General Purpose NPN Epitaxial Planar Transistor

BTC1815A3

Description

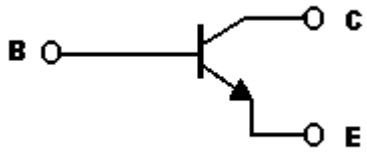
The BTC1815A3 is designed for use in driver stage of AF amplifier and low speed switching.

Features

- High voltage and high current : V_{CEO}=50V(min), I_C=150mA(max)
- High H_{FE} and excellent linearity
- Complementary to BTA1015A3

Symbol

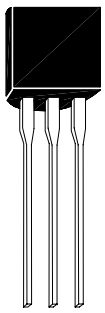
BTC1815A3



B：Base
C：Collector
E：Emitter

Outline

TO-92



E C B

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Base Current	I_B	50	mA
Power Dissipation @Ta=25℃	Pd	400	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	250	°C/W
Junction Temperature	Tj	125	°C
Storage Temperature	Tstg	-55~+125	°C

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	60	-	-	V	I_C=100μA
BV_{CEO}	50	-	-	V	I_C=1mA
BV_{EBO}	5	-	-	V	I_E=10μA
I_{CBO}	-	-	100	nA	V_{CB}=60V
I_{EBO}	-	-	100	nA	V_{EB}=5V
*$V_{CE(sat)}$	-	-	0.25	V	I_C=100mA, I_B=10mA
*$V_{BE(sat)}$		-	1.0	V	I_C=100mA, I_B=10mA
$h_{FE}1$	70	-	700	-	V_{CE}=6V, I_C=2mA
$h_{FE}2$	25	100	-	-	V_{CE}=6V, I_C=150mA
f_T	80	-	-	MHz	V_{CE}=10V, I_C=1mA
Cob	-	-	3.5	pF	V_{CB}=10V, I_E=0,f=1MHz

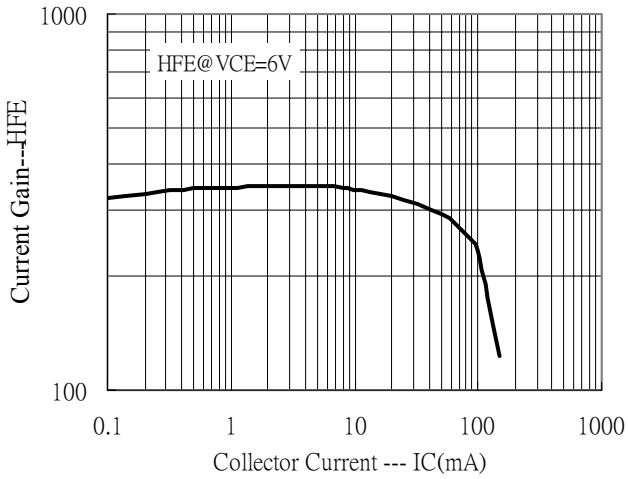
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Classification of h_{FE} 1

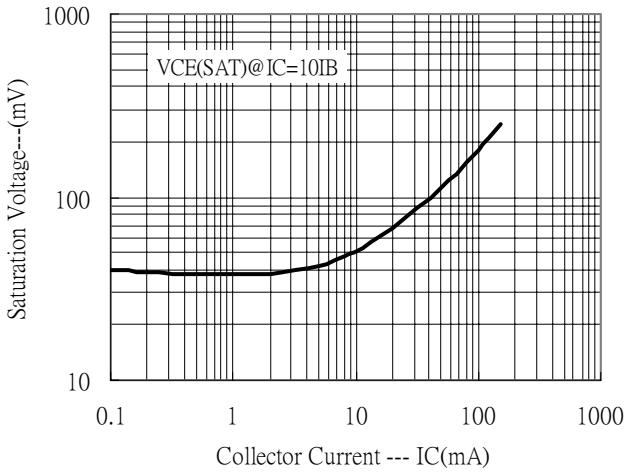
Rank	O	Y	GR	BL
Range	70~140	120~240	200~400	350~700

