

VHF/UHF NPN Epitaxial Planar Transistor

BTC2059A3

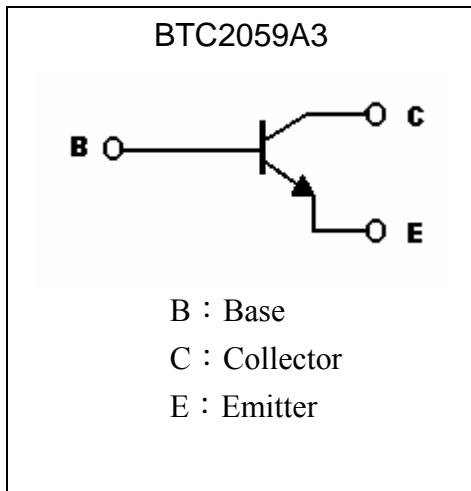
Description

The BTC2059A3 is designed for use in VHF & UHF oscillators and VHF mixer in tuner of a TV receiver.

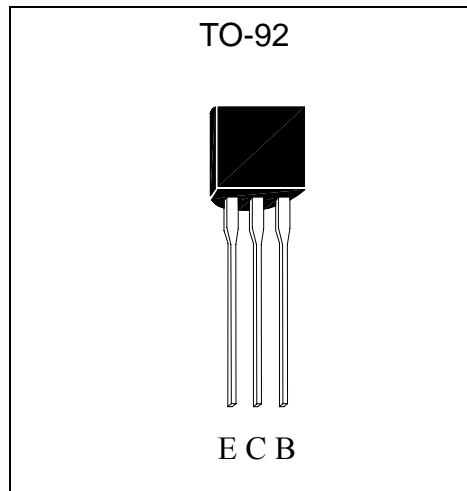
Features

- High transition frequency.
- Very low capacitance.
- Small $R_{bb'}$ - C_c and high current gain.
- Pb-free package

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V _{CBO}	25	V
Collector-Emitter Voltage	V _{CEO}	18	V
Emitter-Base Voltage	V _{EB0}	3	V
Collector Current	I _C	50	mA
Power Dissipation	P _d	350	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}	25	-	-	V	I _C =100μA
BV _{CEO}	18	-	-	V	I _C =1mA
BV _{EBO}	3	-	-	V	I _C =10μA
I _{CBO}	-	-	500	nA	V _{CB} =20V
I _{EBO}	-	-	500	nA	V _{EB} =2V
*V _{CE(sat)}	-	-	0.5	V	I _C =20mA, I _B =4mA
*V _{BE(on)}	-	-	0.95	V	V _{CE} =10V, I _C =4mA
*h _{FE 1}	52	-	-	-	V _{CE} =10V, I _C =4mA
*h _{FE 2}	52	-	270	-	V _{CE} =10V, I _C =10mA
f _T	600	1000	-	MHz	V _{CE} =10V, I _C =10mA, f=200MHz
C _{ob}	-	1.4	2.0	pF	V _{CB} =10V, I _E =0A, f=1MHz
R _{bb'} -C _c	-	8	13	ps	V _{CB} =10V, I _C =10mA, f=31.8MHz

