Device Modeling Report

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PART NUMBER:MCR218-8FP
MANUFACTURER: MOTOROLA SEMICONDUCTOR

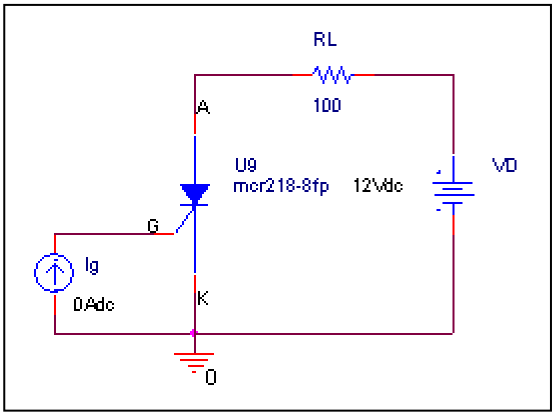
Bee Technologies Inc.

DIODE MODEL

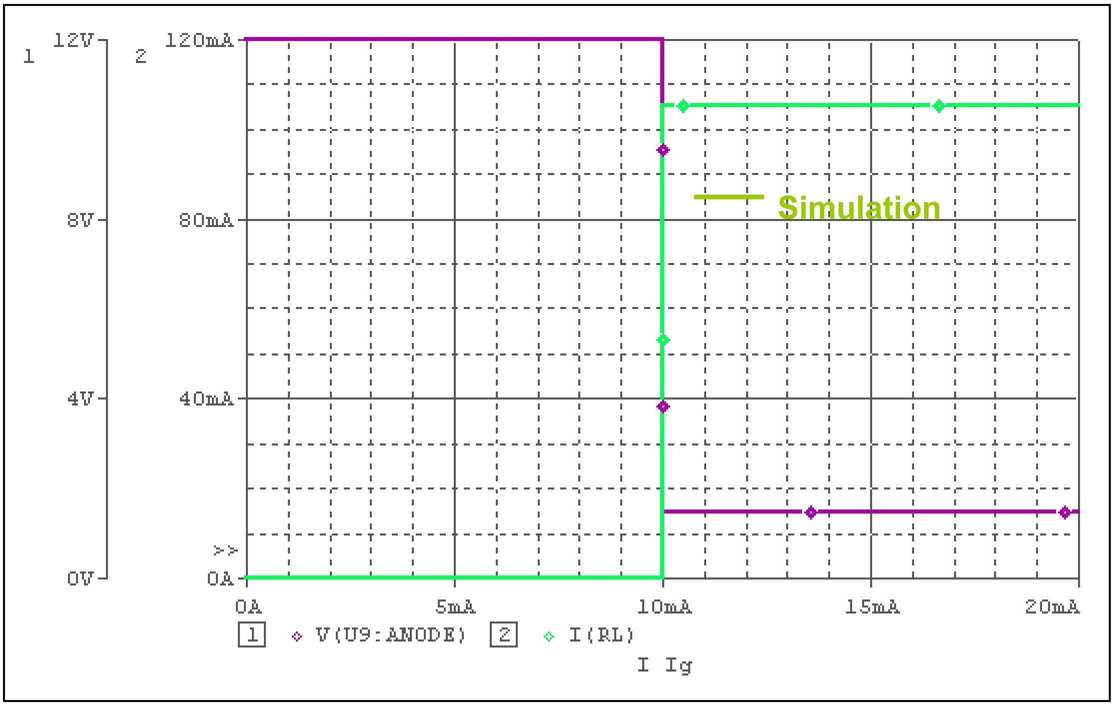
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