Characteristic Curves

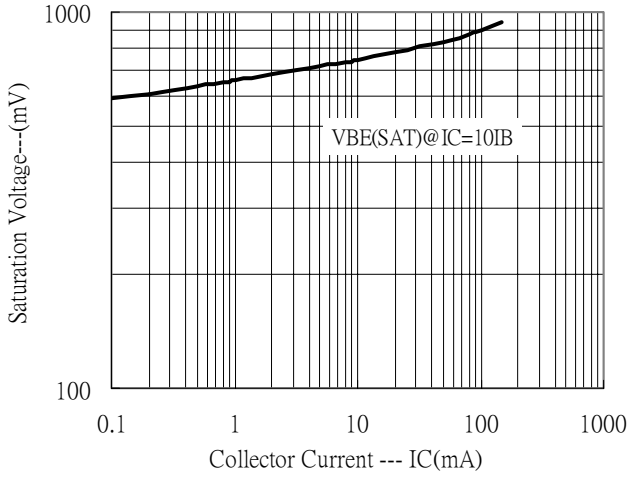
Current Gain vs Collector Current



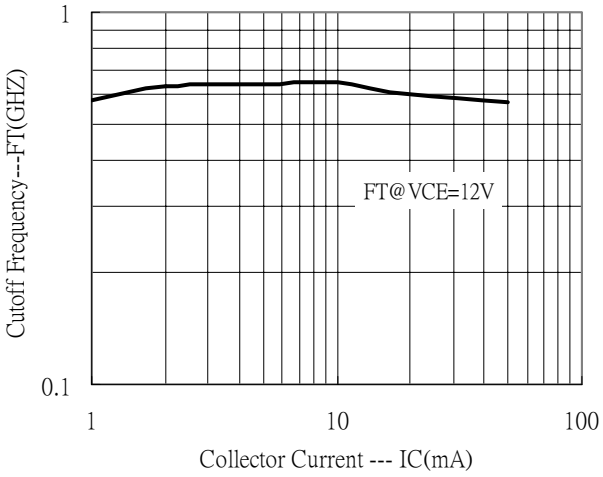
Saturation Voltage vs Collector Current



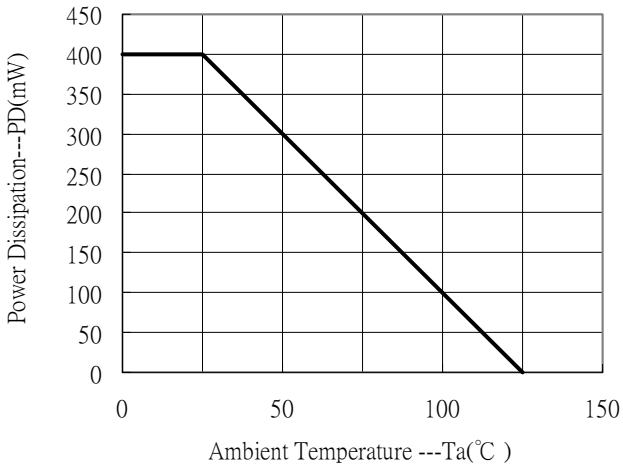
Saturation Voltage vs Collector Current



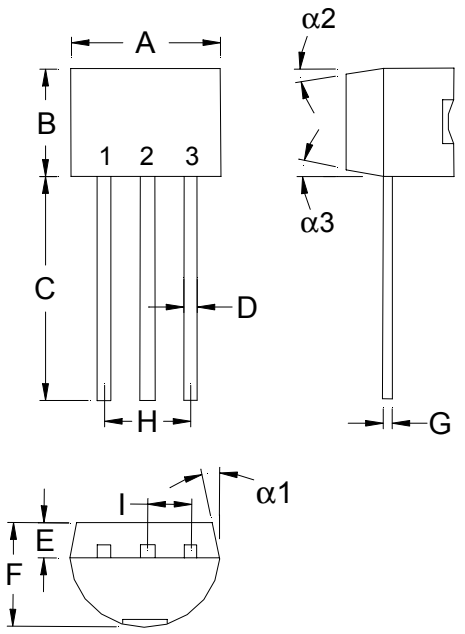
Cutoff Frequency vs Collector Current



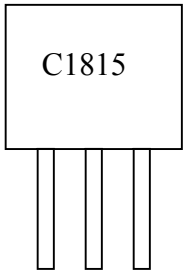
Power Derating Curve



TO-92 Dimension



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