

Device Modeling Report

COMPONENTS: SHUNT REGULATOR
PART NUMBER: TA76L431S
MANUFACTURER: TOSHIBA

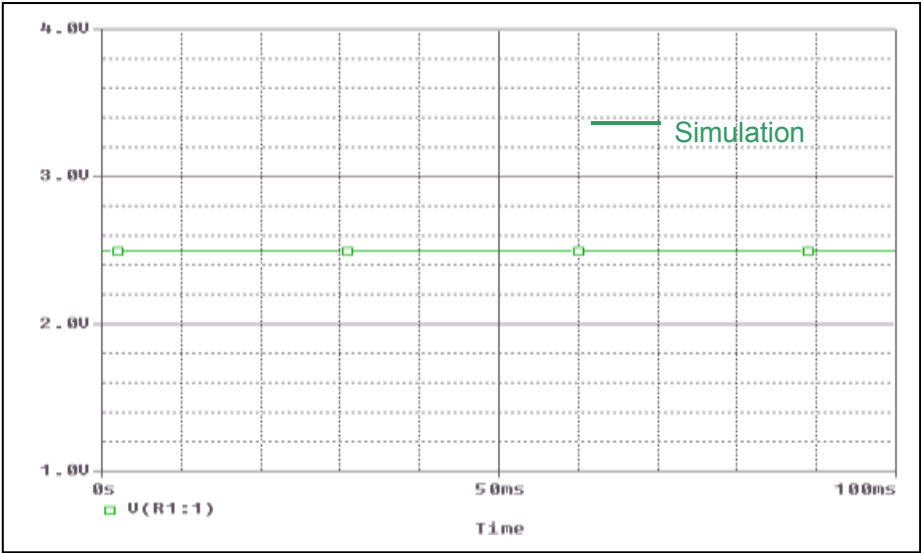


Bee Technologies Inc.

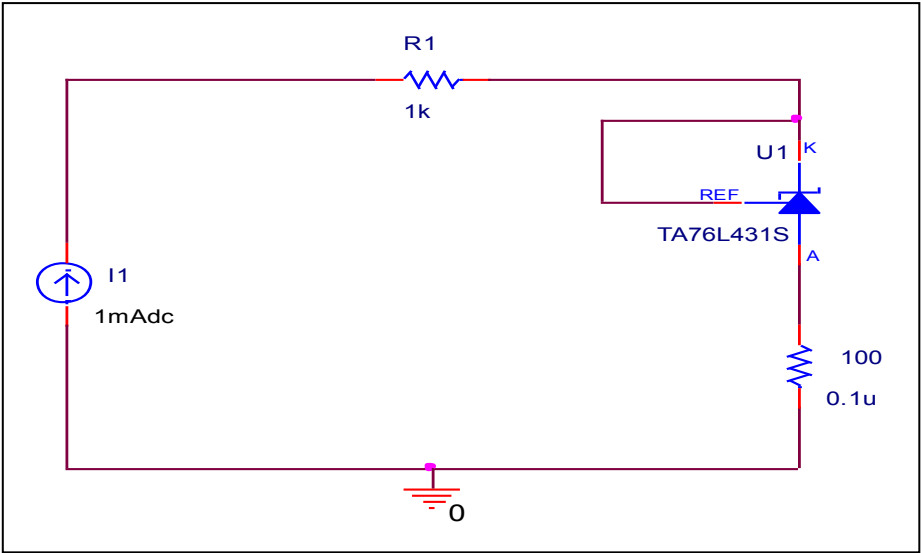
Pspice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