IG-VT Characteristic

Evaluation Circuit



Simulation result

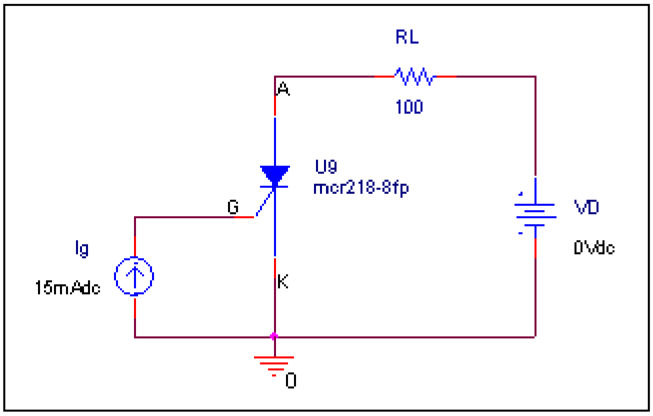


Comparison Table

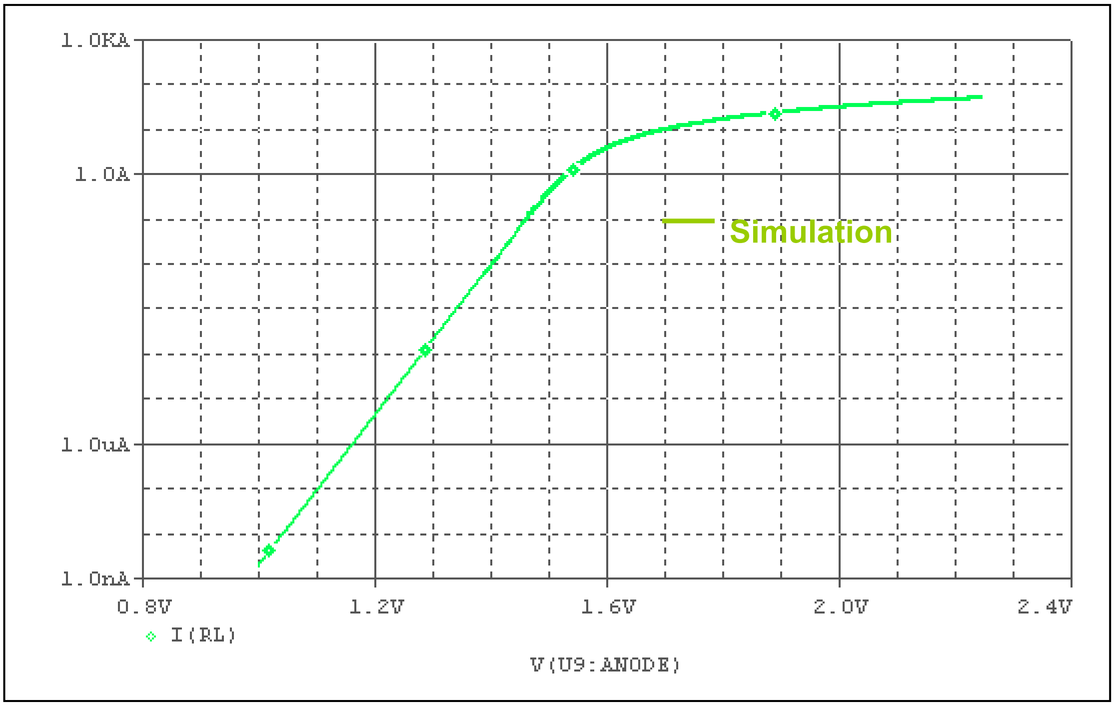
	Measurement	Simulation	% Error
IG_T (mA)	10	10.005	0.05000
V_{GT} (V)	1.5(max)	1.4624	-2.50667

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

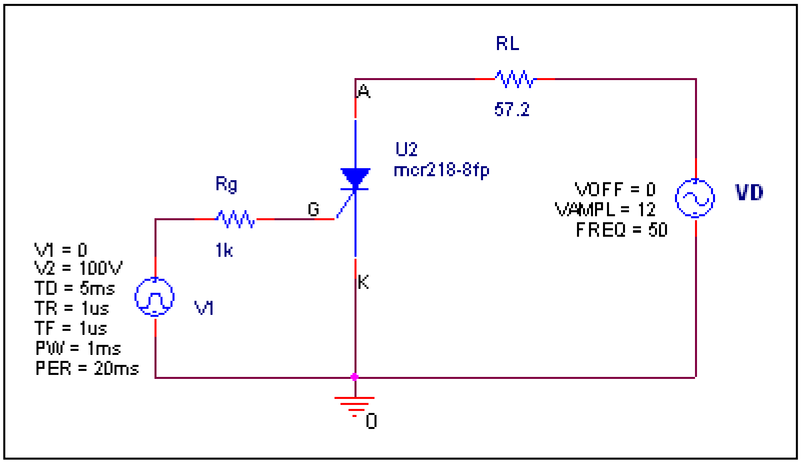


Comparison Table

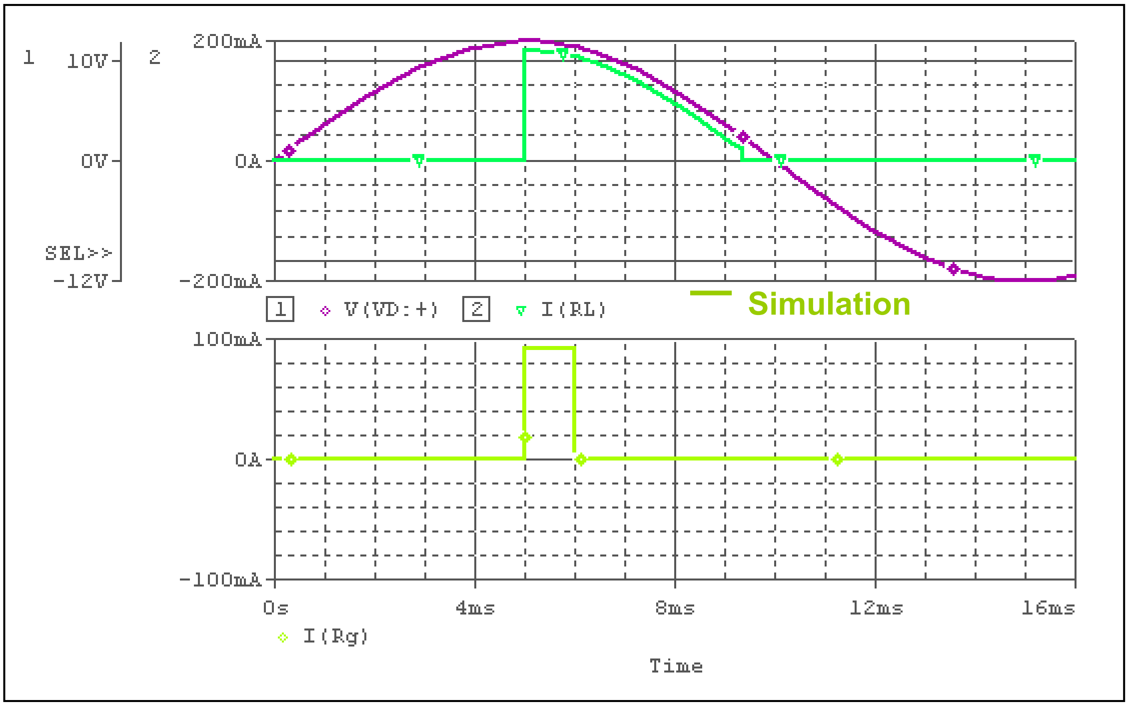
At ITM=16A	Measurement	Simulation	% Error
VTM(V)	1.8(max)	1.7911	-0.49444

