

**General Purpose NPN Epitaxial Planar Transistor**

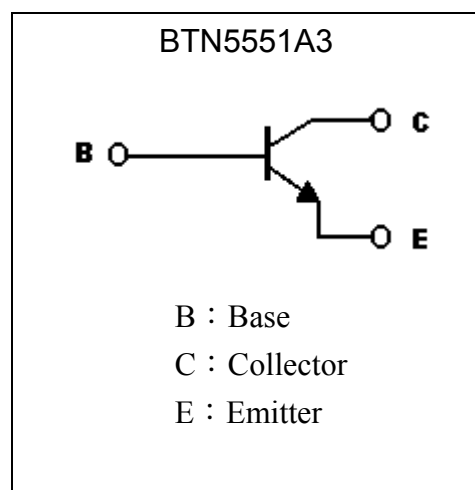
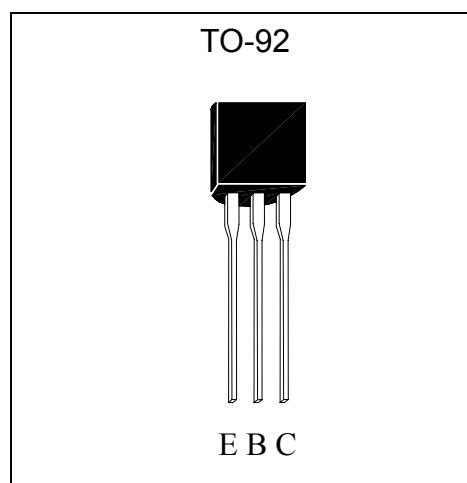
# BTN5551A3

**Description**

The BTN5551A3 is designed for general purpose applications requiring high breakdown voltage.

**Features**

- High collector-emitter breakdown voltage. ( $V_{CE0}=160V @ I_C=1mA$ )
- Complement to BTP5401A3

**Symbol**

**Outline**

**Absolute Maximum Ratings** ( $T_a=25^{\circ}C$ )

Parameter	Symbol	Limits	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
Power Dissipation	$P_d$	625	mW
Junction Temperature	$T_j$	150	$^{\circ}C$
Storage Temperature	$T_{stg}$	-55~+150	$^{\circ}C$



**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
$BV_{CBO}$	180	-	-	V	$I_C=100\mu A$
$BV_{CEO}$	160	-	-	V	$I_C=1mA$
$BV_{EBO}$	6	-	-	V	$I_E=10\mu A$
$I_{CBO}$	-	-	50	nA	$V_{CB}=120V$
$I_{EBO}$	-	-	50	nA	$V_{EB}=4V$
* $V_{CE(sat)1}$	-	0.1	0.15	V	$I_C=10mA, I_B=1mA$
* $V_{CE(sat)2}$	-	-	0.2	V	$I_C=50mA, I_B=5mA$
* $V_{BE(sat)1}$	-	-	1	V	$I_C=10mA, I_B=1mA$
* $V_{BE(sat)2}$	-	-	1	V	$I_C=50mA, I_B=5mA$
* $h_{FE1}$	80	-	-	-	$V_{CE}=5V, I_C=1mA$
* $h_{FE2}$	80	-	-	-	$V_{CE}=5V, I_C=10mA$
* $h_{FE3}$	30	-	-	-	$V_{CE}=5V, I_C=50mA$
* $h_{FE4}$	52	-	390	-	$V_{CE}=6V, I_C=2mA$
$f_T$	100	-	-	MHz	$V_{CE}=20V, I_C=10mA, f=100MHz$
$C_{ob}$	-	-	6	pF	$V_{CB}=20V, I_E=0A, f=1MHz$

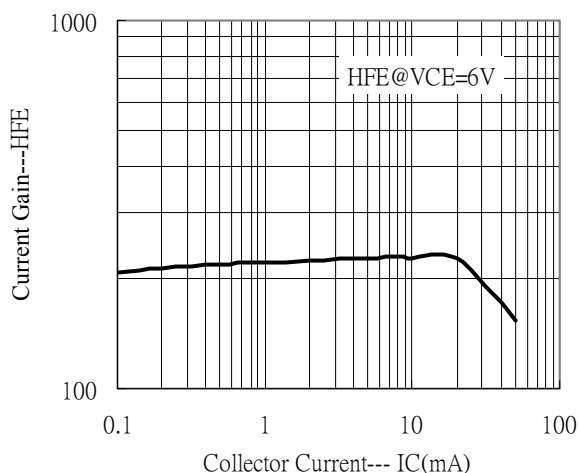
\*Pulse Test: Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$

