

Device Modeling Report

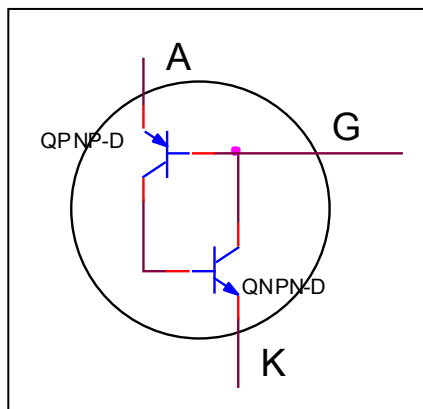
COMPONENTS: Programmable Unijunction Transistor
PART NUMBER: U72
MANUFACTURER: NEC



Bee Technologies Inc.

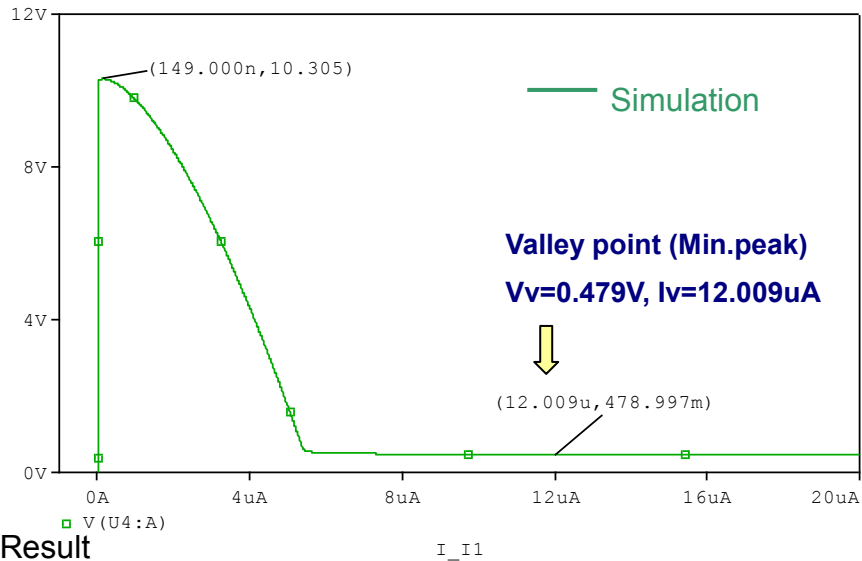
Pspice model parameter	Model description
IS	Saturation Current
ISE	Non-ideal Base-Emitter Diode Saturation Current
RC	Series Collector Resistance
TR	Reverse transit time
TF	Forward Transit Time

Equivalent circuit



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

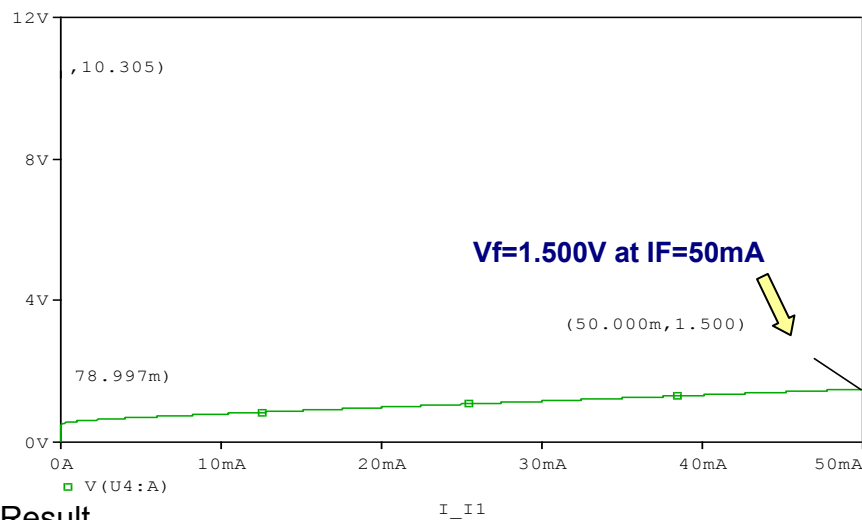
Peak voltage and current (Vp,Ip)



