

General Purpose NPN Epitaxial Planar Transistor

BC847N3

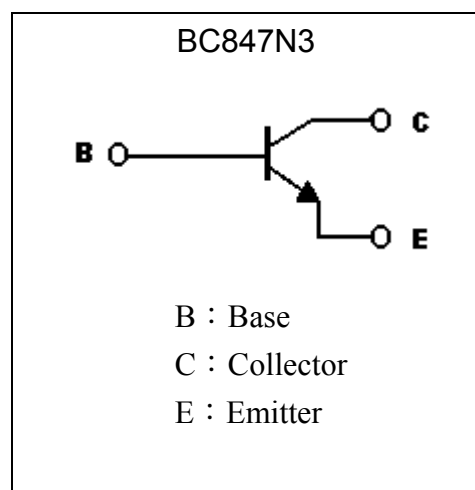
Description

- The BC847N3 is designed for general purpose switching and amplification applications.
- Complementary to BC857N3.

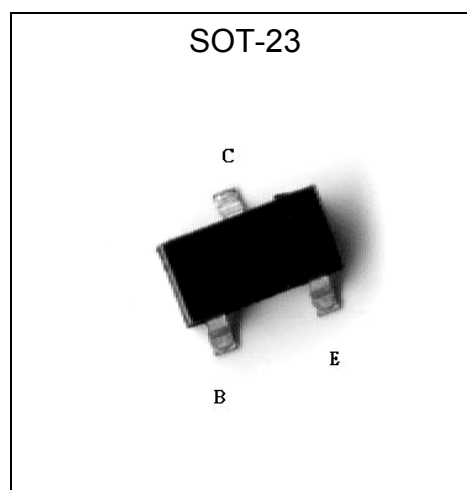
Features

- Low current, $I_{C(max)}=100mA$
- Low voltage, $BV_{CEO}=45V$.

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current (DC)	I_C	100	mA
Collector Current (Pulse)	I_{CP}	200	mA
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}	50	-	-	V	$I_C=10\mu A$
BV_{CEO}	45	-	-	V	$I_C=1mA$
BV_{EBO}	6	-	-	V	$I_E=10\mu A$
I_{CBO}	-	-	15	nA	$V_{CE}=30V$
I_{EBO}	-	-	100	nA	$V_{EB}=5V$
$*V_{CE(sat)} 1$	-	-	250	mV	$I_C=10mA, I_B=0.5mA$
$*V_{CE(sat)} 2$	-	-	600	mV	$I_C=100mA, I_B=5mA$
$*V_{BE(sat)} 1$	-	700	-	mV	$I_C=10mA, I_B=0.5mA$
$*V_{BE(sat)} 2$	-	900	-	mV	$I_C=100mA, I_B=5mA$
$*V_{BE(on)} 1$	580	660	700	mV	$V_{CE}=5V, I_C=2mA$
$*V_{BE(on)} 2$	-	-	770	mV	$V_{CE}=5V, I_C=10mA$
$*h_{FE}$	110	-	800	-	$V_{CE}=5V, I_C=2mA$
f_T	100	-	-	MHz	$V_{CE}=5V, I_E=10mA, f=100MHz$
Cob	-	2.5	-	pF	$V_{CB}=10V, I_E=0A, f=1MHz$

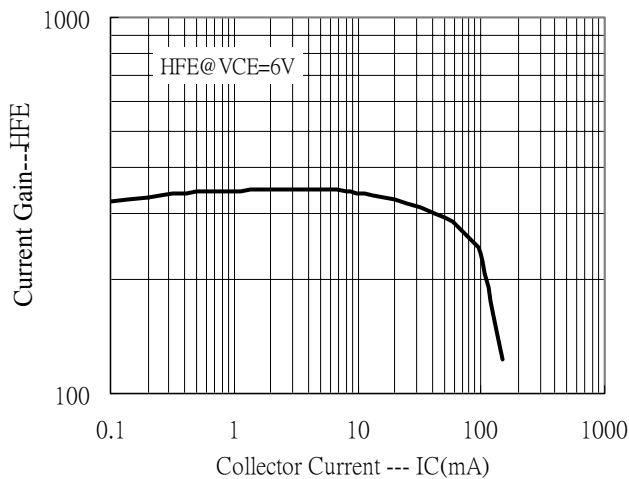
*Pulse Test: Pulse Width $\leq 380\mu s$, Duty Cycle $\leq 2\%$

Classification of h_{FE} :

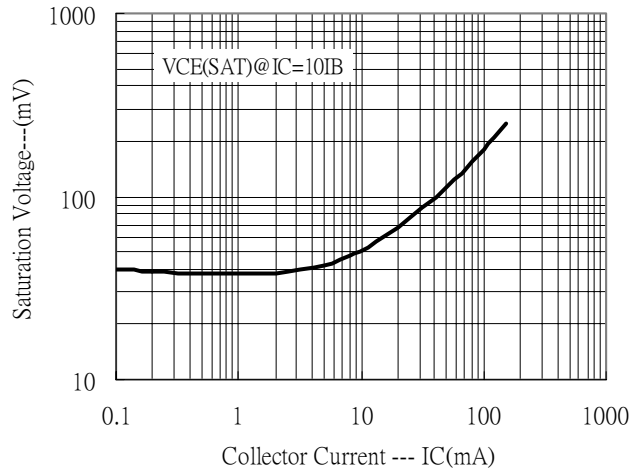
Rank	A	B	C
Range	110--220	200--450	420--800

