

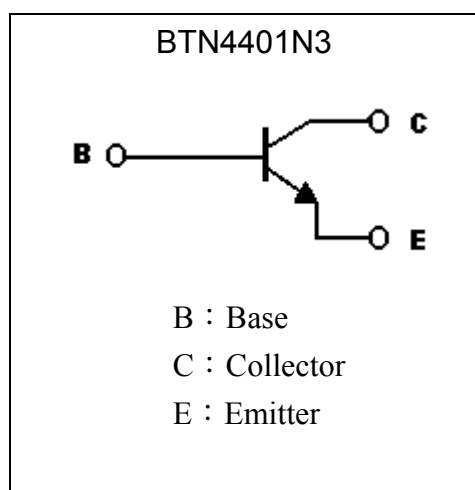
General Purpose NPN Epitaxial Planar Transistor

BTN4401N3

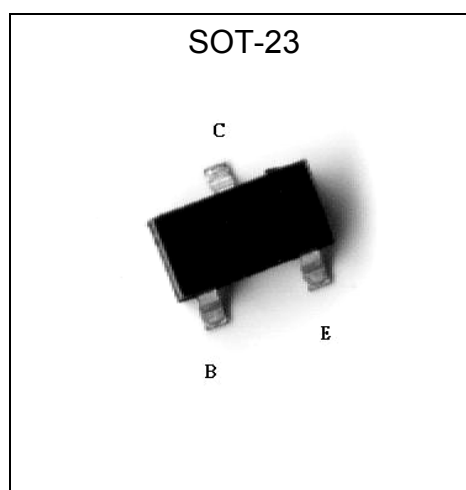
Description

- The BTN4401N3 is designed for using in driver stage of AF amplifier and general purpose switching application.
- High current , $I_C = 0.6A$
- Low $V_{CE(sat)}$, $V_{CE(sat)} = 0.2V(\text{typ.})$ at $I_C/I_B = 500mA/50mA$
 Optimal for low Voltage operation
- Complementary to BTP4403N3.

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	0.6	A
Power Dissipation	P_d	225	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°C

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	60	-	-	V	$I_C=100\mu A$
BV_{CEO}	40	-	-	V	$I_C=1mA$
BV_{EBO}	6	-	-	V	$I_E=10\mu A$
I_{CEX}	-	-	100	nA	$V_{CE}=35V, V_{BE}=-0.4V$
$*V_{CE(sat)1}$	-	-	0.4	V	$I_C=150mA, I_B=15mA$
$*V_{CE(sat)2}$	-	0.2	0.75	V	$I_C=500mA, I_B=50mA$
$*V_{BE(sat)1}$	-	-	0.95	V	$I_C=150mA, I_B=15mA$
$*V_{BE(sat)2}$	-	-	1.2	V	$I_C=500mA, I_B=50mA$
$*h_{FE1}$	20	-	-	-	$V_{CE}=1V, I_C=0.1mA$
$*h_{FE2}$	40	-	-	-	$V_{CE}=1V, I_C=1mA$
$*h_{FE3}$	80	-	-	-	$V_{CE}=1V, I_C=10mA$
$*h_{FE4}$	82	-	390	-	$V_{CE}=1V, I_C=150mA$
$*h_{FE5}$	40	-	-	-	$V_{CE}=2V, I_C=500mA$
f_T	-	250	-	MHz	$V_{CE}=5V, I_C=20mA, f=100MHz$
Cob	-	6	-	pF	$V_{CB}=5V, f=1MHz$

