

Low Vcesat PNP Epitaxial Planar Transistor

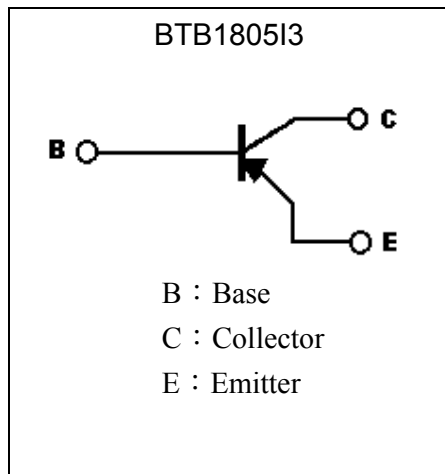
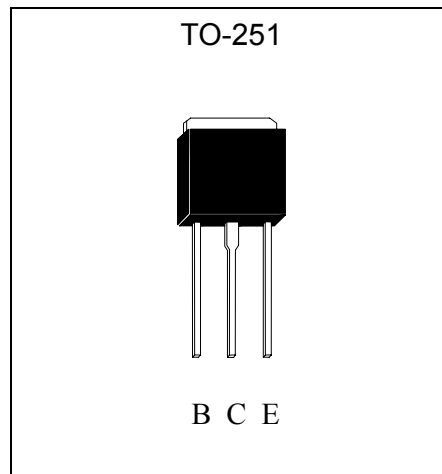
BTB1205I3

Features

- Low $V_{CE(sat)}$, $V_{CE(sat)} = -0.38$ V (typical), at $I_C / I_B = -3A / -60mA$
- Excellent DC current gain characteristics
- Fast switching speed
- Large current capacity
- Pb-free package

Applications

- Strobe, voltage regulators, relay drivers, lamp drivers

Symbol**Outline**



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V _{CB0}	-25	V
Collector-Emitter Voltage	V _{CEO}	-20	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current(DC)	I _C	-5	A
Collector Current(Pulse)	I _{CP}	-8 (Note 1)	
Base Current	I _B	-0.5	A
Power Dissipation (T _A =25°C)	P _d	1	W
Power Dissipation (T _C =25°C)	P _d	10	
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

Note : 1. Single Pulse Pw=10ms

Characteristics (Ta=25°C)

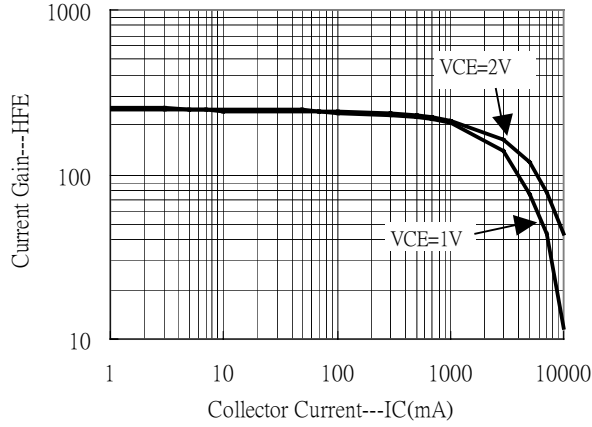
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	-25	-	-	V	I _C =-10μA, I _E =0
BV _{CEO}	-20	-	-	V	I _C =-1mA, I _B =0
BV _{EBO}	-5	-	-	V	I _E =-10μA, I _C =0
I _{CB0}	-	-	-0.5	μA	V _{CB} =-20V, I _E =0
I _{EBO}	-	-	-0.5	μA	V _{EB} =-4V, I _C =0
*V _{CE(sat)}	-	-380	-500	mV	I _C =-3A, I _B =-60mA
*V _{BE(sat)}	-	-1.0	-1.3	V	I _C =-3A, I _B =-60mA
*h _{FE}	190	-	380	-	V _{CE} =-2V, I _C =-0.5A
*h _{FE}	60	-	-	-	V _{CE} =-2V, I _C =-4A
f _T	-	320	-	MHz	V _{CE} =-5V, I _C =-200mA, f=100MHz
C _{ob}	-	60	-	pF	V _{CB} =-10V, f=1MHz

