Device Modeling Report

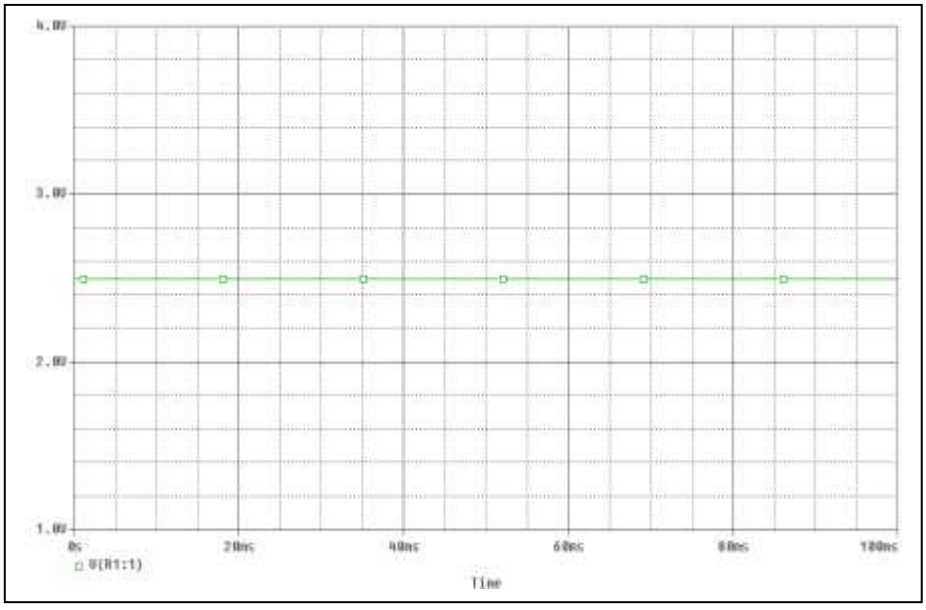
COMPONENTS: SHUNT REGULATOR
PART NUMBER: NJM431
MANUFACTURER: JRC

Bee Technologies Inc.

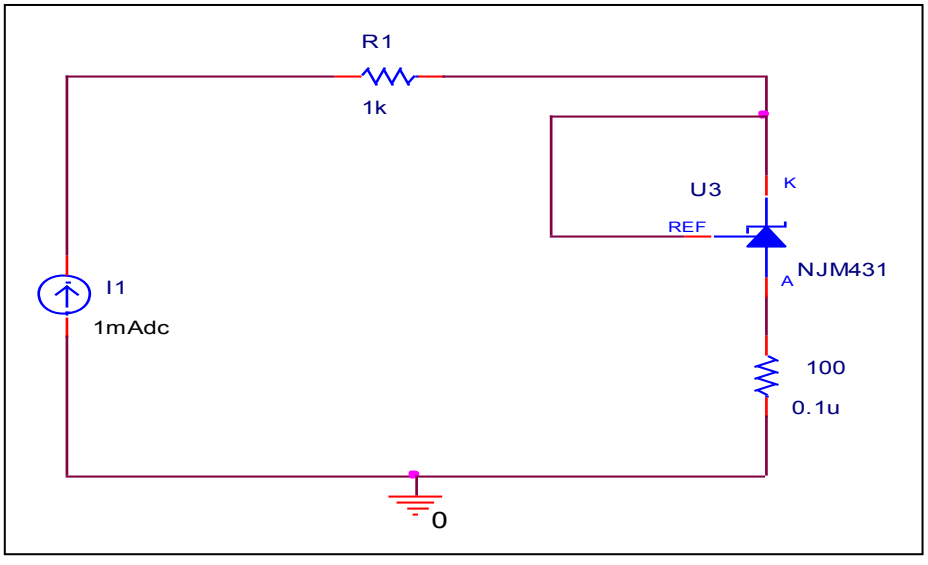
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a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

VREF(Reference Voltage)