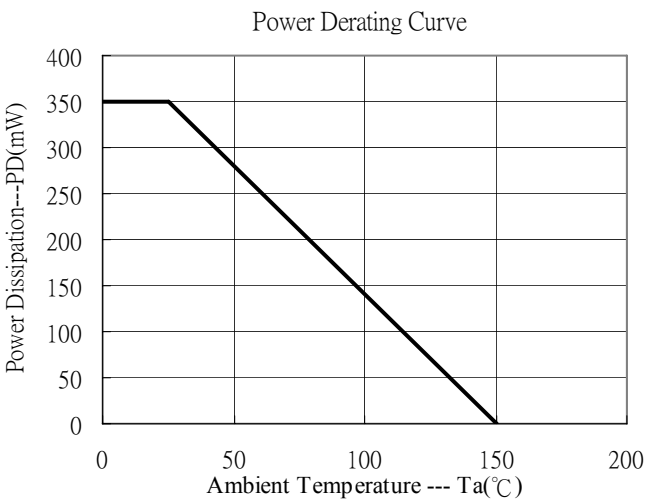
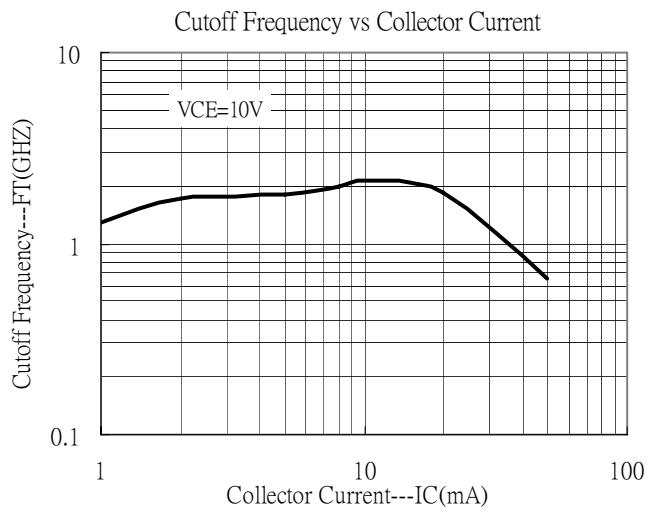
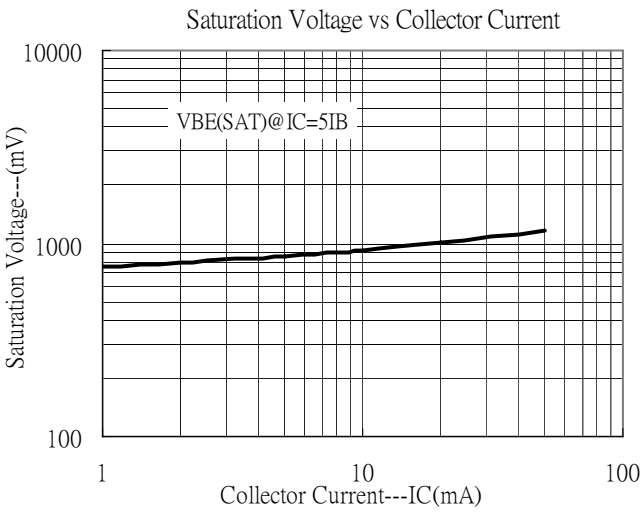
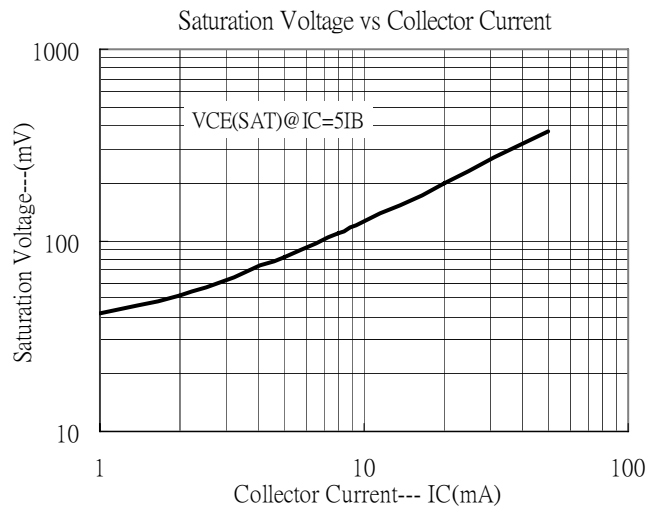
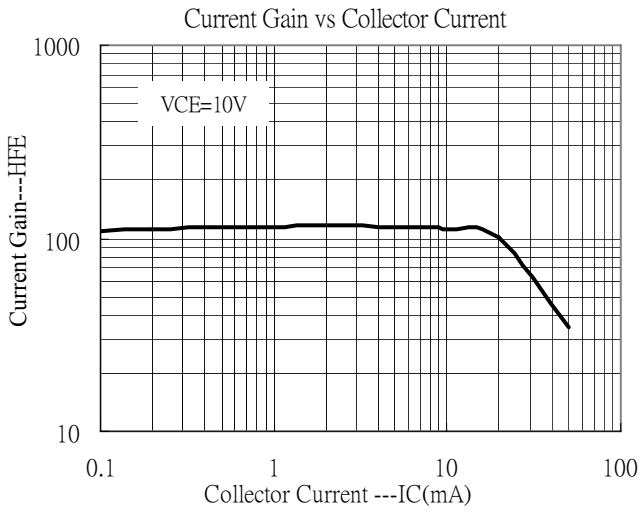
*Pulse Test : Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of hFE 2

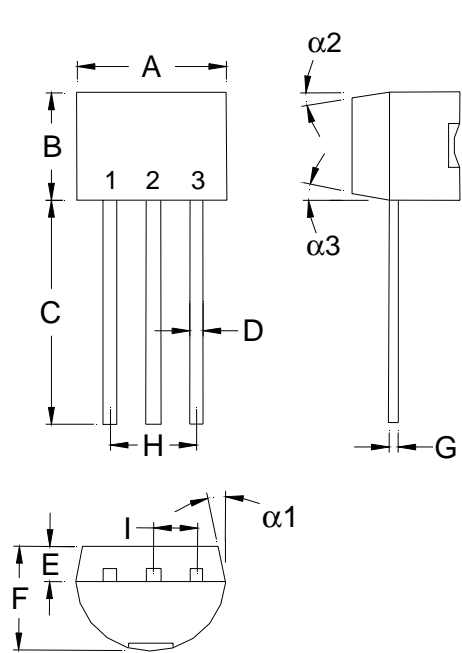
Rank	K	P	Q
Range	52~120	82~180	120~270



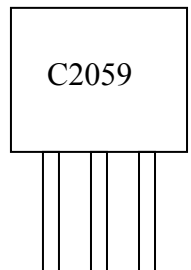
Characteristic Curves



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	$\alpha 1$	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	$\alpha 2$	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	$\alpha 3$	-	*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: KFC ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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