$V_p = 10.305(V)$ at $I_p = 0.149u(A)$

SPEC: $V_p = 10.2(V)$ to $10.6(V)$ at $I_p(max.) = 0.15u(A)$

Forward Voltage Characteristics

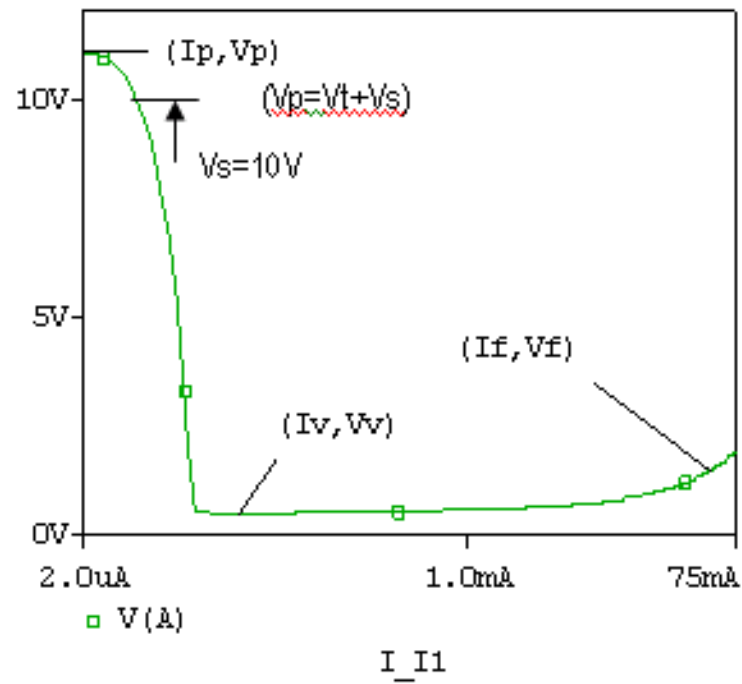


$V_f = 1.5(V)$ at $I_f = 50m(A)$

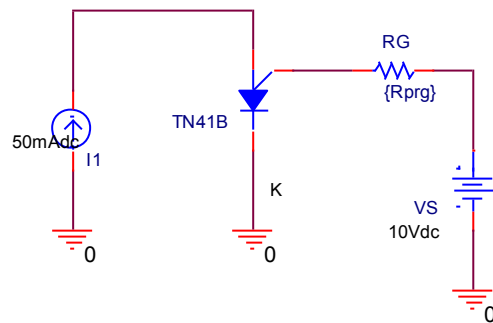
SPEC: $V_f = 1.5(V)_{MAX.}$ at $I_f = 50m(A)$

Voltage and Current Characteristics

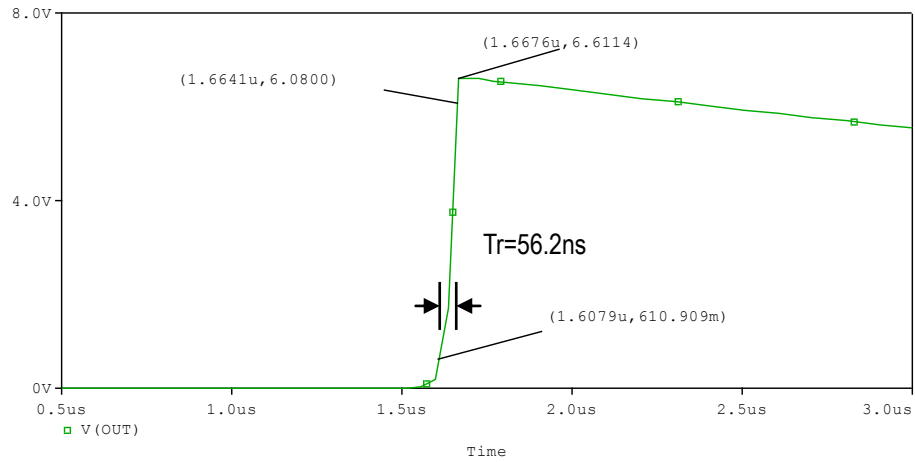
Reference



Evaluation Circuit



Pulse Output Voltage and Pulse Output Rise Time



$V_o = 6.611(V)$ at $V_i = 20(V)$, $C_t = 0.2(\mu F)$

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

$tr = 56.2(ns)$ at $V_i = 20(V)$, $C_t = 0.2(\mu F)$

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

Evaluation circuit