Circuit simulation result



Evaluation circuit

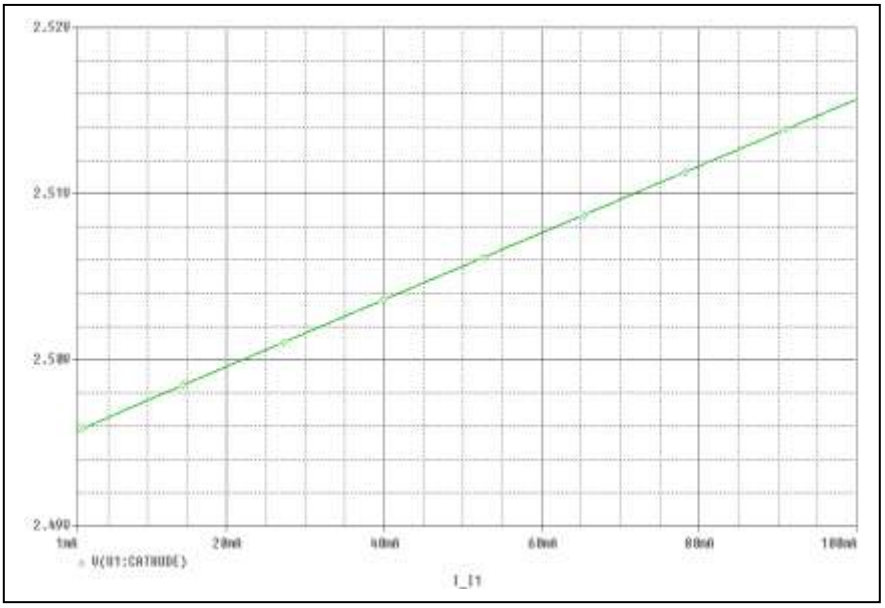


Simulation Result/ **VREF (V) : Condition VKA= VREF, Ik=10mA**

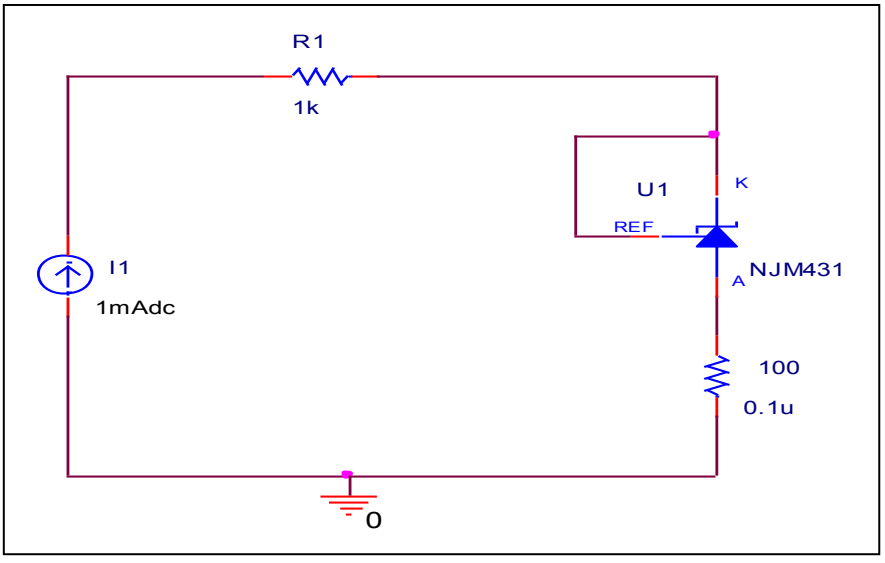
	Measurement		Simulation		Error	
VREF	2.495	V	2.4957	V	0.028	%

ZKA (Dynamic Impedance)

