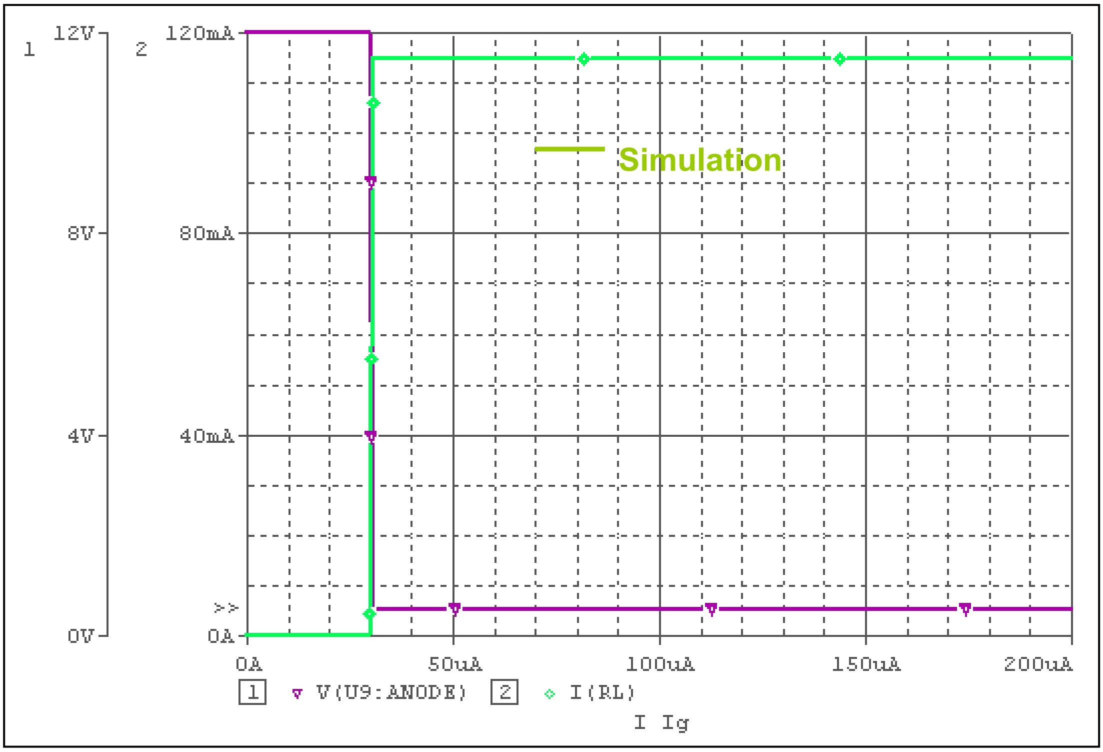
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