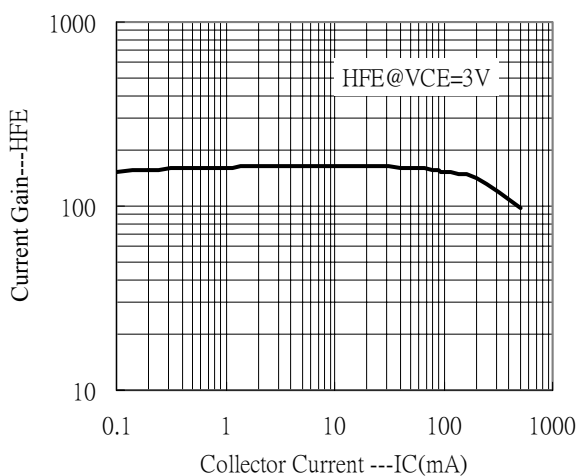
*Pulse Test: Pulse Width $\leq 380\mu s$, Duty Cycle $\leq 2\%$

Classification Of h_{FE4}

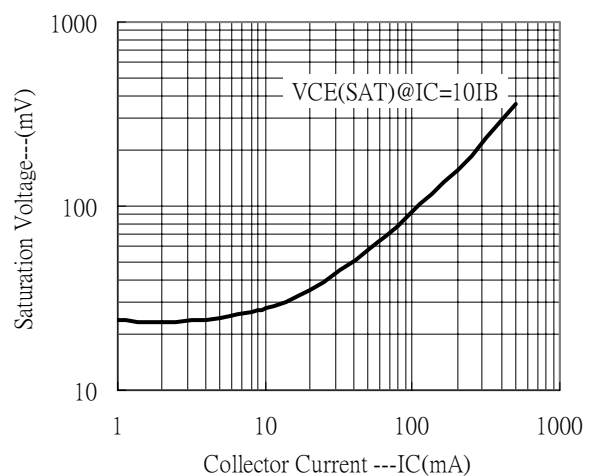
Rank	P	Q	R
Range	82~180	120~270	180~390

Characteristic Curves

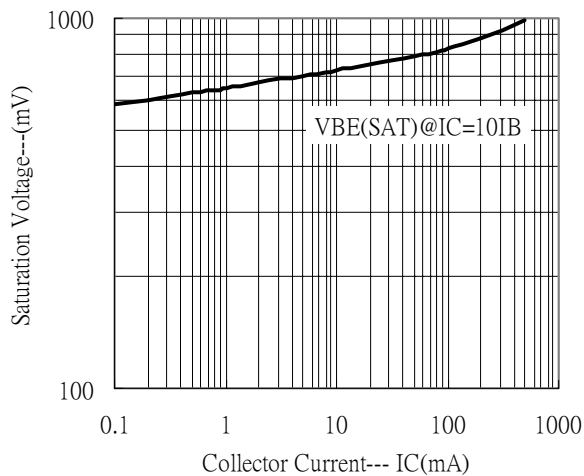
Current Gain vs Collector Current



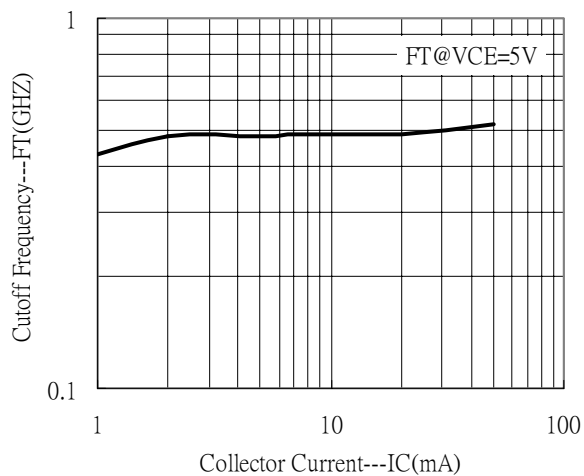
