

Device Modeling Report

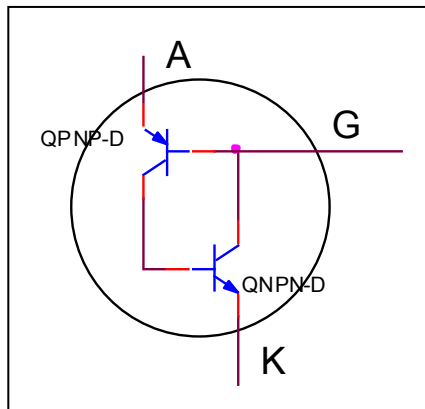
COMPONENTS: Programmable Unijunction Transistor
PART NUMBER: N13T1
MANUFACTURER: NEC



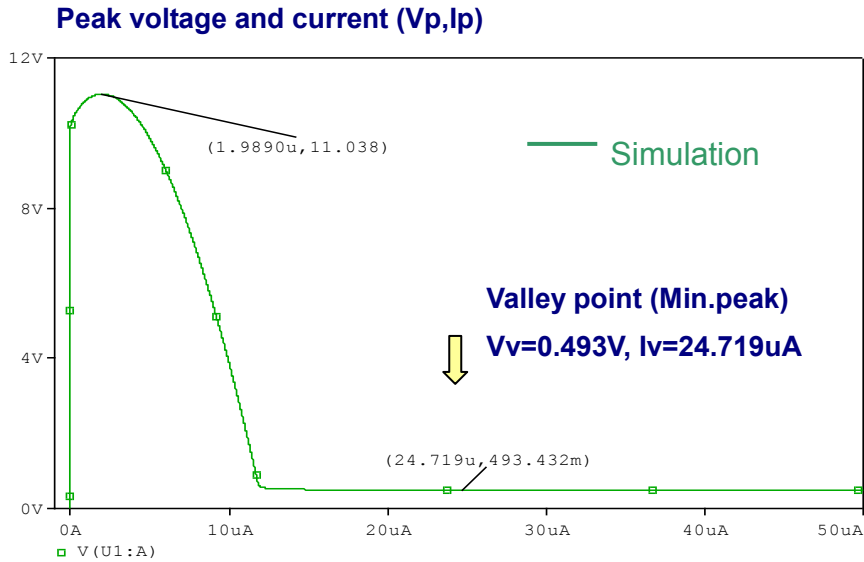
Bee Technologies Inc.

Pspice model parameter	Model description
IS	Saturation Current
ISE	Non-ideal Base-Emitter Diode Saturation Current
RC	Series Collector Resistance
TR	Reverse transit time
TF	Forward Transit Time

