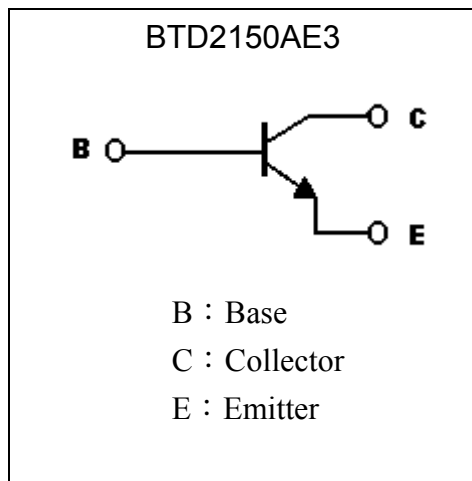
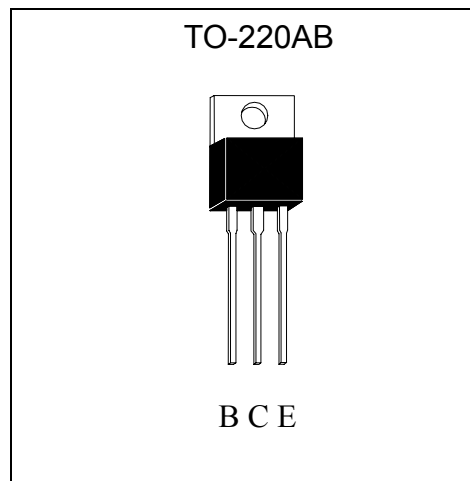


Low Vcesat NPN Epitaxial Planar Transistor

BTD2150AE3

Features

- Low $V_{CE(sat)}$, $V_{CE(sat)}=0.25$ V (typical), at $I_C / I_B = 2A / 50mA$
- Excellent current gain characteristics
- Complementary to BTB1424AE3

Symbol

Outline

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current (DC)	I_C	3	A
Collector Current (Pulse)	I_{CP}	7 (Note)	
Base Current	I_B	1	A
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D	1.8	W
Power Dissipation ($T_C=25^\circ\text{C}$)		25	
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$

 Note : Pulse test, pulse width $\leq 380\mu\text{s}$, duty cycle $\leq 2\%$.

**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	80	-	-	V	I _C =50μA, I _E =0
BV _{CE0}	50	-	-	V	I _C =1mA, I _B =0
BV _{EB0}	6	-	-	V	I _E =50μA, I _C =0
I _{CB0}	-	-	10	μA	V _{CB} =80V, I _E =0
I _{EB0}	-	-	10	μA	V _{EB} =6V, I _C =0
*V _{CE(sat)}	-	0.25	0.5	V	I _C =2A, I _B =50mA
*V _{BE(sat)}	-	-	2	V	I _C =2A, I _B =200mA
*h _{FE}	180	-	820	-	V _{CE} =4V, I _C =500mA
f _T	-	15	-	MHz	V _{CE} =12V, I _C =200mA, f=10MHz
C _{ob}	-	50	-	pF	V _{CB} =10V, f=1MHz
t _{on}	-	0.8	-	μs	V _{CC} =20V, I _C =1A, I _{B1} =15mA, I _{B2} =-30mA, R _L =20Ω
t _{stg}	-	3	-	μs	
t _f	-	1.2	-	μs	

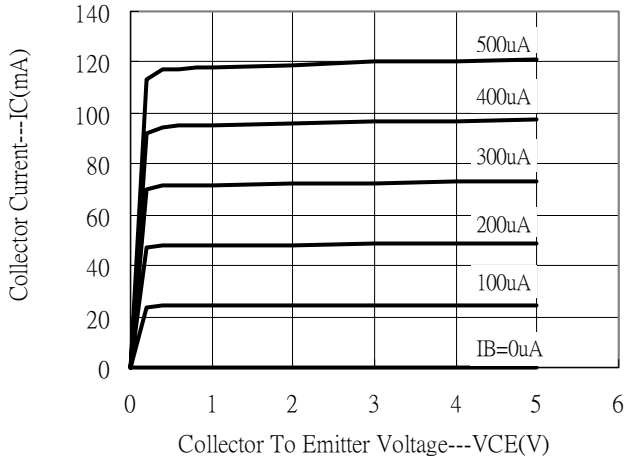
*Pulse Test : Pulse Width ≤380μs, Duty Cycle ≤2%