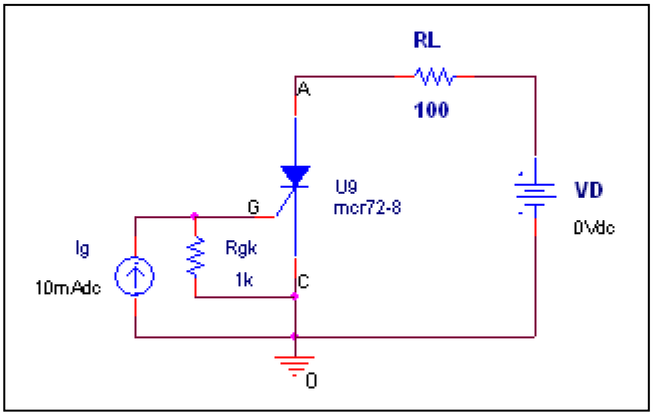


Comparison Table

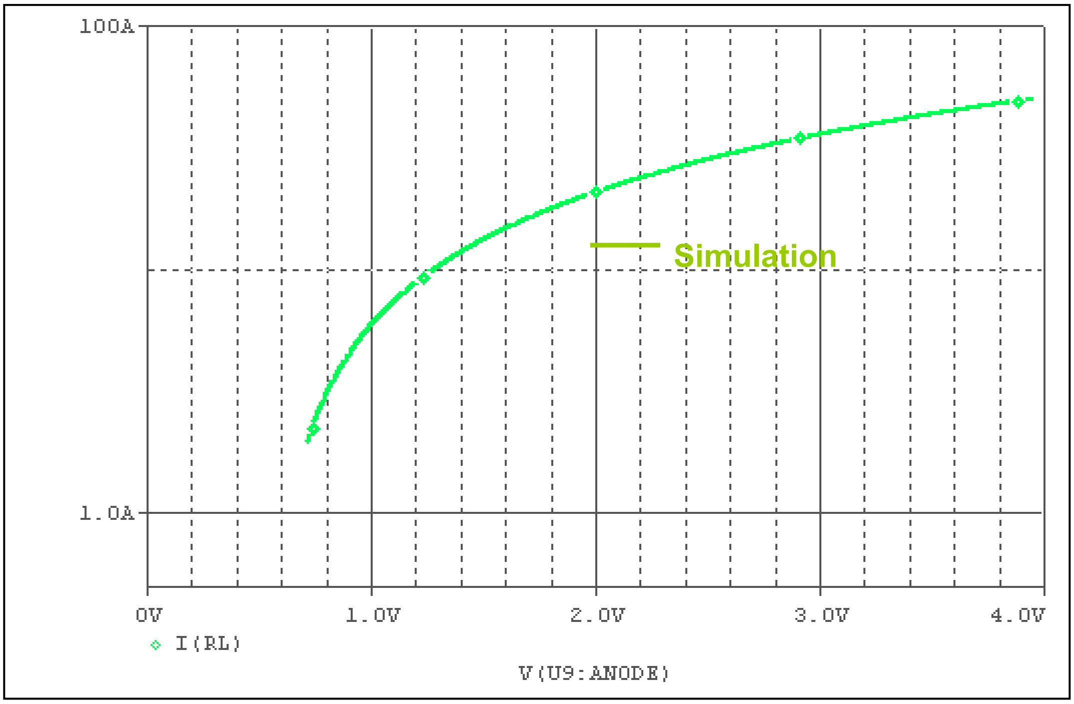
	Measurement	Simulation	% Error
IG_T (uA)	30	29.600	-1.33333
V_{GT} (V)	0.5	0.520791	4.15820

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

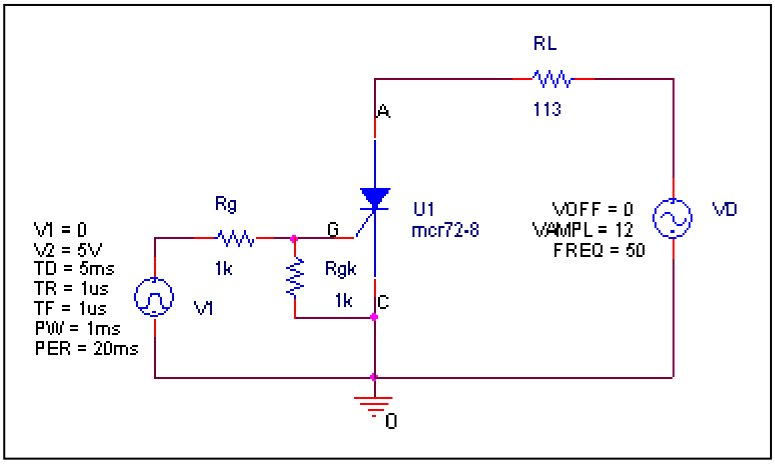


Comparison Table

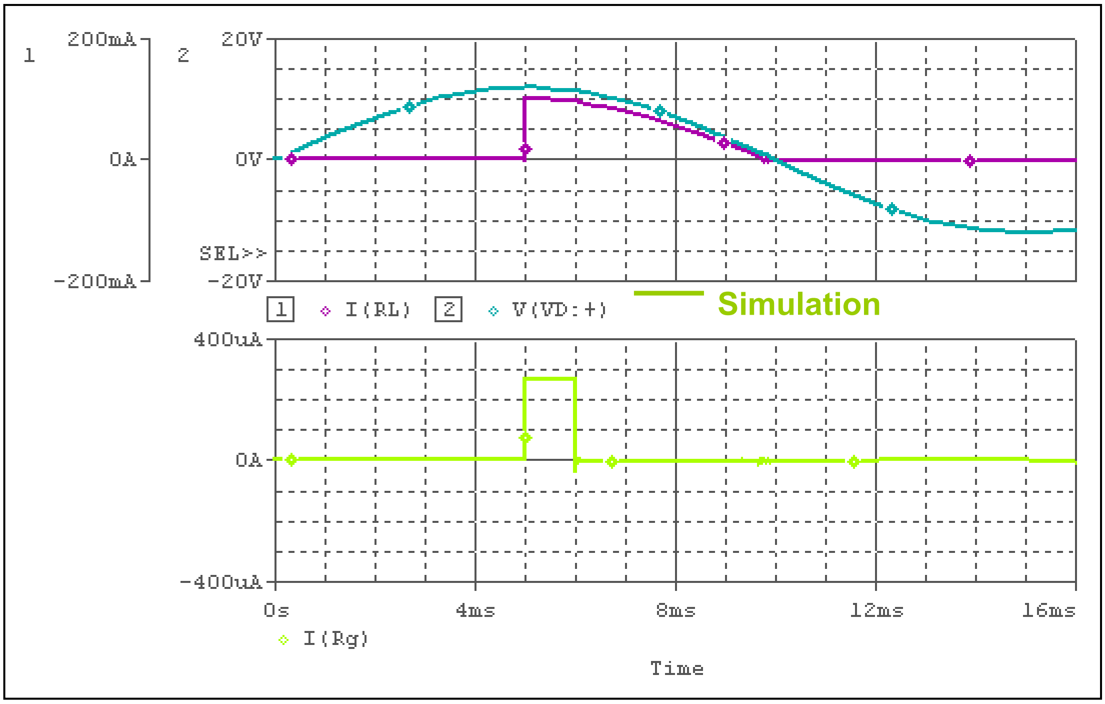
At ITM=16A	Measurement	Simulation	% Error
VTM(V)	1.7	1.6914	0.5059