Saturation Voltage vs Collector Current



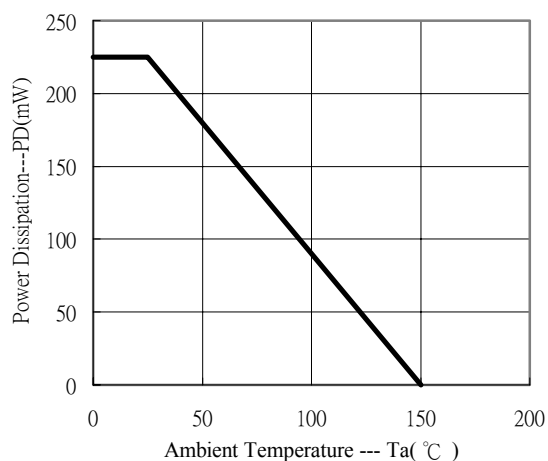
Saturation Voltage vs Collector Current



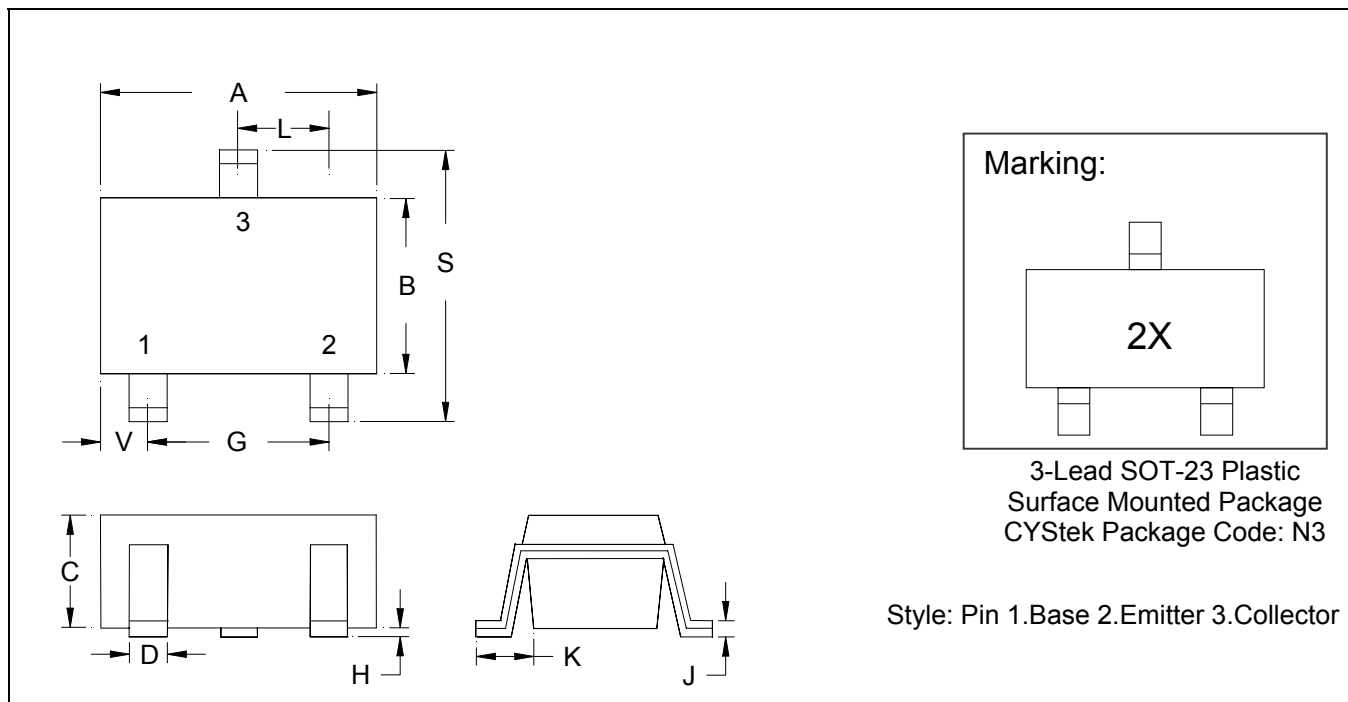
Cutoff Frequency vs Collector Current



Power Derating Curve



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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