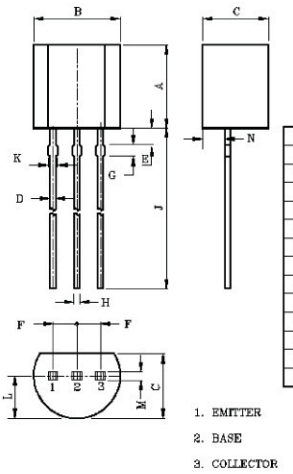
FORWARD INTERNATIONAL ELECTRONICS LTD.

SEMICONDUCTOR
TECHNICAL DATA

2N5551
EPITAXIAL PLANAR NPN TRANSISTOR

GENERAL PURPOSE APPLICATION.
HIGH VOLTAGE APPLICATION.

FEATURES
- High Collector Breakdwon Voltage
  : V_{CBO}=180V, V_{CEO}=160V
- Low Leakage Current.
  : I_{CBO}=50nA(Max.) V_{CB}=120V
- Low Saturation Voltage
  : $V_{CE(sat)}$=0.2V(Max.) I_C=50mA, I_B=5mA
- Low Noise : NF=8dB (Max.)



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00± 0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

TO-92

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Base Current	I_B	100	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=120V, I_E=0	-	-	50	nA
		V_{CB}=120V, I_E=0, Ta=100℃	-	-	50	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=4V, I_C=0	-	-	50	nA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=0.1mA, I_E=0	180	-	-	V
Collector-Emitter Breakdown Voltage *	$V_{(BR)CEO}$	I_C=1mA, I_B=0	160	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6	-	-	V
DC Current Gain *	$h_{FE}(1)$	V_{CE}=5V, I_C=1mA	80	-	-	
	$h_{FE}(2)$	V_{CE}=5V, I_C=10mA	80	-	250	
	$h_{FE}(3)$	V_{CE}=5V, I_C=50mA	30	-	-	
Collector-Emitter Saturation Voltage *	$V_{CE(sat)}1$	I_C=10mA, I_B=1mA	-	-	0.15	V
	$V_{CE(sat)}2$	I_C=50mA, I_B=5mA	-	-	0.2	
Base-Emitter Saturation Voltage *	$V_{BE(sat)}1$	I_C=10mA, I_B=1mA	-	-	1.0	V
	$V_{BE(sat)}2$	I_C=50mA, I_B=5mA	-	-	1.0	
Transition Frequency	f_T	V_{CE}=10V, I_C=10mA, f=100MHz	100	-	300	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	-	6	pF
Input Capacitance	C_{ib}	V_{BE}=0.5V, I_C=0, f=1MHz	-	-	20	pF
Small-Signal Current Gain	h_{fe}	V_{CE}=10V, I_C=1mA, f=1kHz	50	-	200	
Noise Figure	NF	V_{CE}=5V, I_C=250μA Rg=1kΩ, f=10Hz～15.7kHz	-	-	8	dB

*Pulse Test : Pulse Width ≤300μS, Duty Cycle≤2%