Low Vcesat PNP Epitaxial Planar Transistor

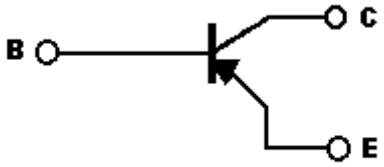
BTB1412J3

Features

- Low V_{CE}(sat), V_{CE}(sat)=-0.6 V (typical), at I_C / I_B = -4A / -0.1A
- Excellent DC current gain characteristics
- Complementary to BTD2118J3

Symbol

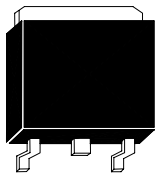
BTB1412J3



B：Base
C：Collector
E：Emitter

Outline

TO-252



B C E

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-20	V
Collector-Emitter Voltage	V_{CEO}	-15	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	$I_{C(DC)}$	-5	A
	$I_{C(Pulse)}$	-10 *1	
Power Dissipation	Pd(T_A=25℃)	1	W
	Pd(T_C=25℃)	10	
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : *1. Single Pulse Pw=10ms

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-20	-	-	V	I_C=-50μA, I_E=0
BV_{CEO}	-15	-	-	V	I_C=-1mA, I_B=0
BV_{EBO}	-6	-	-	V	I_E=-50μA, I_C=0
I_{CBO}	-	-	-0.5	μA	V_{CB}=-15V, I_E=0
I_{EBO}	-	-	-0.5	μA	V_{EB}=-5V, I_C=0
*$V_{CE(sat)}$	-	-	-1.0	V	I_C=-4A, I_B=-0.1A
*h_{FE}	120	-	560	-	V_{CE}=-2V, I_C=-0.5A
f_T	-	120	-	MHz	V_{CE}=-6V, I_C=-50mA, f=30MHz
Cob	-	60	-	pF	V_{CB}=-20V, f=1MHz

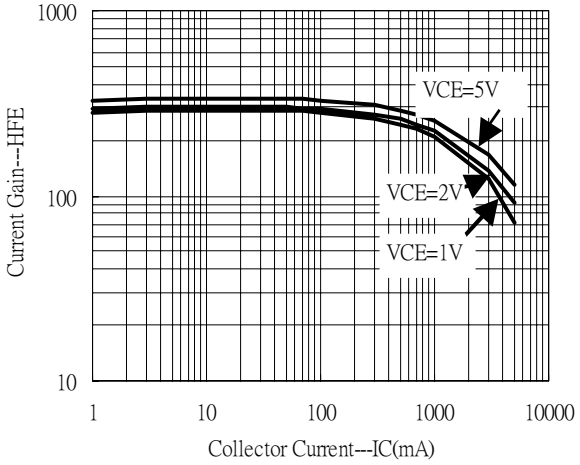
*Pulse Test : Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of h_{FE}

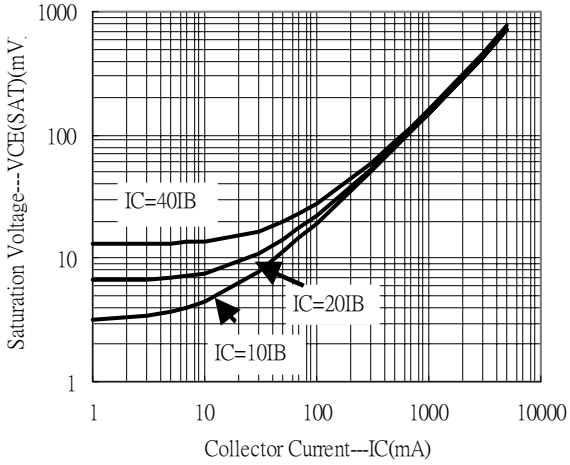
Rank	Q	R	S
Range	120~270	180~390	270~560

