Low Vcesat NPN Epitaxial Planar Transistor

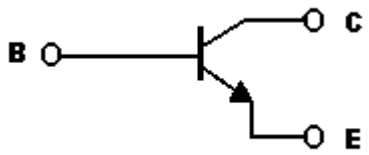
BTD2098N3

Features

- Low $V_{CE(sat)}$, $V_{CE(sat)}$=0.35 V (typical), at I_C / I_B = 3A / 0.1A
- Excellent DC current gain characteristics
- Complementary to BTB1386N3

Symbol

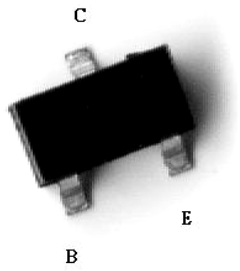
BTD2098N3



B：Base
C：Collector
E：Emitter

Outline

SOT-23



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse)	I_{CP}	8 (Note)	A
Power Dissipation	Pd	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : Single Pulse Pw≦350μs, Duty≦2%.

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CEO}	20	-	-	V	I_C=1mA, I_B=0
BV_{EBO}	7	-	-	V	I_E=10μA, I_C=0
I_{CBO}	-	-	0.1	μA	V_{CB}=10V, I_E=0
I_{CEO}	-	-	1	μA	V_{CB}=10V, I_E=0
I_{EBO}	-	-	0.1	μA	V_{EB}=7V,I_C=0
*$V_{CE(sat)}$	-	0.35	1.0	V	I_C=3A, I_B=0.1A
*$h_{FE}1$	230	-	800	-	V_{CE}=2V, I_C=500mA
*$h_{FE}2$	150	-	-	-	V_{CE}=2V, I_C=2.00A
f_T	-	150	-	MHz	V_{CE}=6V, I_E=50mA, f=200MHz
Cob	-		50	pF	V_{CB}=20V, I_E=0A, f=1MHz

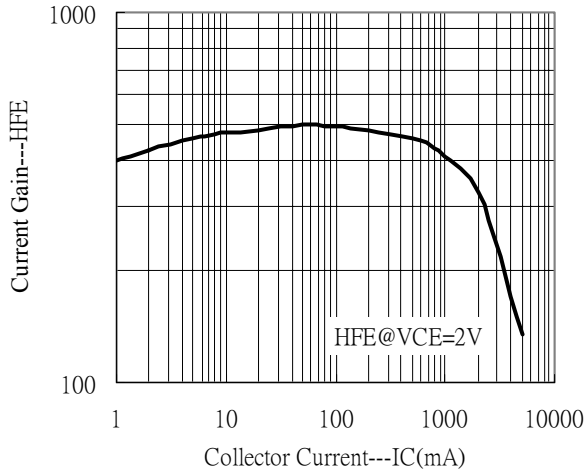
*Pulse Test : Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of $h_{FE}1$

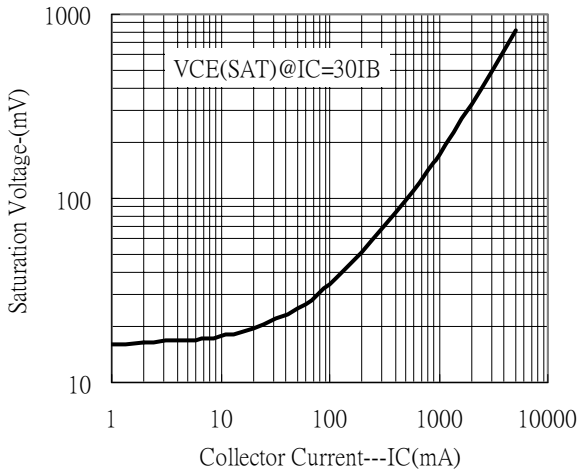
Rank	Q	R	S
Range	230~380	340~600	400~800

Characteristic Curves

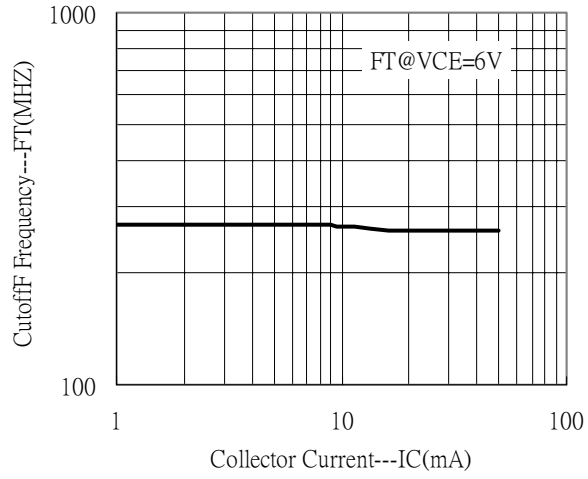
Current Gain vs Collector Current



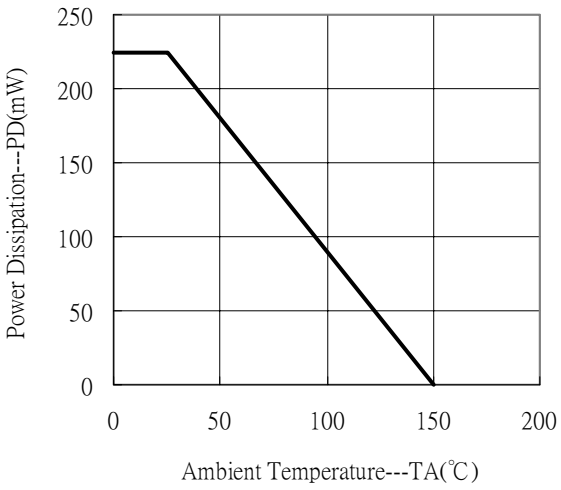
Saturation Voltage vs Collector Current



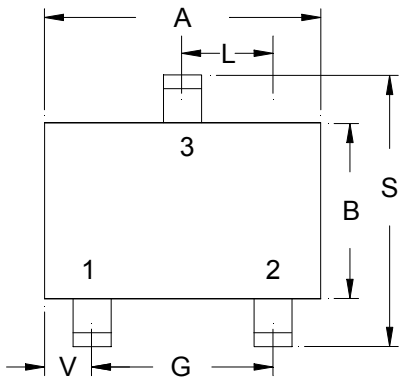
Cutoff Frequency vs Collector Current

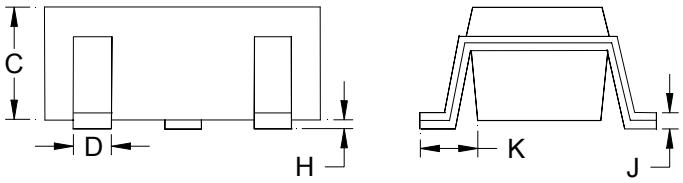


Power Derating Curve

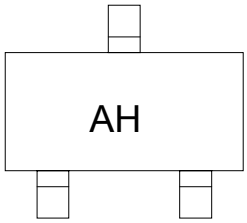


SOT-23 Dimension





Marking:



3-Lead SOT-23 Plastic
Surface Mounted Package
CYStek Package Code: N3

Style: Pin 1.Base 2.Emitter 3.Collector

*: 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