Device Modeling Report

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PART NUMBER:MCR22-3
MANUFACTURER: MOTOROLA SEMICONDUCTOR

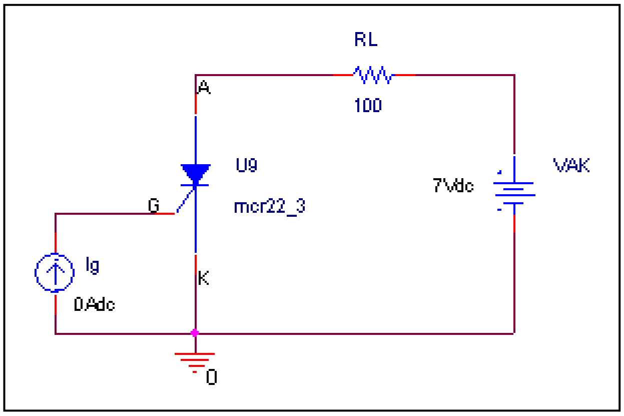
Bee Technologies Inc.

DIODE MODEL

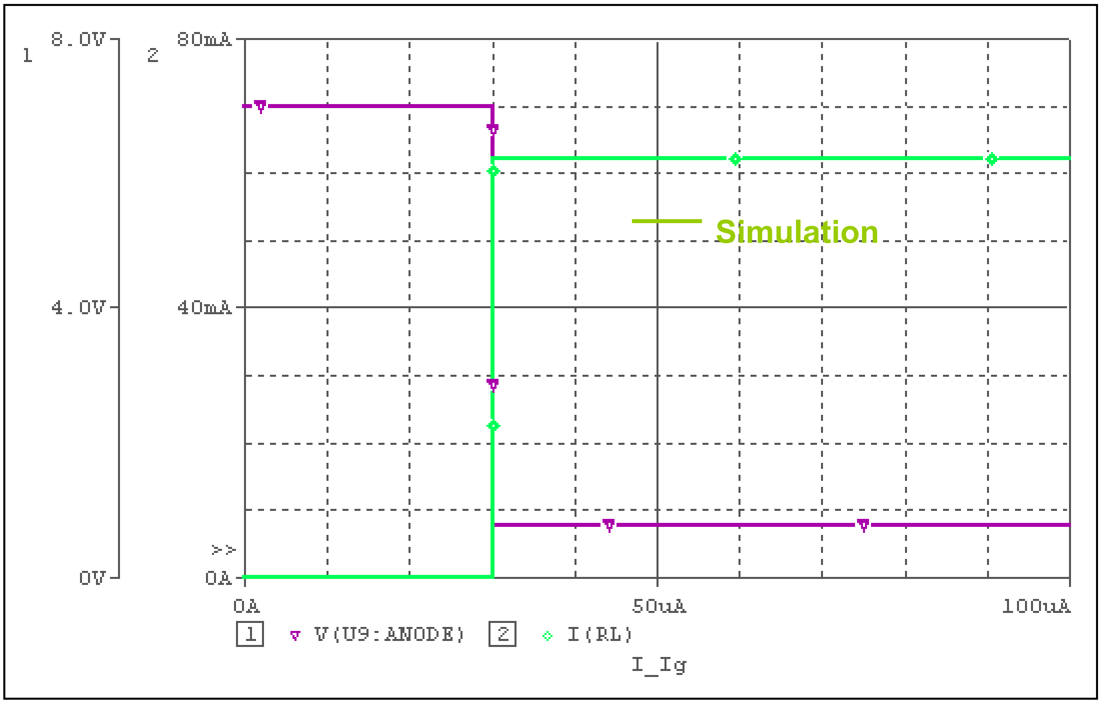
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

