Low Vcesat NPN Epitaxial Planar Transistor

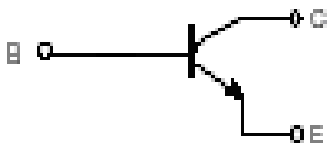
BTD965A3

Features

- Low V_{CE}(sat), Low V_{CE}(sat)=0.35 V (typical), at I_C / I_B = 3A / 0.1A
- Excellent DC current gain characteristics
- Complementary to BTB1386A3

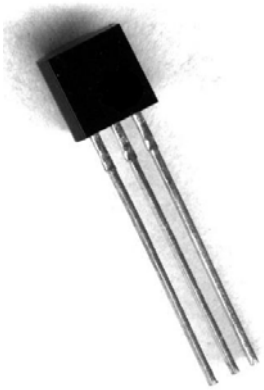
Equivalent Circuit

BTD965A3



B：Base
C：Collector
E：Emitter

TO-92



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	VCBO	40	V
Collector-Emitter Voltage	VCEO	20	V
Emitter-Base Voltage	VEBO	7	V
Collector Current	IC	5	A(DC)
	IC(cp)	8 * 1	A(Pulse)
Power Dissipation	Pd	0.75	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : *1. Single Pulse Pw≦380us,Duty≦2%.

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCEO	20	-	-	V	IC=1mA, IB=0
BVEBO	7	-	-	V	IE=10uA, IC=0
ICBO	-	-	0.1	uA	VCB=10V. IE=0
ICEO	-	-	1	uA	VCB=10V. IE=0
IEBO	-	-	0.1	uA	VEB=7V,IC=0
*VCE(sat)	-	0.35	1.0	V	IC=3A, IB=0.1A
*hFE1	230	-	800	-	VCE=2V, IC=500mA
*hFE2	150	-	-	-	VCE=2V, IC=2.00A
fT	-	150	-	MHz	VCE=6V, IE=50mA, f=200MHz
Cob	-		50	pF	VCB=20V, IE=0A, f=1MHz

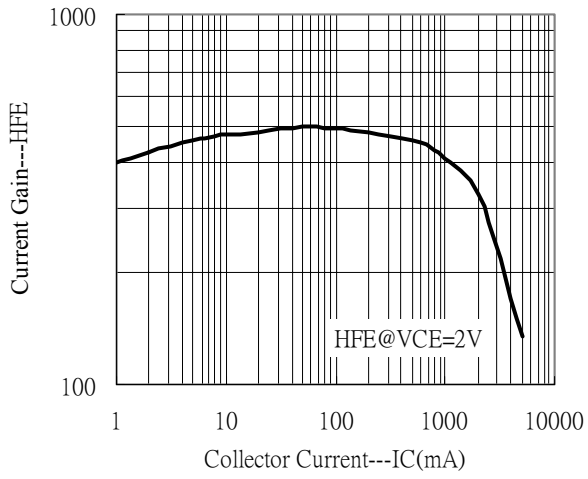
*Pulse Test : Pulse Width ≤380us, Duty Cycle≤2%

Classification Of hFE1

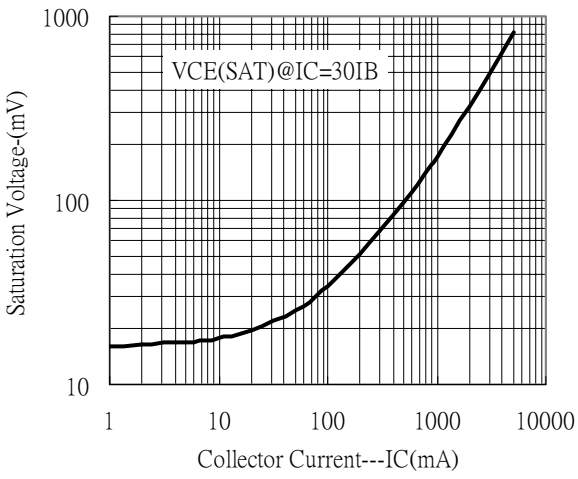
Rank	Q	R	S
Range	230~380	340~600	400~800

Characteristic Curves

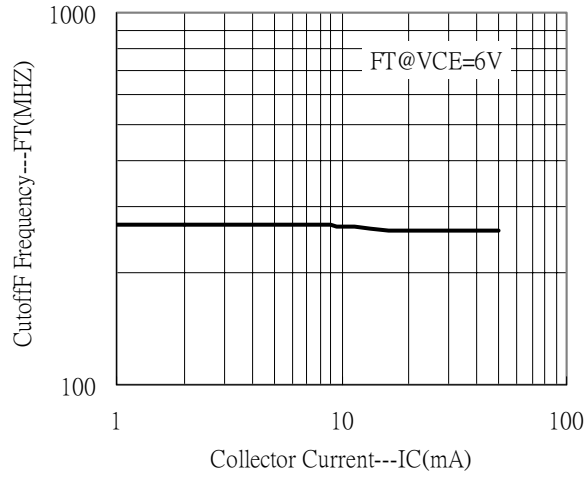
Current Gain vs Collector Current



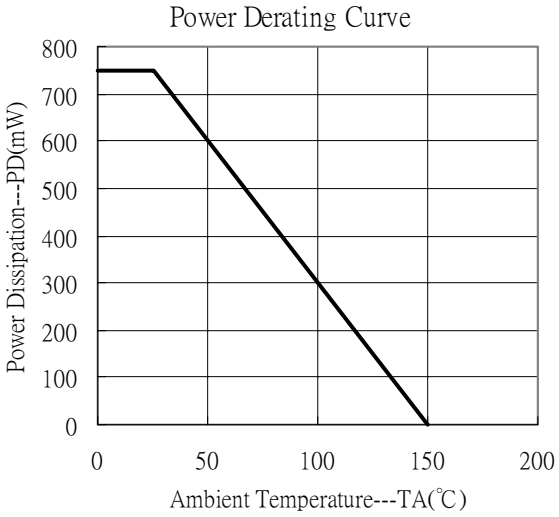
Saturation Voltage vs Collector Current



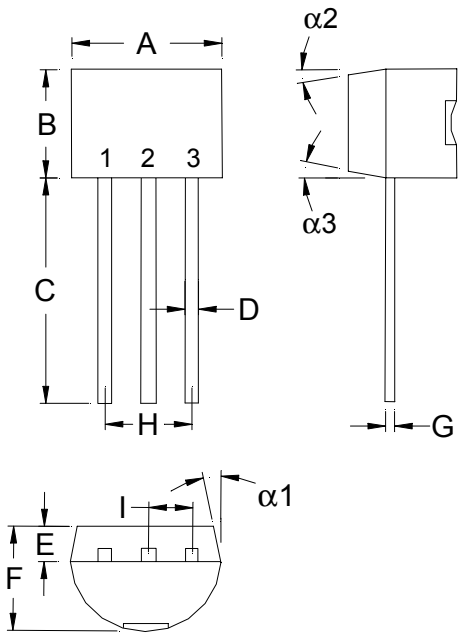
Cutoff Frequency vs Collector Current



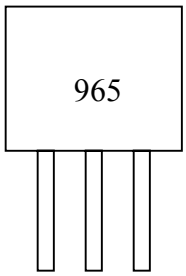
Power Derating Curve



TO-92 Dimension



Marking:



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

3-Lead TO-92 Plastic Package
CYStek Package Code: A3

*: 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	α1	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	α2	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	α3	-	*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