Characteristic Curves

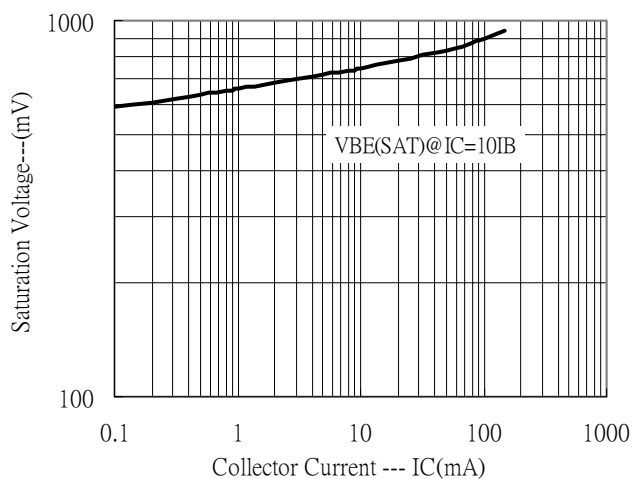
Current Gain vs Collector Current



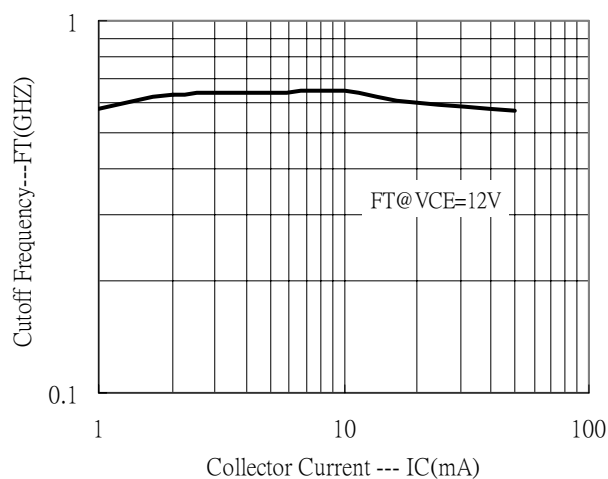
Saturation Voltage vs Collector Current



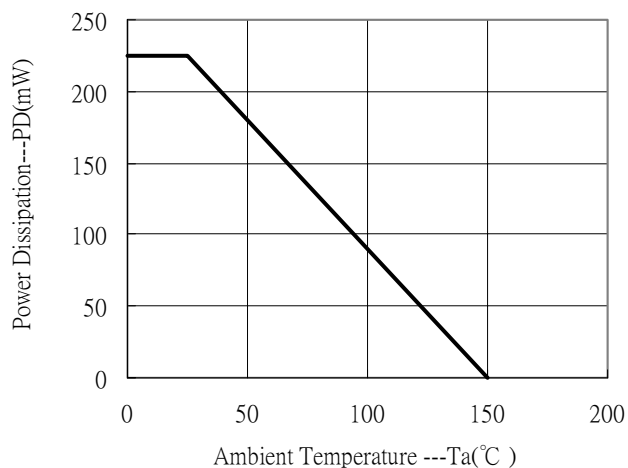
Saturation Voltage vs Collector Current



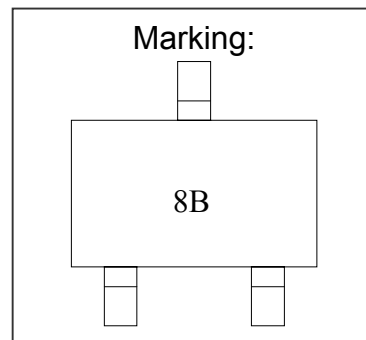
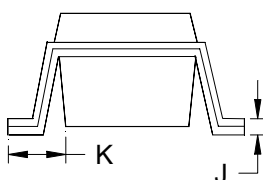
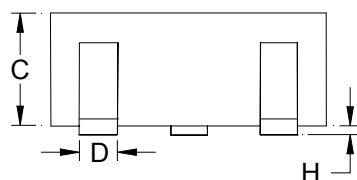
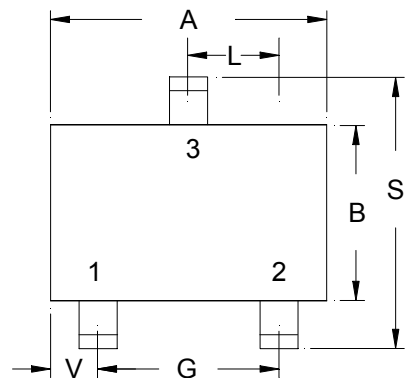
Cutoff Frequency vs Collector Current



Power Derating Curve



SOT-23 Dimension



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

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