**Classification Of  $h_{FE4}$**

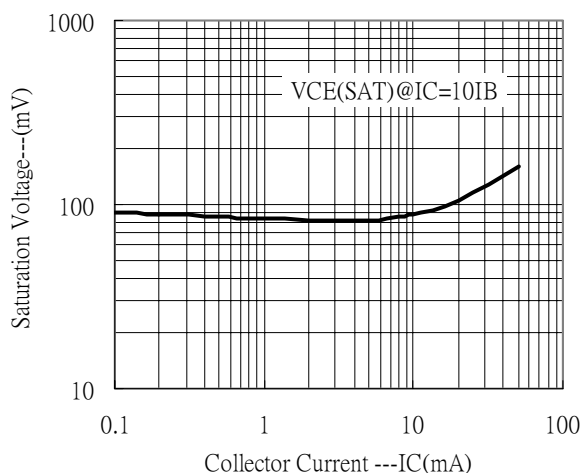
Rank	K	P	Q	R
Range	52~120	82~180	120~270	180~390

**Characteristic Curves**

Current Gain vs Collector Current

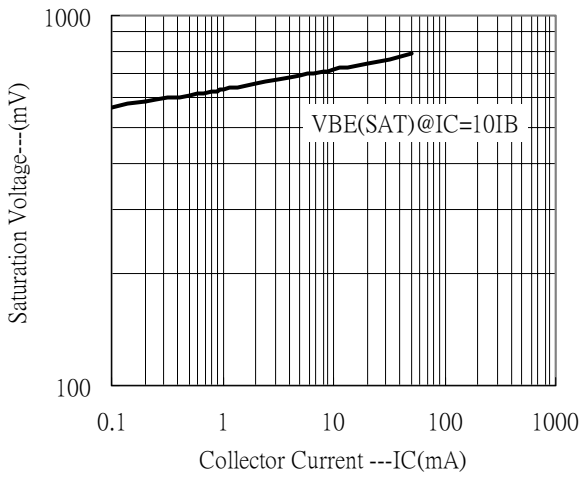


Saturation Voltage vs Collector Current

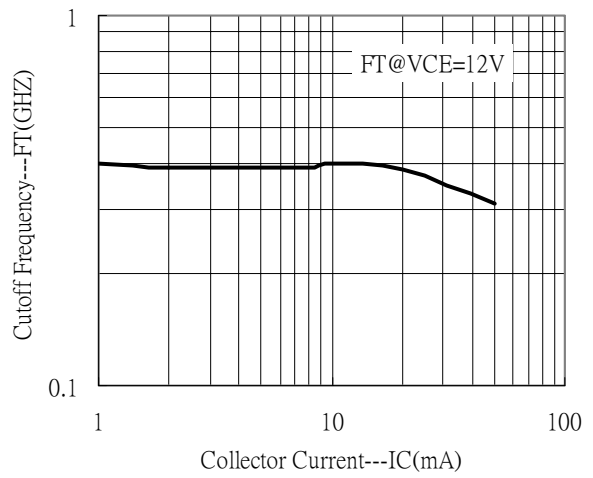




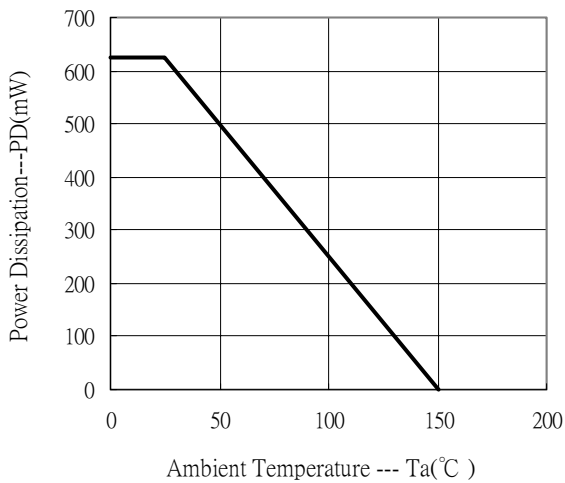
Saturation Voltage vs Collector Current



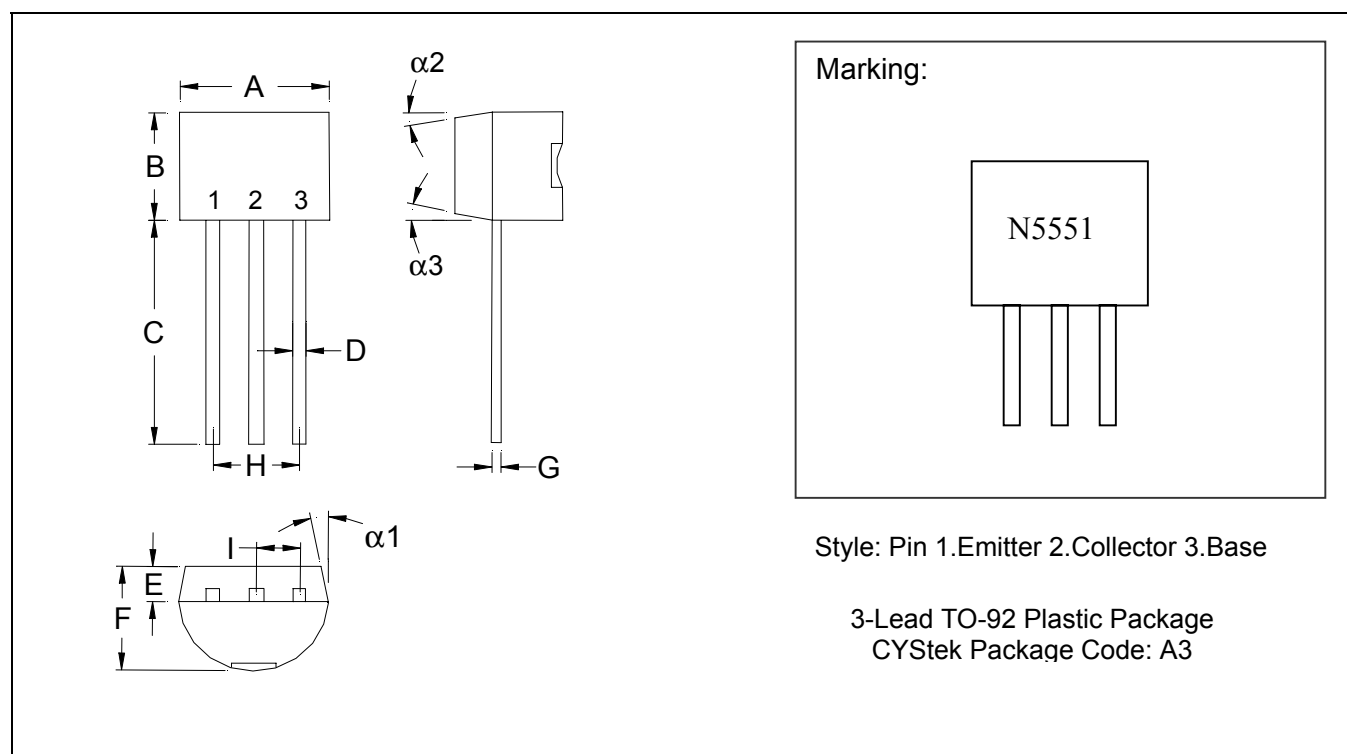
Cutoff Frequency vs Collector Current



Power Derating Curve



## TO-92 Dimension



\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1704	0.1902	4.33	4.83	G	0.0142	0.0220	0.36	0.56
B	0.1704	0.1902	4.33	4.83	H	-	*0.1000	-	*2.54
C	0.5000	-	12.70	-	I	-	*0.0500	-	*1.27
D	0.0142	0.0220	0.36	0.56	$\alpha 1$	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	$\alpha 2$	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	$\alpha 3$	-	*2°	-	*2°

Notes: 1. Controlling dimension: millimeters.

2. Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.

3. If there is any question with packing specification or packing method, please contact your local CYStek sales office.

### Material:

- Lead: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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