

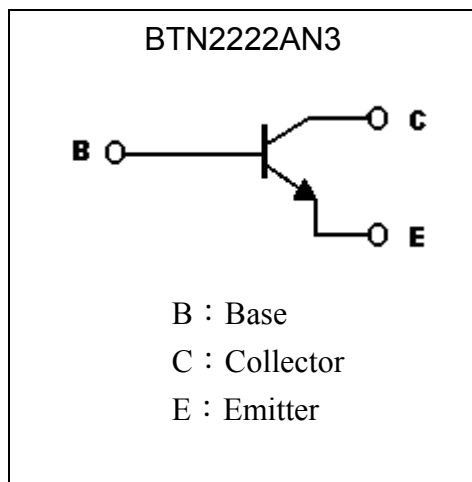
**General Purpose NPN Epitaxial Planar Transistor**

# BTN2222AN3

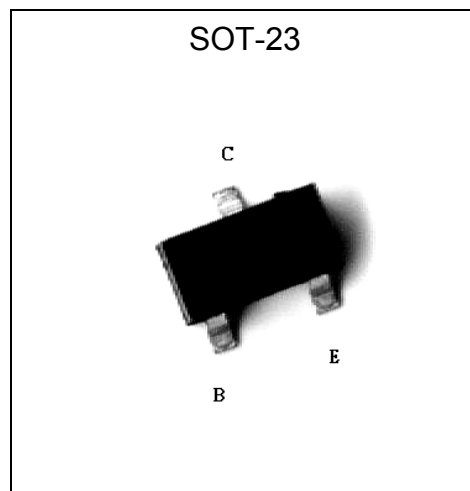
## Description

- The BTN2222AN3 is designed for general purpose amplifier applications. It is housed in the SOT-23/SC-59 package which is designed for low power surface mount applications.
- Low  $V_{CE(sat)}$
- Low leakage current
- High cutoff frequency
- Complementary to BTP2907AN3

## Symbol



## Outline



## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	$V_{CBO}$	75	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	600	mA
Power Dissipation @Ta=25°C Derate above 25°C	$P_d$	225 (Note 1) 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55~+150	°C

Note 1: when mounted on a FR-5 board with area measuring 1.0x 0.75x 0.062 in.



**Characteristics (Ta=25°C)**

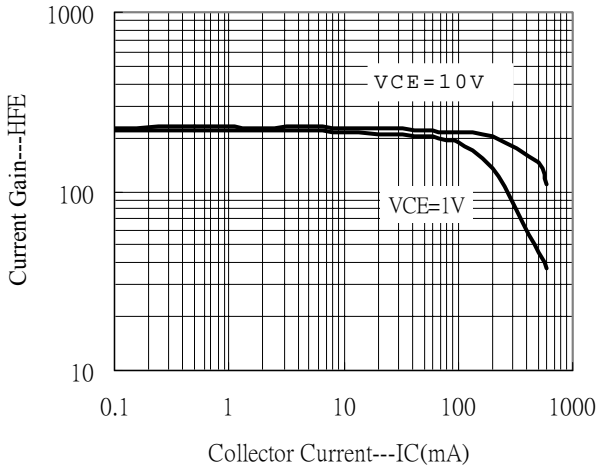
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	75	-	-	V	Ic=10μA
BVCEO	40	-	-	V	Ic=1mA
BVEBO	6	-	-	V	IE=10μA
ICBO	-	-	10	nA	V <sub>CB</sub> =60V
ICEX	-	-	10	nA	V <sub>CE</sub> =60V, V <sub>EB(off)</sub> =3V
IEBO	-	-	100	nA	V <sub>EB</sub> =3V
*V <sub>CE(sat)1</sub>	-	-	0.3	V	Ic=150mA, I <sub>B</sub> =15mA
*V <sub>CE(sat)2</sub>	-	-	1.0	V	Ic=500mA, I <sub>B</sub> =50mA
*V <sub>BE(sat)1</sub>	-	-	1.2	V	Ic=150mA, I <sub>B</sub> =15mA
*V <sub>BE(sat)2</sub>	-	-	2.0	V	Ic=500mA, I <sub>B</sub> =50mA
h <sub>FE1</sub>	35	-	-	-	V <sub>CE</sub> =10V, Ic=0.1mA
h <sub>FE2</sub>	50	-	-	-	V <sub>CE</sub> =10V, Ic=1mA
h <sub>FE3</sub>	75	-	-	-	V <sub>CE</sub> =10V, Ic=10mA
*h <sub>FE4</sub>	100	-	300	-	V <sub>CE</sub> =10V, Ic=150mA
*h <sub>FE5</sub>	40	-	-	-	V <sub>CE</sub> =10V, Ic=500mA
f <sub>T</sub>	300	-	-	MHz	V <sub>CE</sub> =20V, Ic=20mA, f=100MHz
Cob	-	-	8	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0A, f=1MHz

