

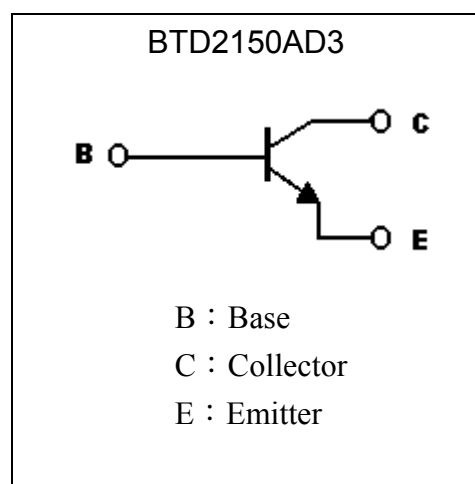
Low Vcesat NPN Epitaxial Planar Transistor

BTD2150AD3

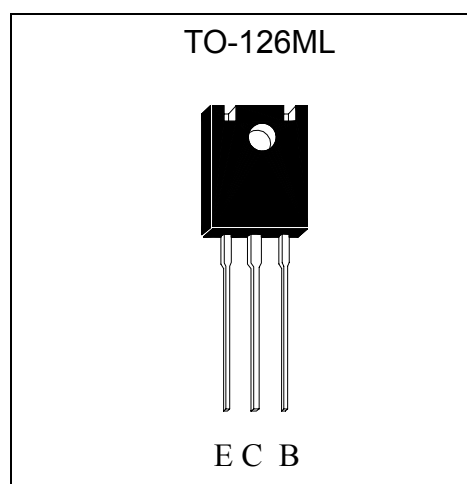
Features

- Low $V_{CE(sat)}$, $V_{CE(sat)}=0.25\text{ V}$ (typical), at $I_C / I_B = 2\text{ A} / 200\text{ mA}$
- Excellent current gain characteristics
- Complementary to BTB1424AD3

Symbol



Outline



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

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	3	A
Collector Current (Pulse)	I_{CP}	7 (Note)	
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D	1	W
Power Dissipation ($T_C=25^\circ\text{C}$)		10	
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$

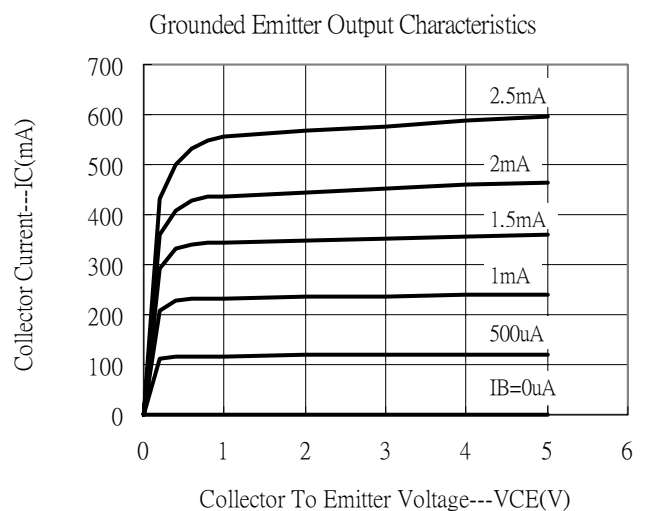
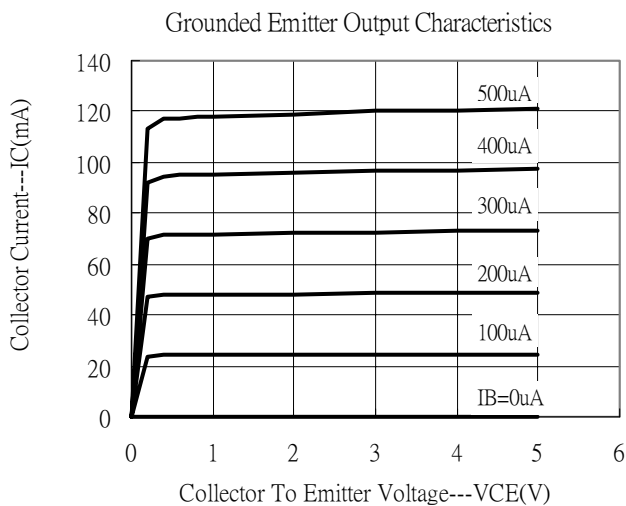
Note : Pulse test, pulse width $\leq 380\mu\text{s}$, duty cycle $\leq 2\%$.