VREF(Reference Voltage) Characteristic

Simulation result



Evaluation circuit

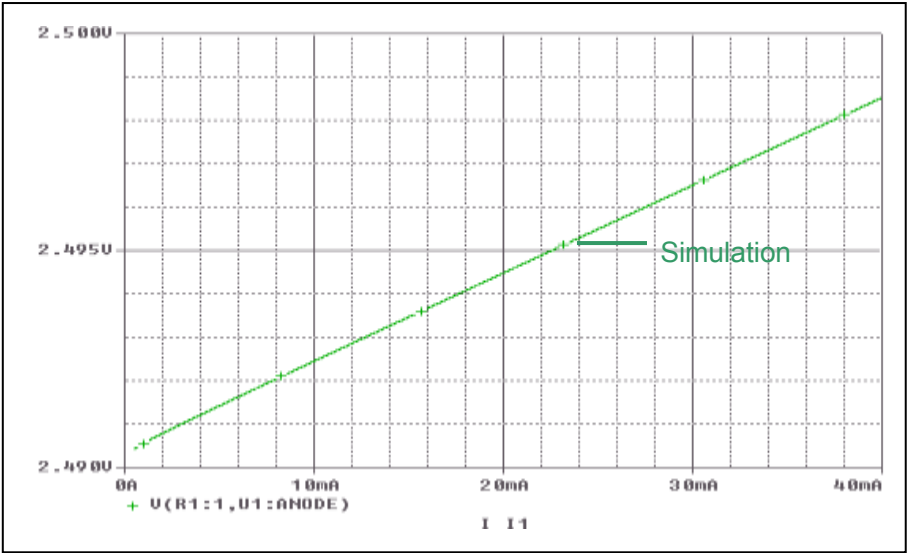


Comparison Table

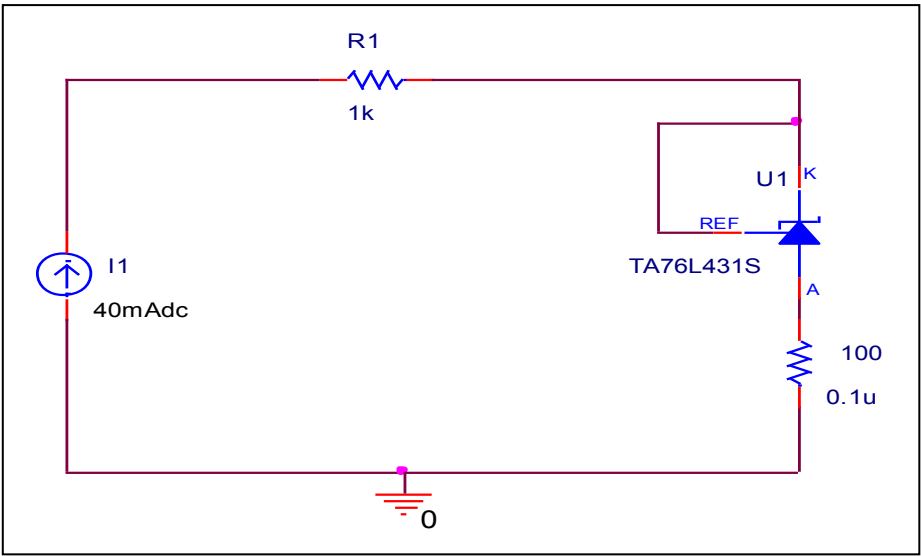
$V_{KA}=V_{REF}$	Data Sheet	Simulation	%Error
Vref(V)	2.49	2.4906	0.024

