

**CYStech Electronics Corp.**

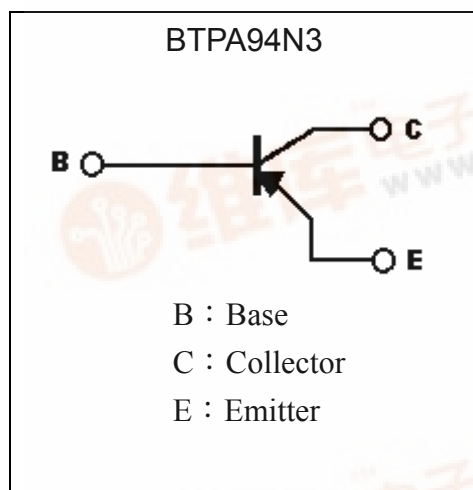
Spec. No. : C309N3-H
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High Voltage PNP Epitaxial Planar Transistor

BTPA94N3

Description

- High breakdown voltage. ($BV_{CEO} = -400V$)
- Low saturation voltage, typically $V_{CE(sat)} = -0.07V$ at $I_C/I_B = -10mA/-1mA$.
- Wide SOA (safe operation area).
- Complementary to BTNA44N3.

Symbol**Outline****Absolute Maximum Ratings** ($T_a = 25^\circ C$)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-400	V
Collector-Emitter Voltage	V_{CEO}	-400	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	I_C	-300	mA
Power Dissipation	P_d	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ C/W$
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55~+150	$^\circ C$

**Characteristics** (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	-400	-	-	V	IC=-50μA
BVCEO	-400	-	-	V	IC=-1mA
BVEBO	-6	-	-	V	IE=-50μA
ICBO	-	-	-10	μA	VCB=-400V
IEBO	-	-	-10	μA	VEB=-6V
ICES	-	-	-10	μA	VCB=-400V
VCE(sat) 1	-	-	-0.2	V	IC=-1mA, IB=-0.1mA
*VCE(sat) 2	-	-	-0.3	V	IC=-10mA, IB=-1mA
*VCE(sat) 3	-	-	-0.6	V	IC=-50mA, IB=-5mA
*VBE(sat)	-	-	-0.9	V	IC=-20mA, IB=-2mA
hFE 1	50	-	-	-	VCE=-10V, IC=-1mA
*hFE 2	56	-	270	-	VCE=-10V, IC=-10mA
*hFE 3	50	-	-	-	VCE=-10V, IC=-50mA
*hFE 4	40	-	-	-	VCE=-10V, IC=-100mA
Cob	-	-	6	pF	VCB=-10V, IE=0A, f=1MHz