Circuit simulation result



Evaluation circuit

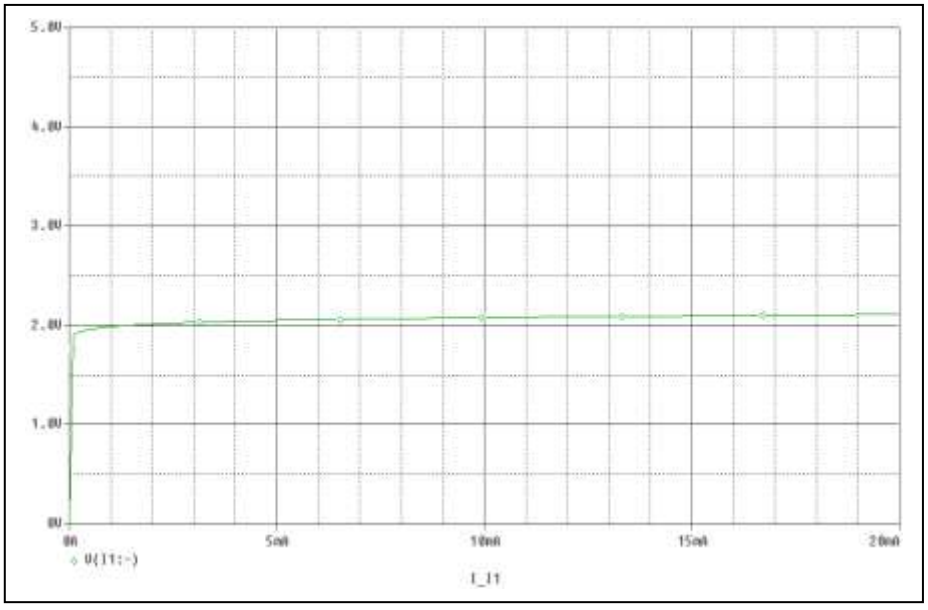


Simulation Result/ **|ZKA|(ohm) : Condition VKA= VREF, Ik=1~100mA**

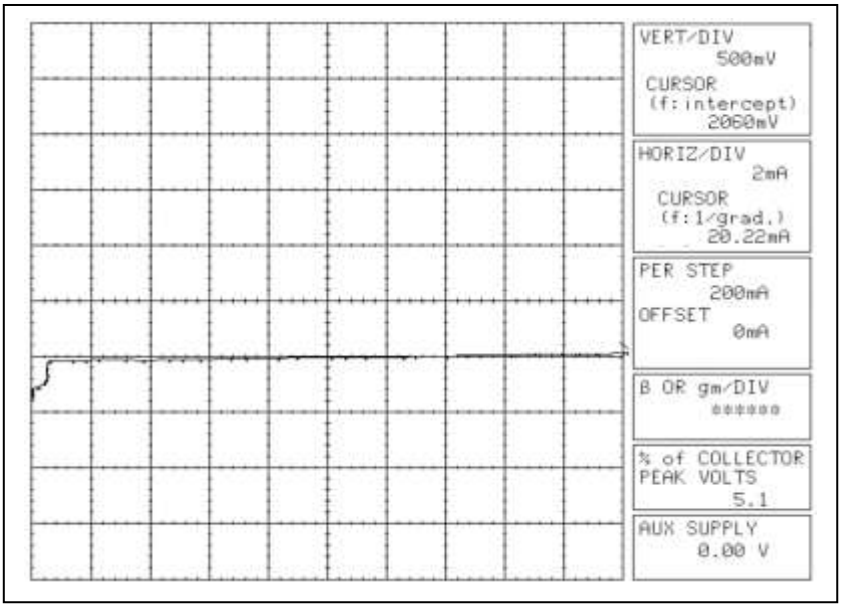
	Measurement		Simulation		Error	
|ZKA|	0.2	ohm	0.202182	ohm	1.091	%

Output Characteristic

Circuit simulation result

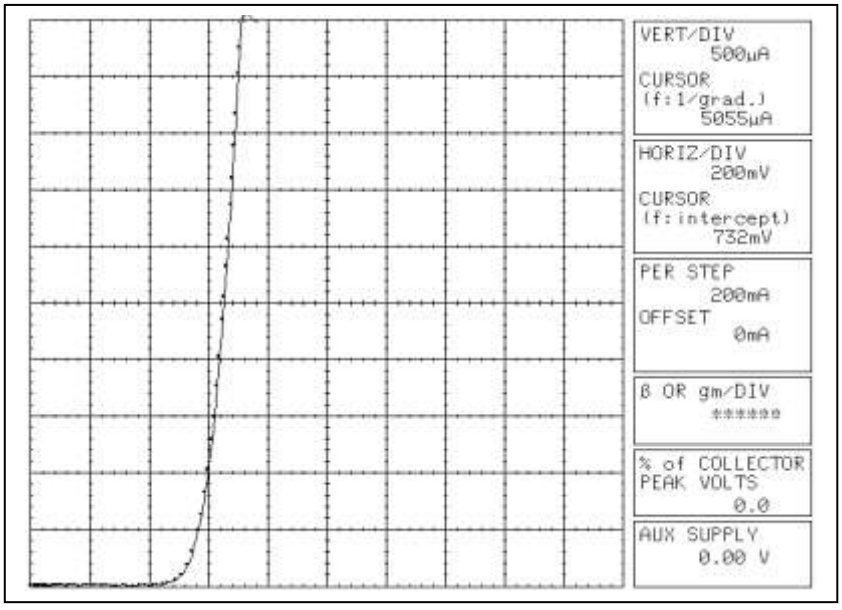


Measurement



Reference

I-V Characteristic (D2)



Reverse Characteristic (Breakdown Characteristic) (D2)