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

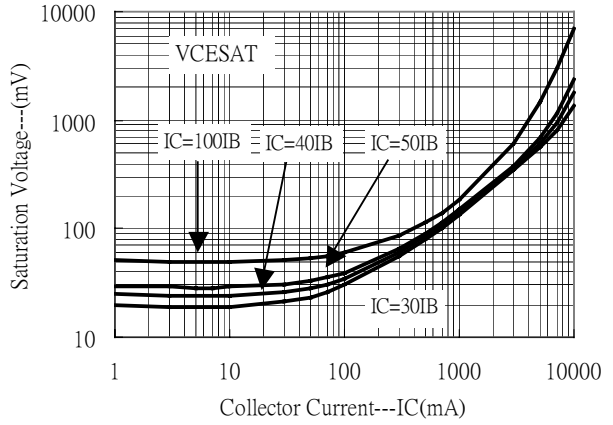


Characteristic Curves

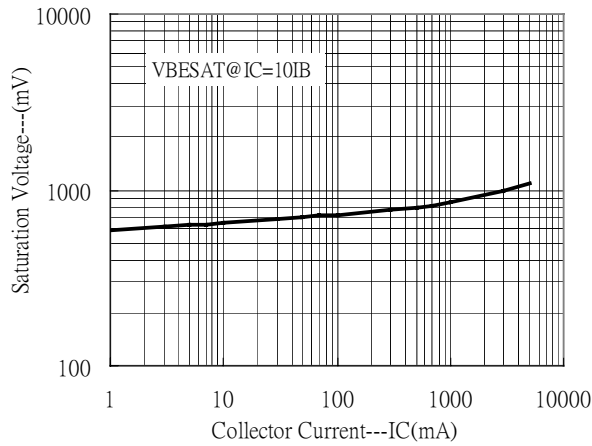
Current Gain vs Collector Current



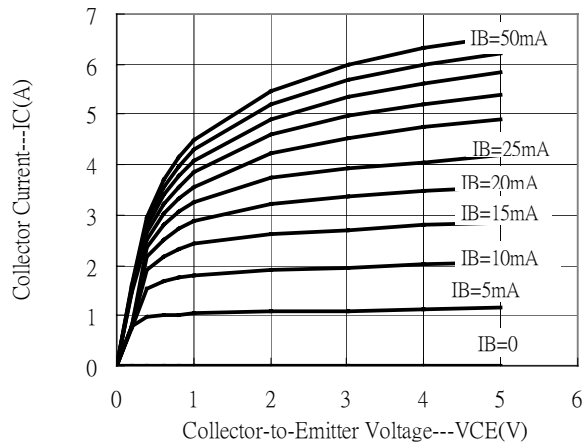
Saturation Voltage vs Collector Current



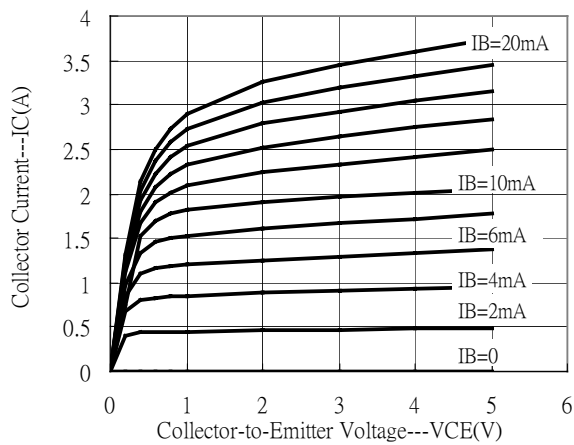
Saturation Voltage vs Collector Current



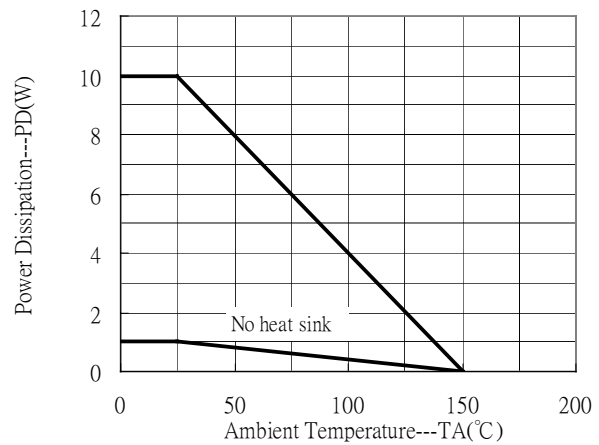
Output Characteristics



Output Characteristics



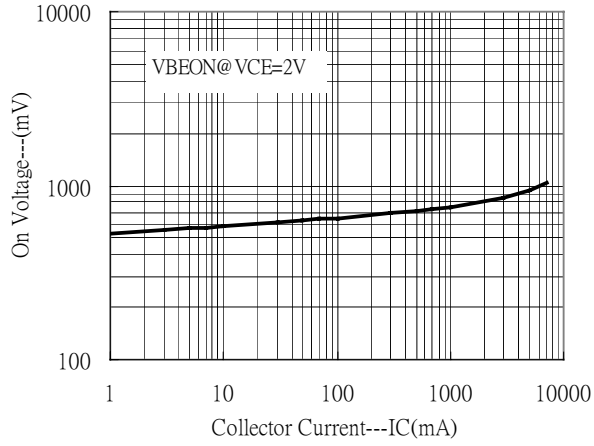
Power Derating Curves



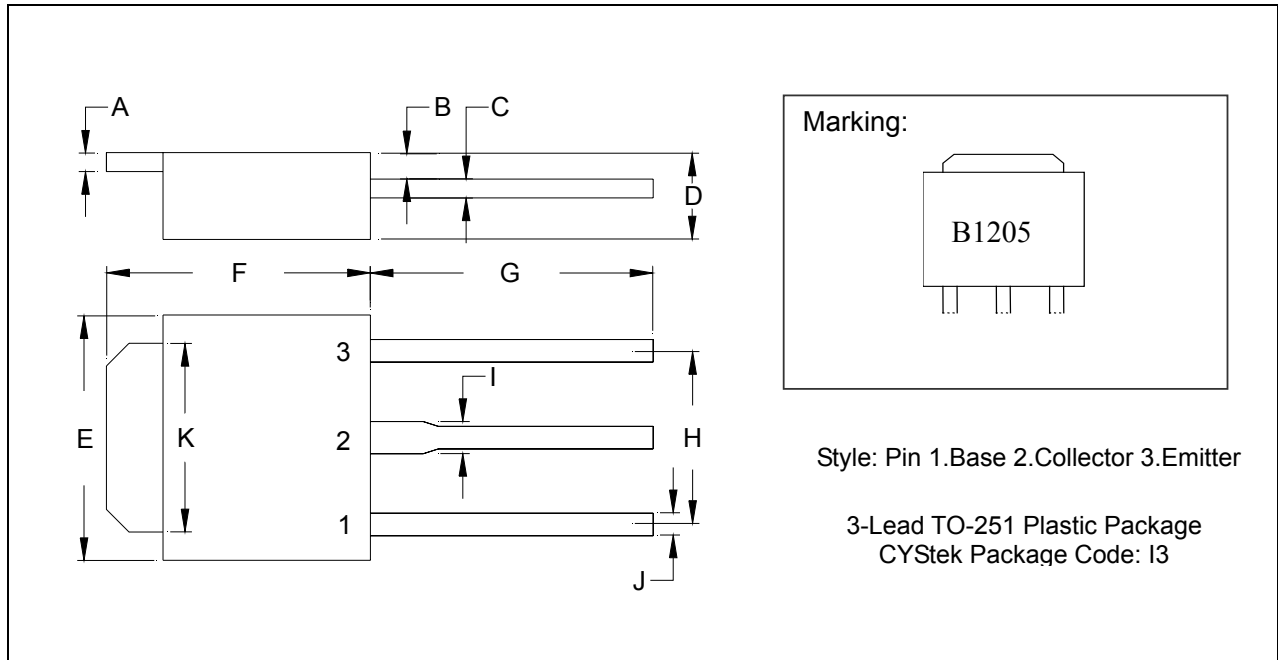


Characteristic Curves(Cont.)

On Voltage vs Collector Current



TO-251 Dimension



*: 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	0.2559	-	6.50	-
B	0.0354	0.0591	0.90	1.50	H	-	*0.1811	-	*4.60
C	0.0177	0.0236	0.45	0.60	I	-	0.0354	-	0.90
D	0.0866	0.0945	2.20	2.40	J	-	0.0315	-	0.80
E	0.2520	0.2677	6.40	6.80	K	0.2047	0.2165	5.20	5.50
F	0.2677	0.2835	6.80	7.20					

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

Important Notice:

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of CYStek.
- CYStek reserves the right to make changes to its products without notice.
- CYStek **semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.**
- CYStek assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.