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

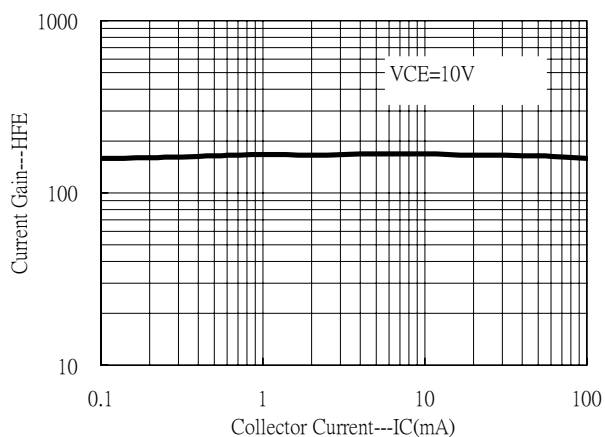
Classification Of hFE

Rank	K	P	Q
Range	56~120	82~180	120~270

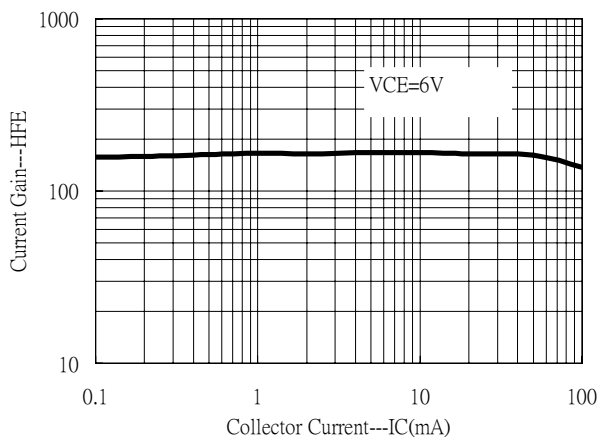


Characteristic Curves

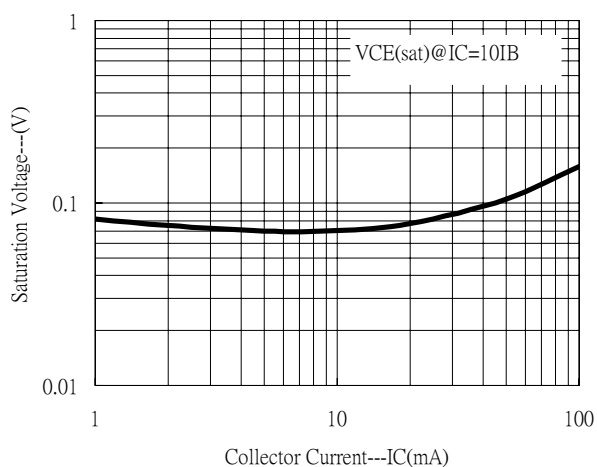
Current Gain vs Collector Current



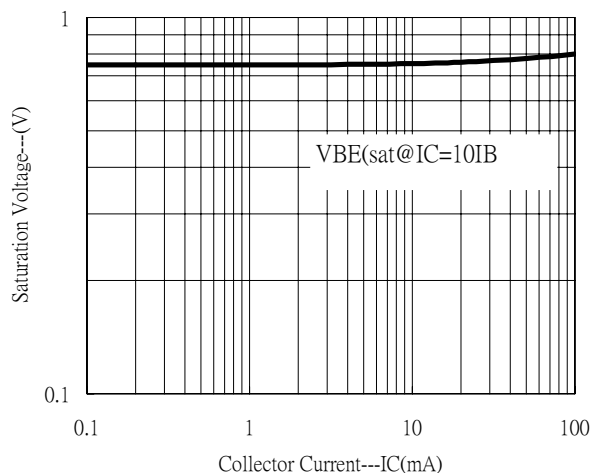
Current Gain vs Collector Current