Equivalent circuit



Peak Voltage (Vp) and Peak Current (Ip) Characteristics

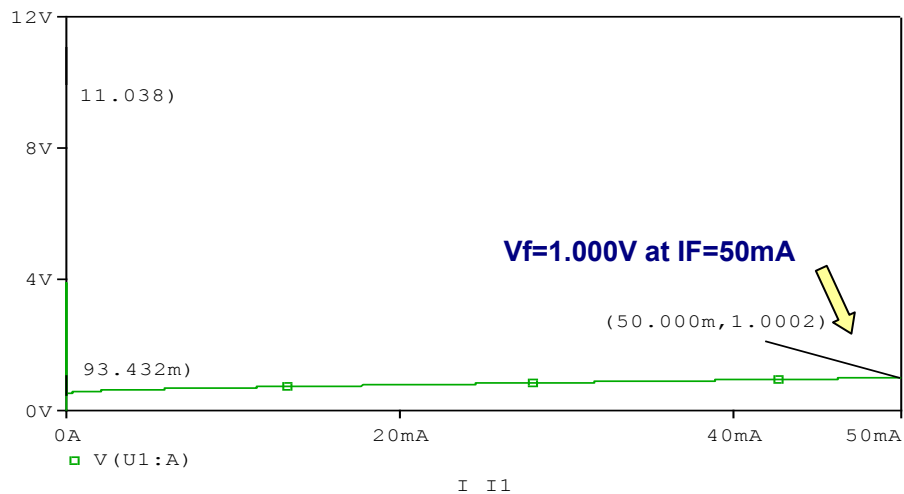


Simulation Result

$V_p=11.038(V)$ at $I_p=1.989u(A)$

SPEC: $V_p=10.2(V)$ to $11.6(V)$ at $I_p(max.)=2u(A)$

Forward Voltage Characteristics



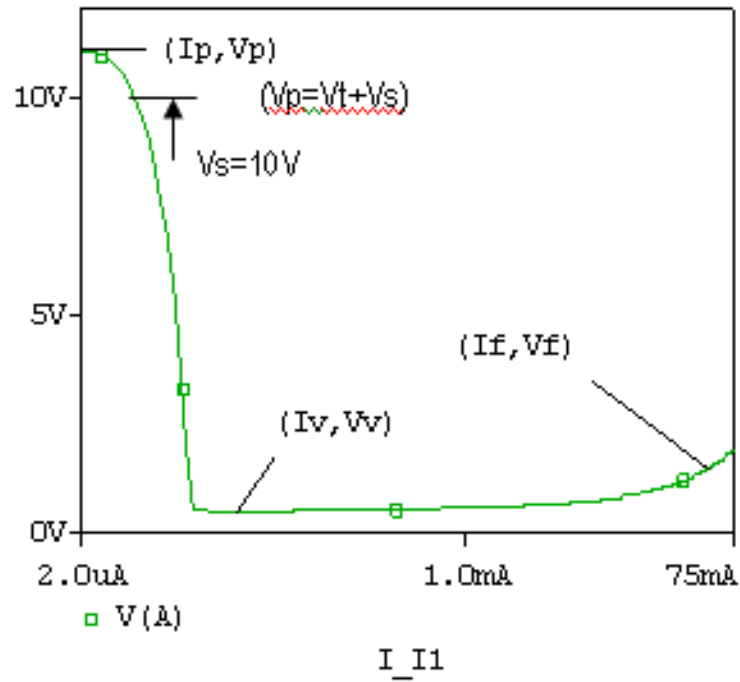
Simulation Result

$V_f=1.000(V)$ at $I_f=50m(A)$

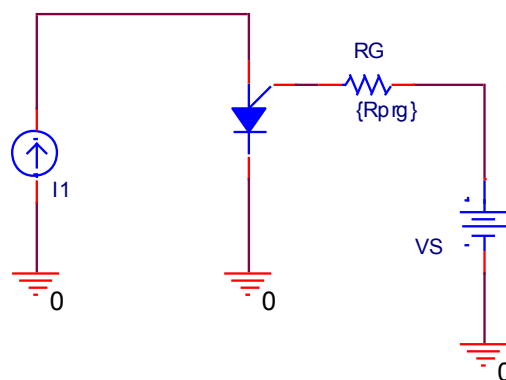
SPEC: $V_f=1.0(V)$ Typ. at $I_f=50m(A)$

Voltage and Current Characteristics

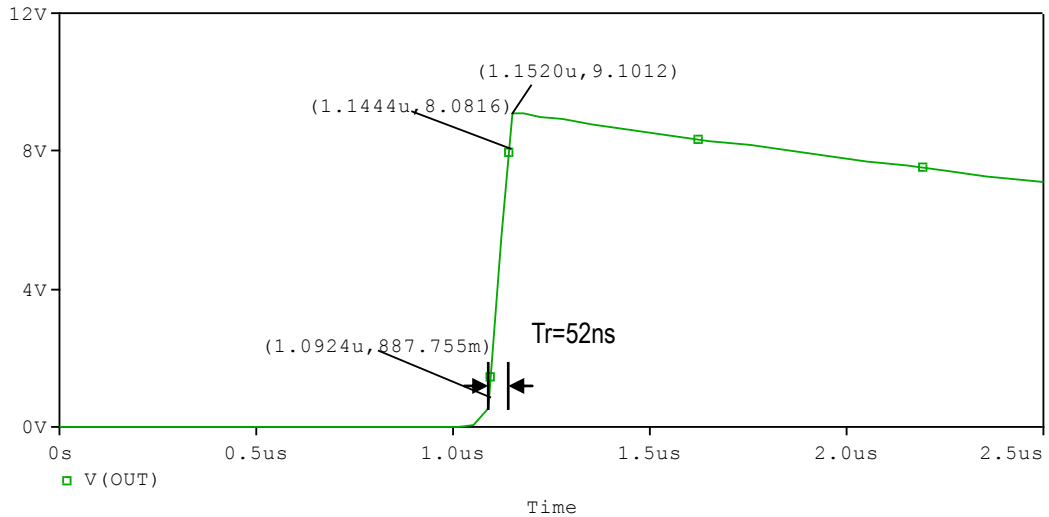
Reference



Evaluation Circuit



Pulse Output Voltage and Pulse Output Rise Time



$V_o=9.1012(V)$ at $V_i=20(V)$, $C_t=0.2\mu(F)$

SPEC: $V_o=6(V)[min.]$ to $10(V)[typ.]$ at $V_i=20(V)$, $C_t=0.2\mu(F)$

$tr=52(ns)$ at $V_i=20(V)$, $C_t=0.2\mu(F)$

SPEC: $tr=50(ns)[typ.]$ to $80(ns)[max.]$ at $V_i=20(V)$, $C_t=0.2\mu(F)$

Evaluation circuit