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

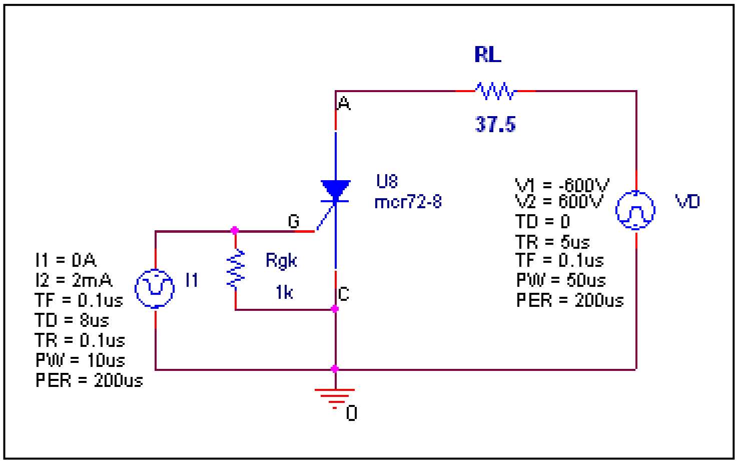


Comparison Table

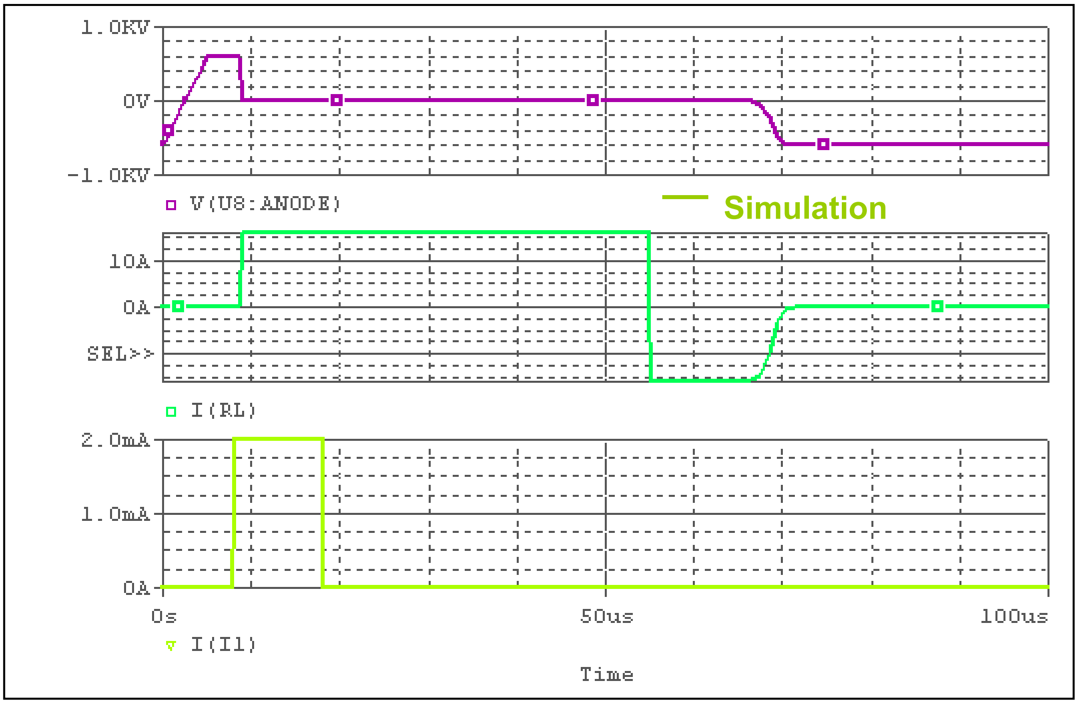
VD=12V	Measurement	Simulation	% Error
IH(mA)	6	5.7023	4.9617

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	% Error
Ton(us)	1	0.982873	1.7127