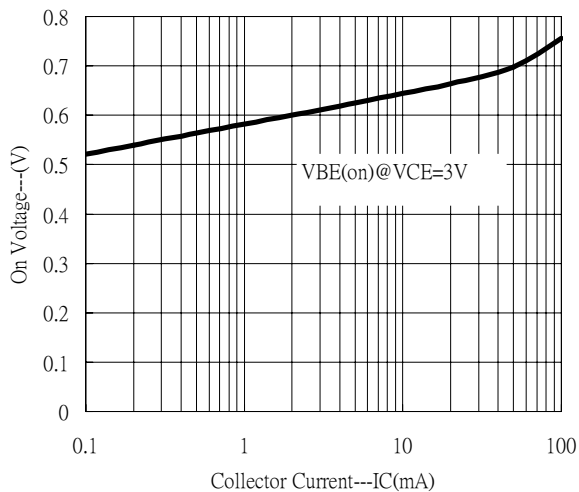
Saturation Voltage vs Collector Current



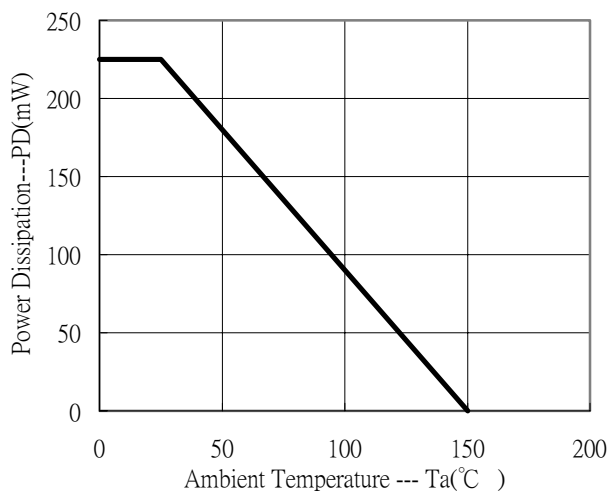
Saturation Voltage vs Collector Current



On Voltage vs Collector Current

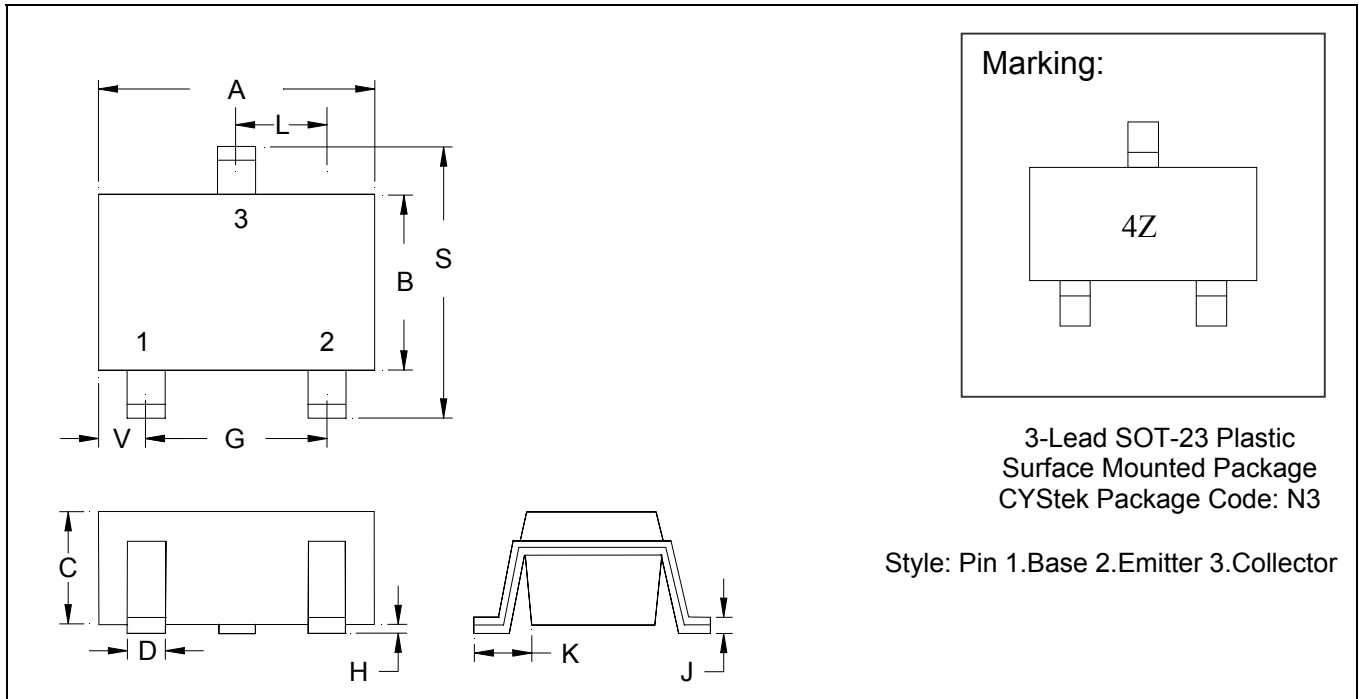


Power Derating Curve





SOT-23 Dimension



*: 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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