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

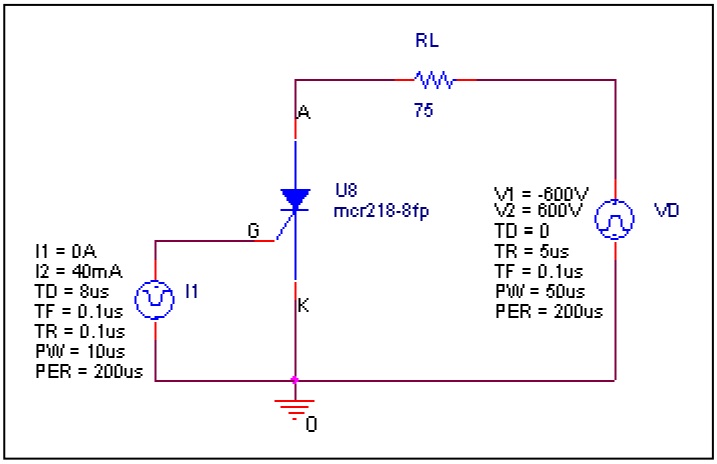


Comparison Table

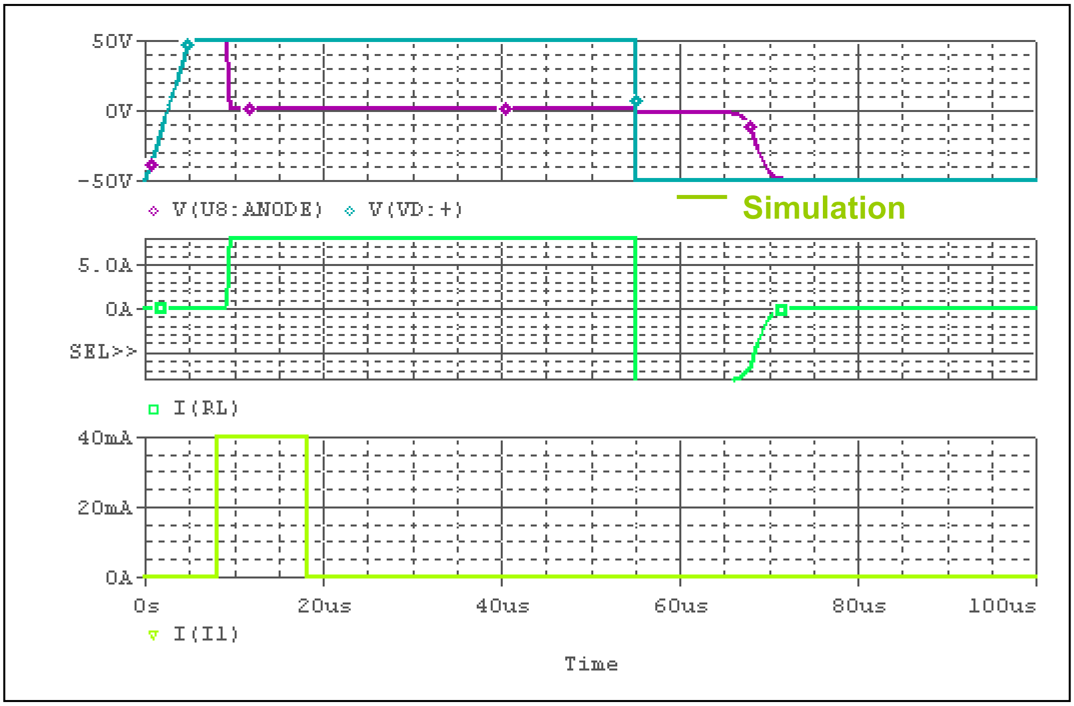
VD=12V	Measurement	Simulation	% Error
IH(mA)	16	16.083	0.51875

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Ton(us)	1.5	1.5182	1.21333
Toff(us)	15	15.014	0.09333