ZKA(Dynamic Impedance) Characteristic

Simulation result



Evaluation circuit

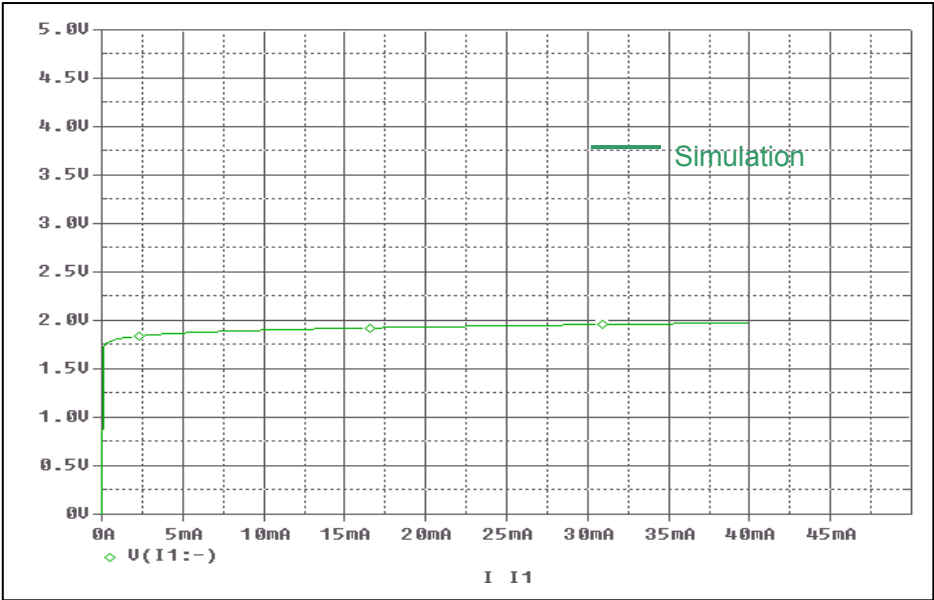


Comparison Table

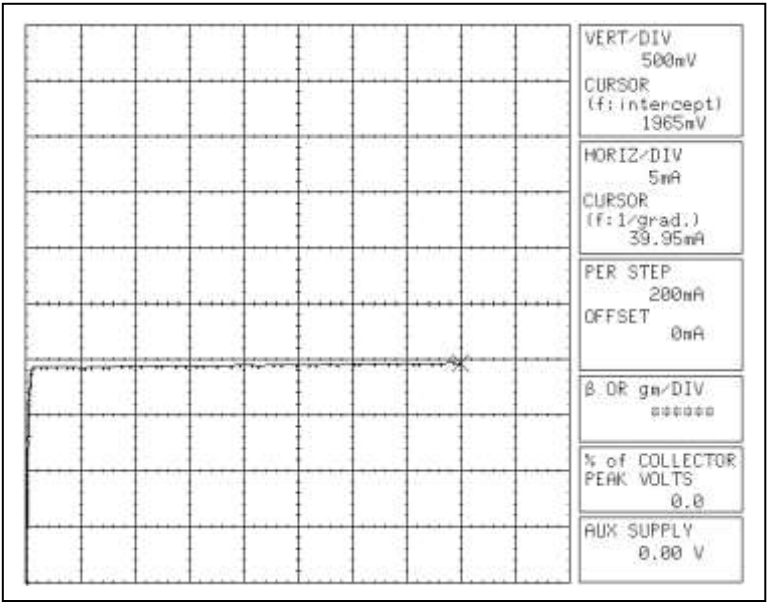
$V_{KA}=V_{REF}, I_k=0.5mA\sim 40mA$	Data Sheet	Simulation	%Error
$ ZKA (\Omega)$	0.2	0.204828	2.414

Output Characteristic

Simulation result

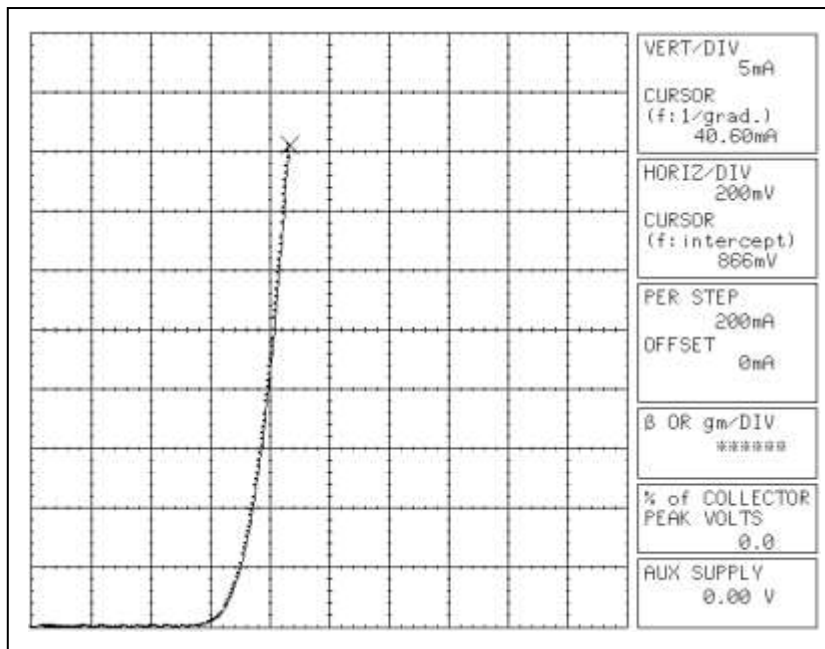


Measurement



I-V Characteristic (D2)

Reference



Reverse Characteristic (Breakdown Characteristic) (D2)