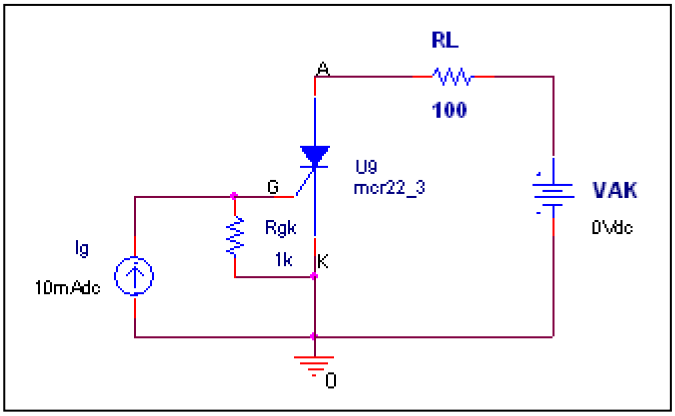


Comparison Table

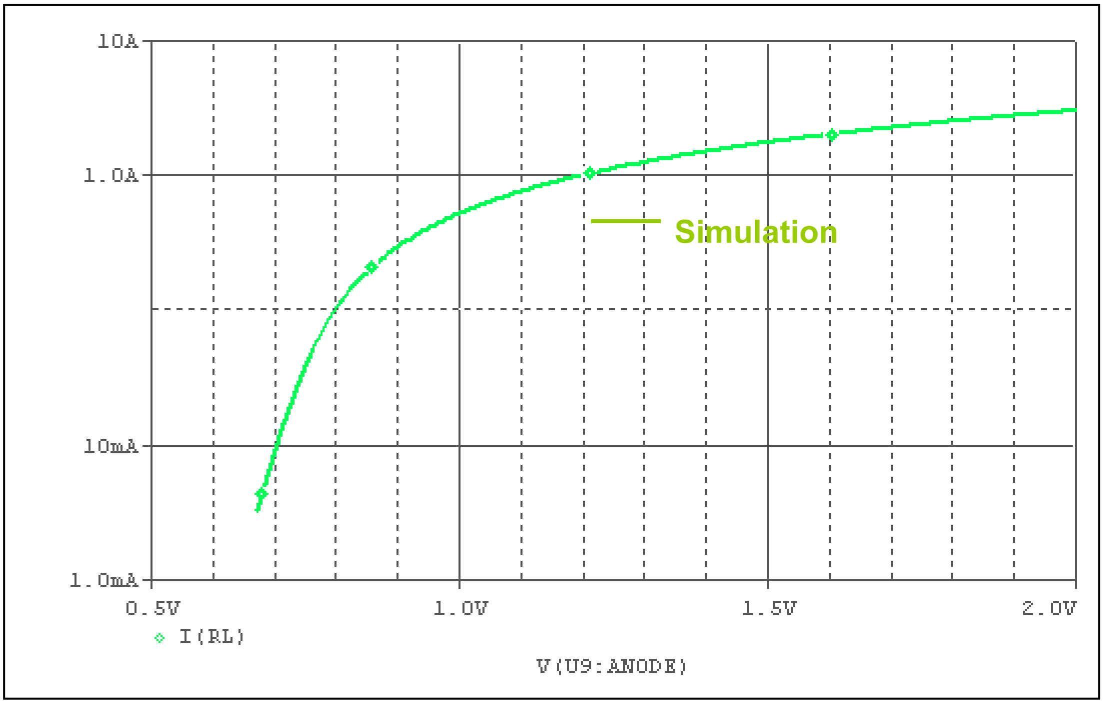
	Measurement	Simulation	% Error
I_{GT} (uA)	30	30	0
V_{GT} (V)	0.8(max)	0.771116	-3.61050