Classification Of hFE

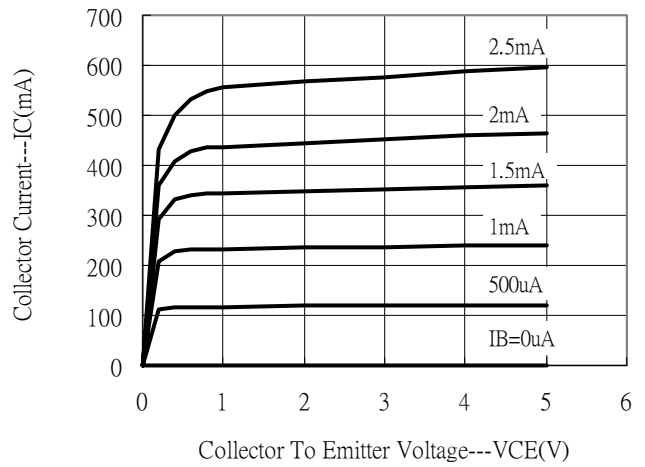
Rank	R	S	T
Range	180~390	270~560	390~820

Characteristic Curves

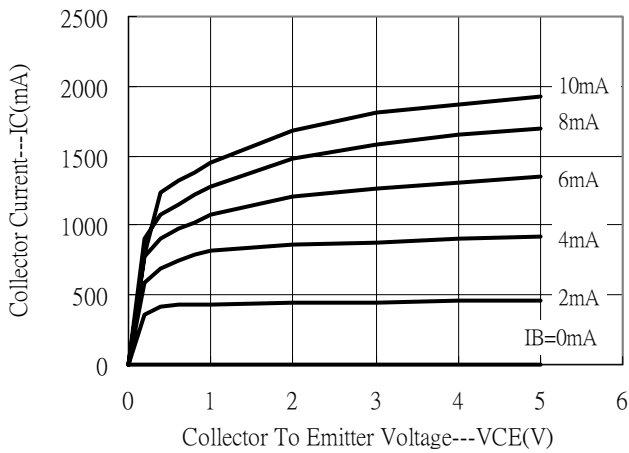
Grounded Emitter Output Characteristics



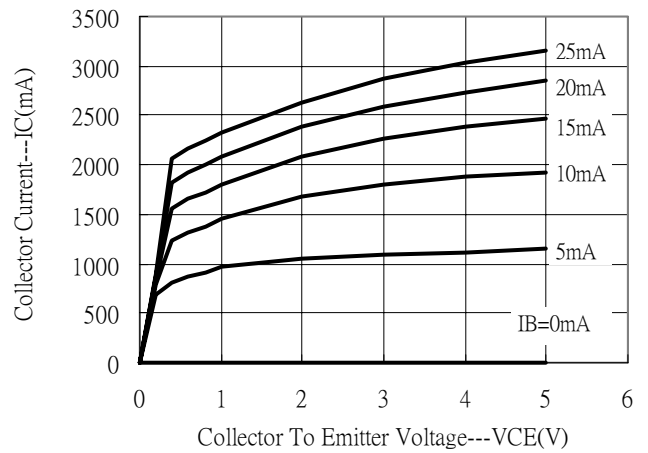
Grounded Emitter Output Characteristics



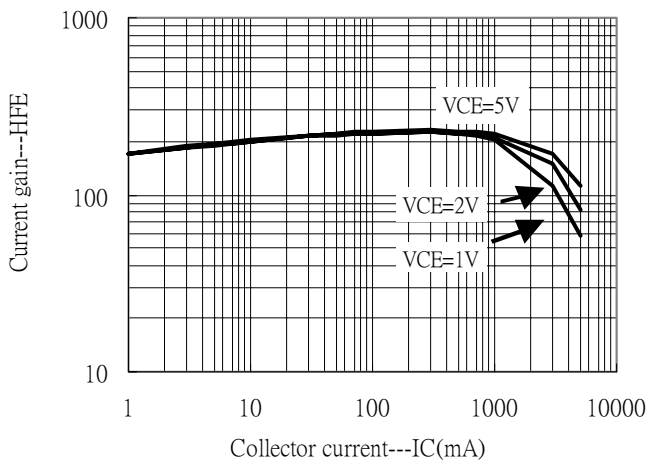
Grounded Emitter Output Characteristics



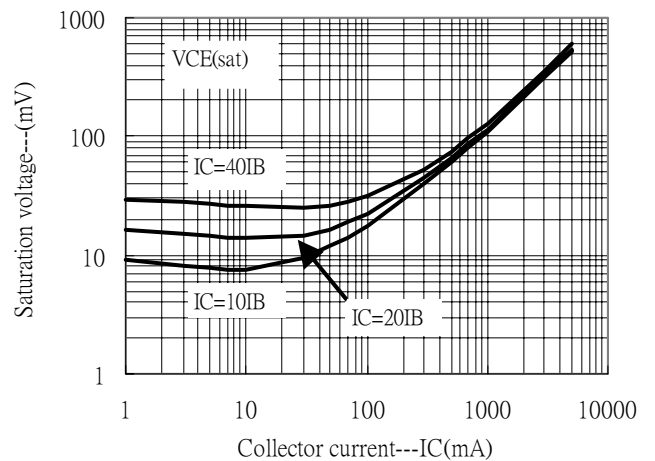