Characteristic Curves

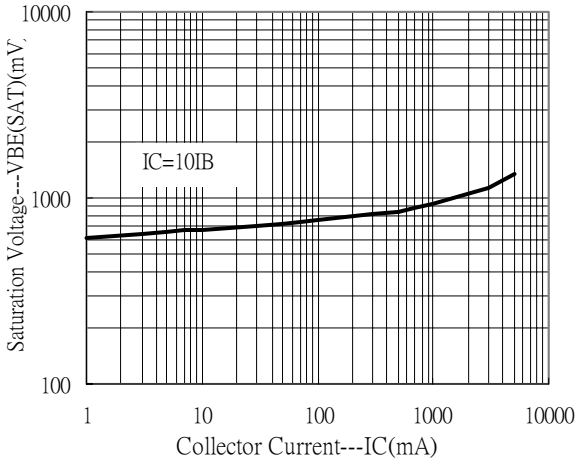
Current Gain vs Collector Current



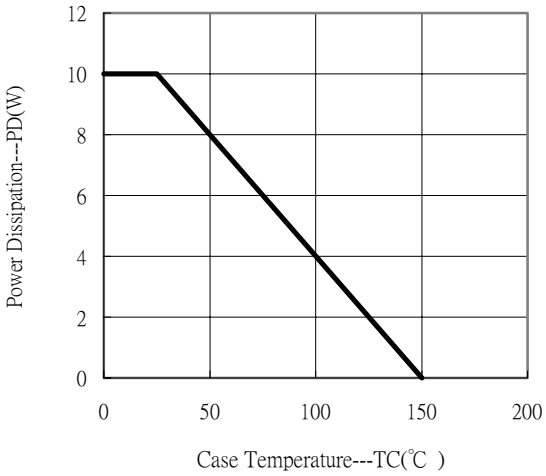
Saturation Voltage vs Collector Current



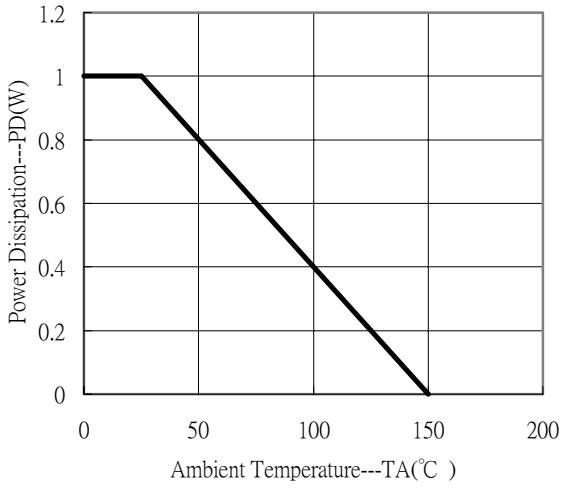
Saturation Voltage vs Collector Current



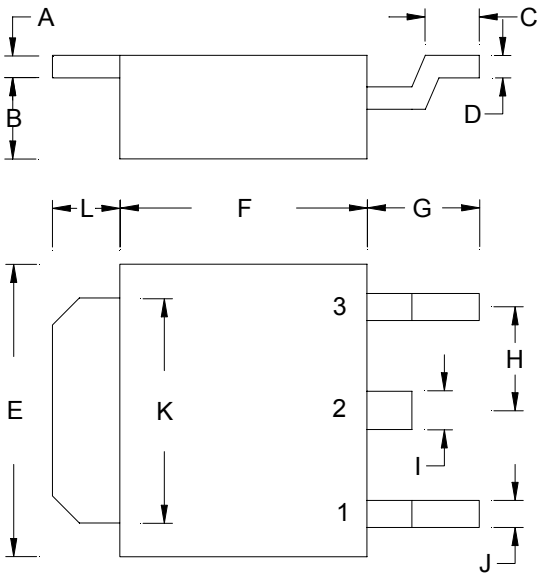
Power Derating Curve



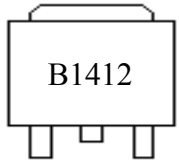
Power Derating Curve



TO-252 Dimension



Marking:



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

3-Lead TO-252 Plastic Surface Mount Package
CYStek Package Code: J3

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0177	0.0217	0.45	0.55	G	0.0866	0.1102	2.20	2.80
B	0.0650	0.0768	1.65	1.95	H	-	*0.0906	-	*2.30
C	0.0354	0.0591	0.90	1.50	I	-	0.0354	-	0.90
D	0.0177	0.0236	0.45	0.60	J	-	0.0315	-	0.80
E	0.2520	0.2677	6.40	6.80	K	0.2047	0.2165	5.20	5.50
F	0.2125	0.2283	5.40	5.80	L	0.0551	0.0630	1.40	1.60

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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