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

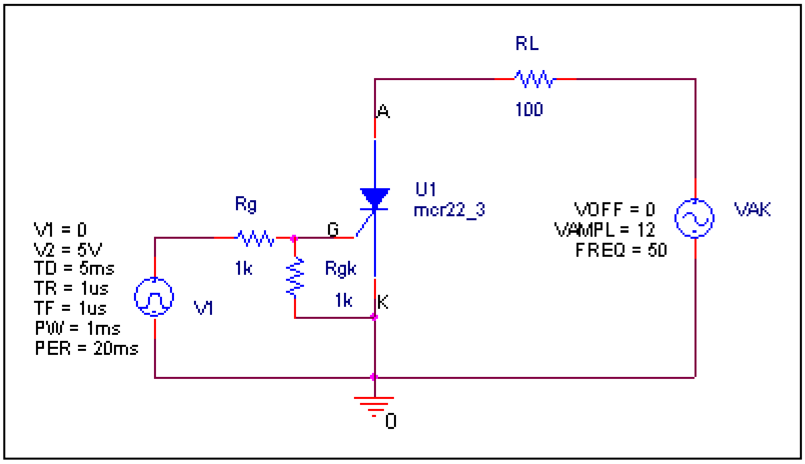


Comparison Table

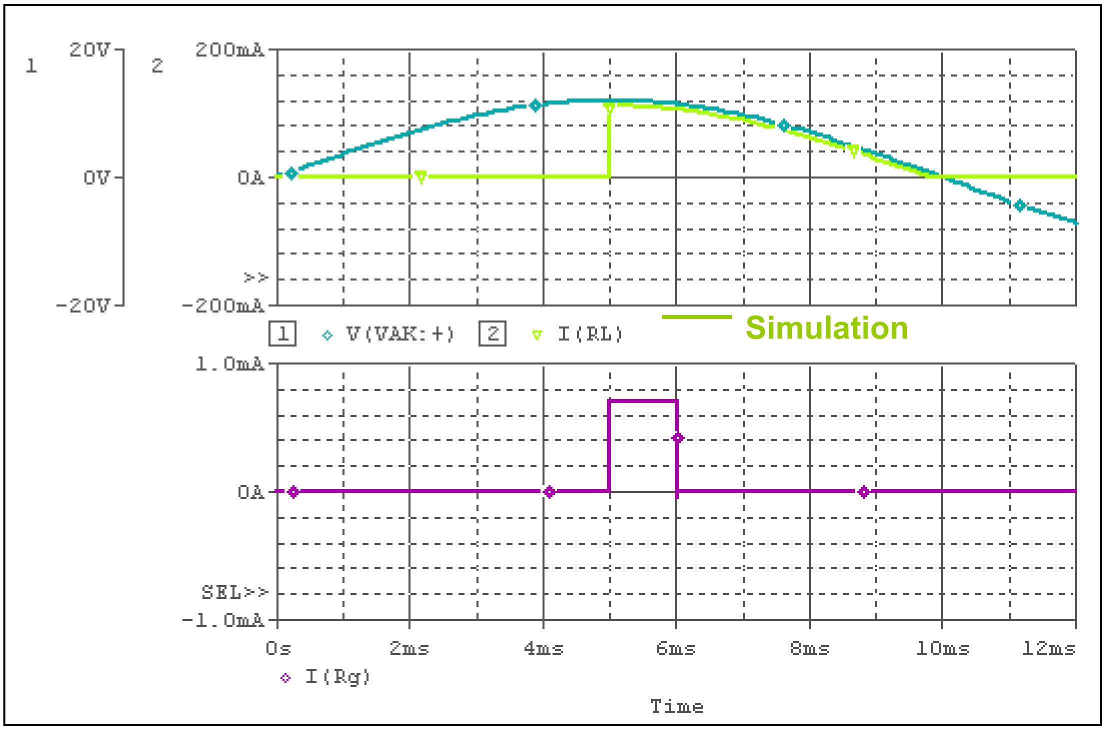
At ITM=1A	Measurement	Simulation	% Error
VTM(V)	**1.2**	**1.2013**	**0.10833**

Holding Characteristic (IH)

Evaluation Circuit



Simulation result



Comparison Table

VAK=12V	Measurement	Simulation	% Error
IH(mA)	2	2.0432	2.16000