\*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

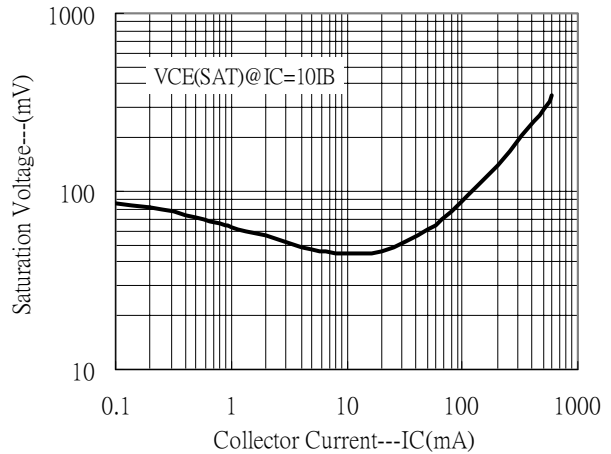


### Characteristic Curves

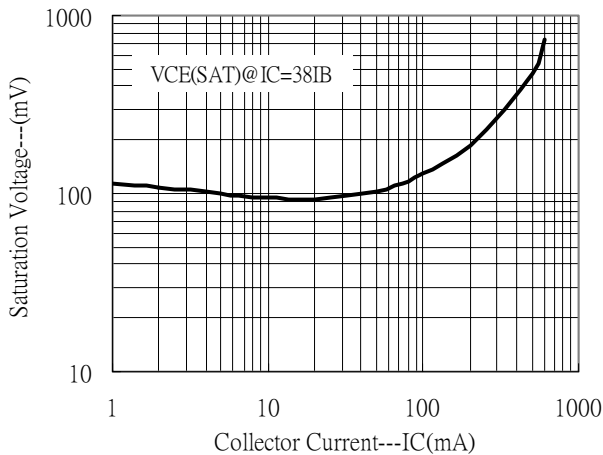
Current Gain vs Collector Current



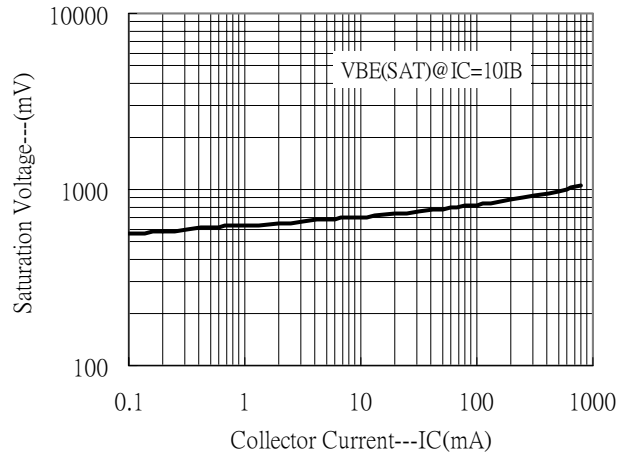
Saturation Voltage vs Collector Current



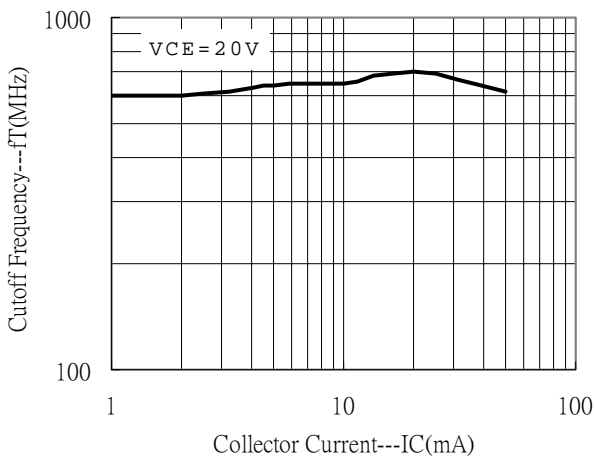
Saturation Voltage vs Collector Current



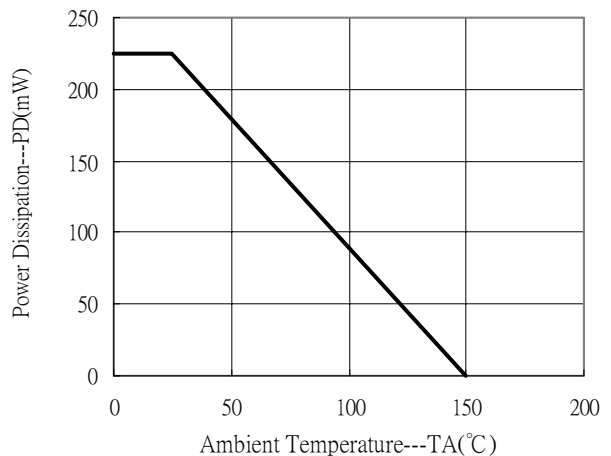
Saturation Voltage vs Collector Current



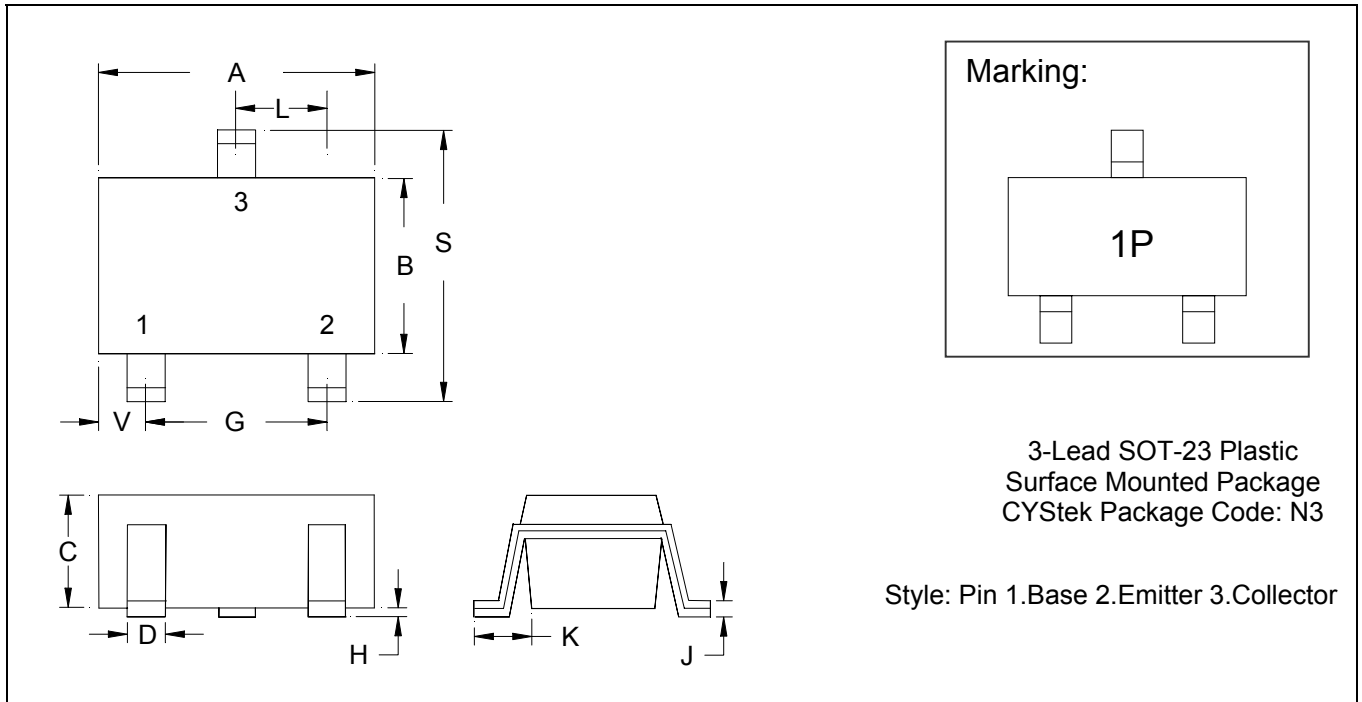
Cutoff Frequency vs Collector Current



Power Derating Curve



**SOT-23 Dimension**



\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0034	0.0070	0.085	0.177
B	0.0472	0.0630	1.20	1.60	K	0.0128	0.0266	0.32	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1083	2.10	2.75
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0005	0.0040	0.013	0.10					

- 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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