**Characteristics (Ta=25°C)**

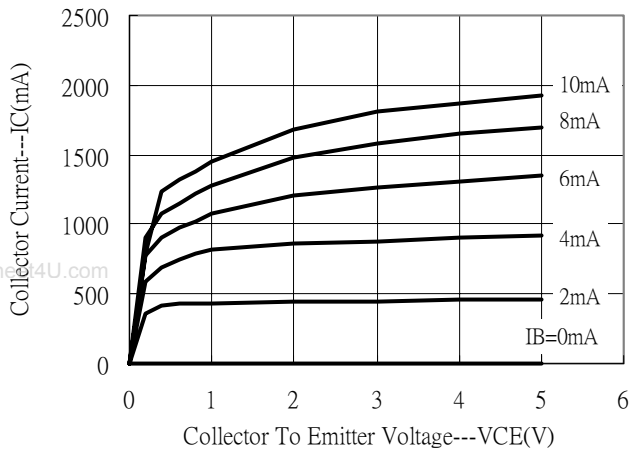
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	50	-	-	V	$I_C=50\mu A, I_E=0$
BV_{CEO}	50	-	-	V	$I_C=1mA, I_B=0$
BV_{EBO}	5	-	-	V	$I_E=50\mu A, I_C=0$
I_{CBO}	-	-	1	μA	$V_{CB}=40V, I_E=0$
I_{EBO}	-	-	1	μA	$V_{EB}=3V, I_C=0$
$*V_{CE(sat)}$	-	0.25	0.5	V	$I_C=2A, I_B=200mA$
$*V_{BE(sat)}$	-	-	2	V	$I_C=2A, I_B=200mA$
$*h_{FE1}$	100	-	-	-	$V_{CE}=2V, I_C=20mA$
$*h_{FE2}$	180	-	820	-	$V_{CE}=2V, I_C=100mA$
$*h_{FE3}$	100	-	-	-	$V_{CE}=2V, I_C=1A$
f_T	-	90	-	MHz	$V_{CE}=5V, I_C=100mA, f=100MHz$
Cob	-	45	-	pF	$V_{CB}=10V, f=1MHz$

*Pulse Test : Pulse Width $\leq 380\mu s$, Duty Cycle $\leq 2\%$ **Classification Of $h_{FE} 2$**

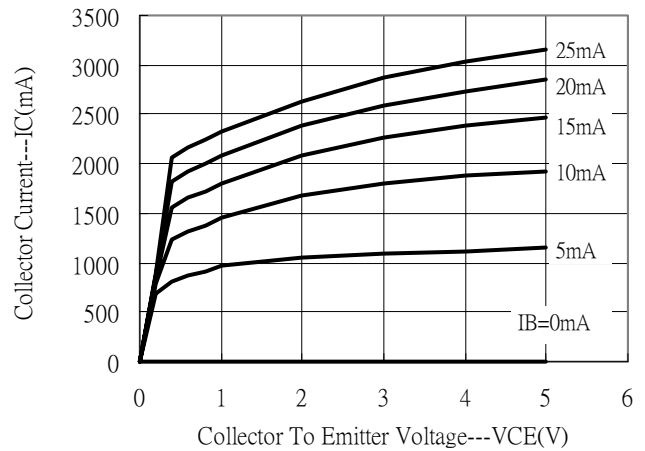
Rank	R	S	T
Range	180~390	270~560	390~820