Grounded Emitter Output Characteristics



Current gain vs Collector current

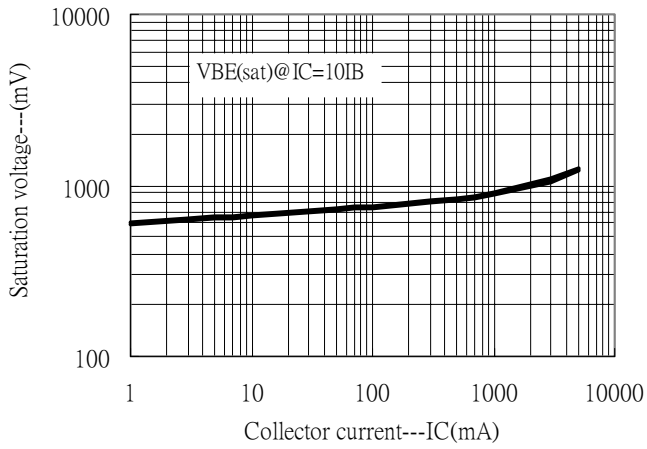


Saturation voltage vs Collector current

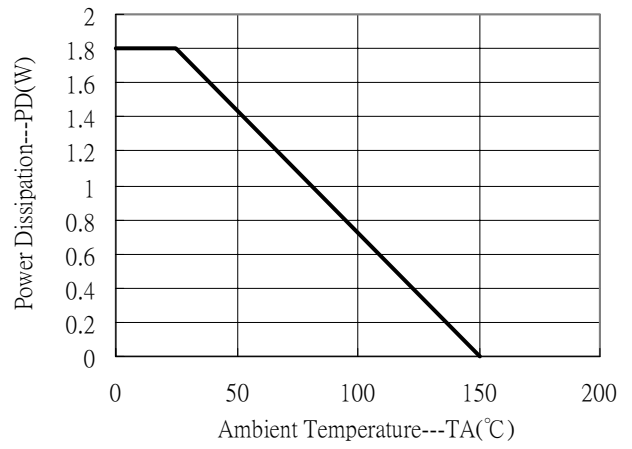




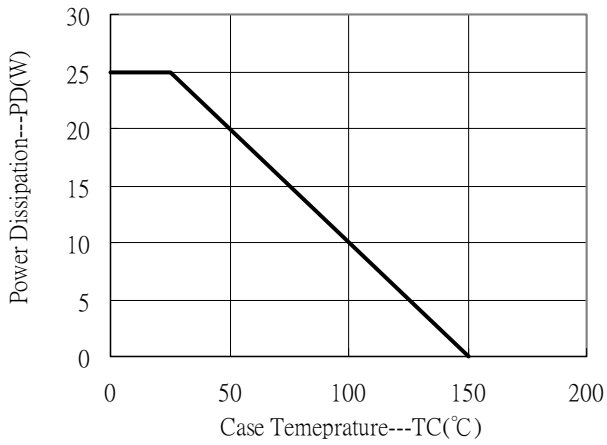
Saturation vottage vs Collector current



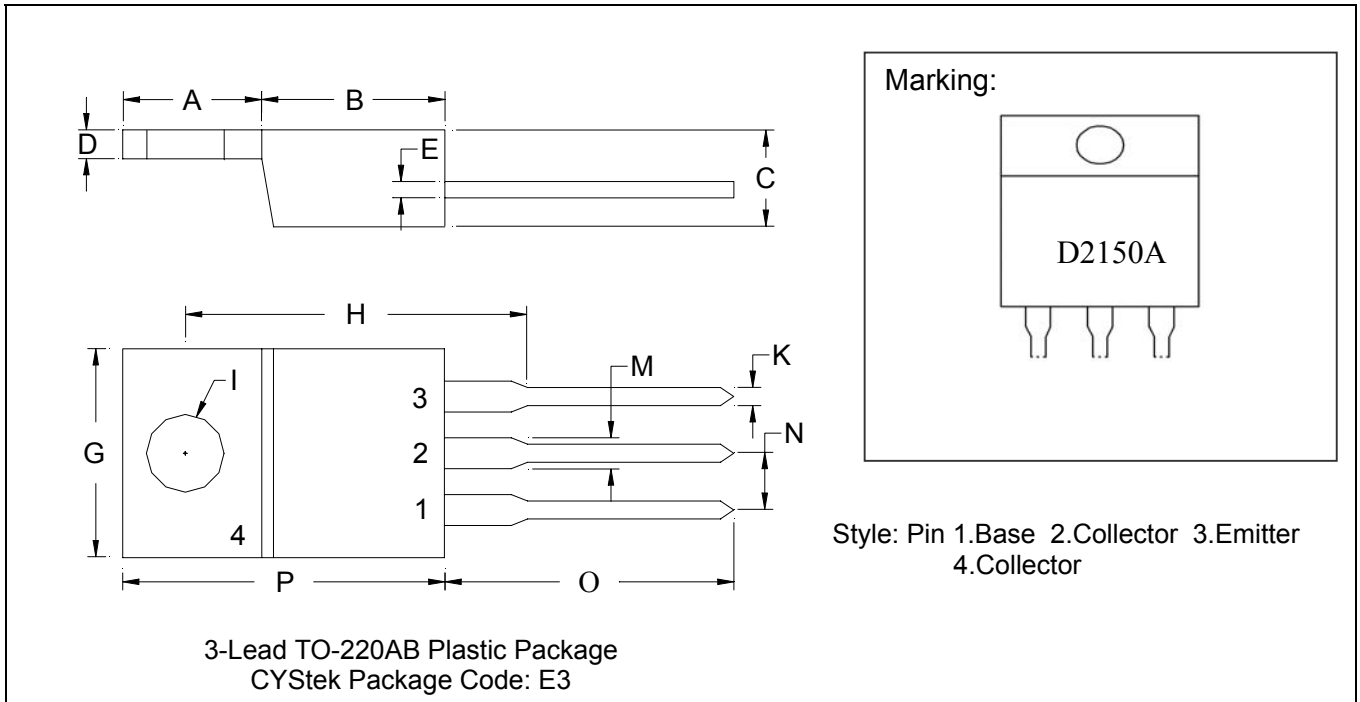
Power Derating Curve



Power Derating Curve



TO-220AB Dimension



*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.2197	0.2949	5.58	7.49	I	-	*0.1508	-	*3.83
B	0.3299	0.3504	8.38	8.90	K	0.0295	0.0374	0.75	0.95
C	0.1732	0.185	4.40	4.70	M	0.0449	0.0551	1.14	1.40
D	0.0453	0.0547	1.15	1.39	N	-	*0.1000	-	*2.54
E	0.0138	0.0236	0.35	0.60	O	0.5000	0.5618	12.70	14.27
G	0.3803	0.4047	9.66	10.28	P	0.5701	0.6248	14.48	15.87
H	-	*0.6398	-	*16.25					

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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