Characteristic Curves

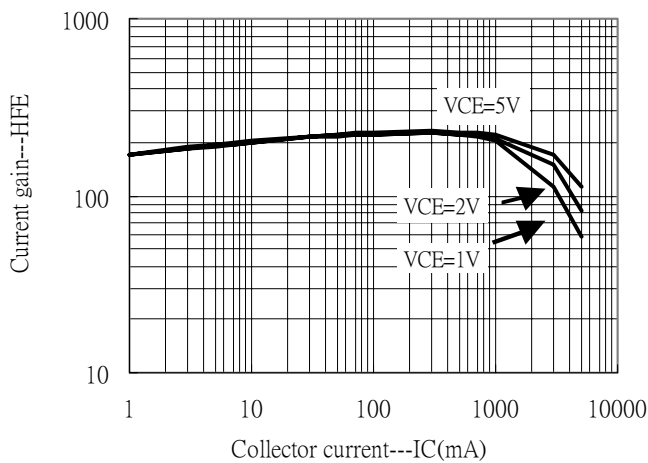
Grounded Emitter Output Characteristics



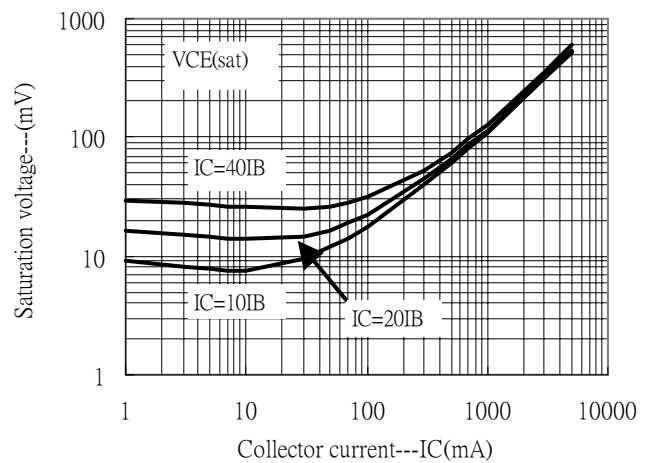
Grounded Emitter Output Characteristics



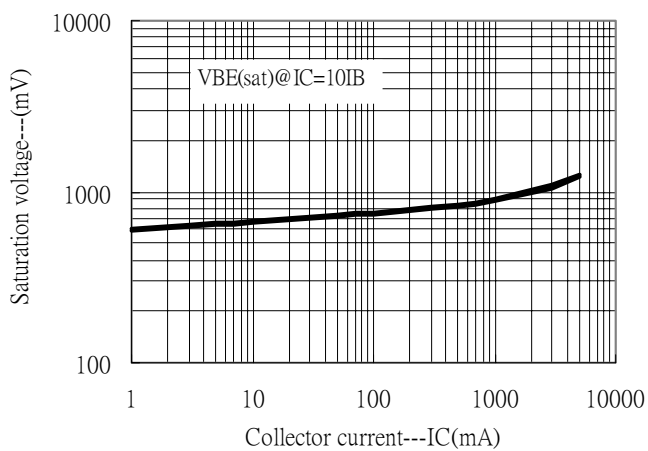
Current gain vs Collector current



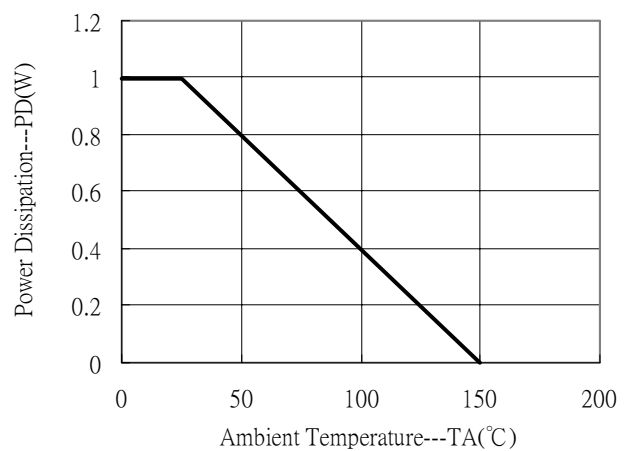
Saturation voltage vs Collector current



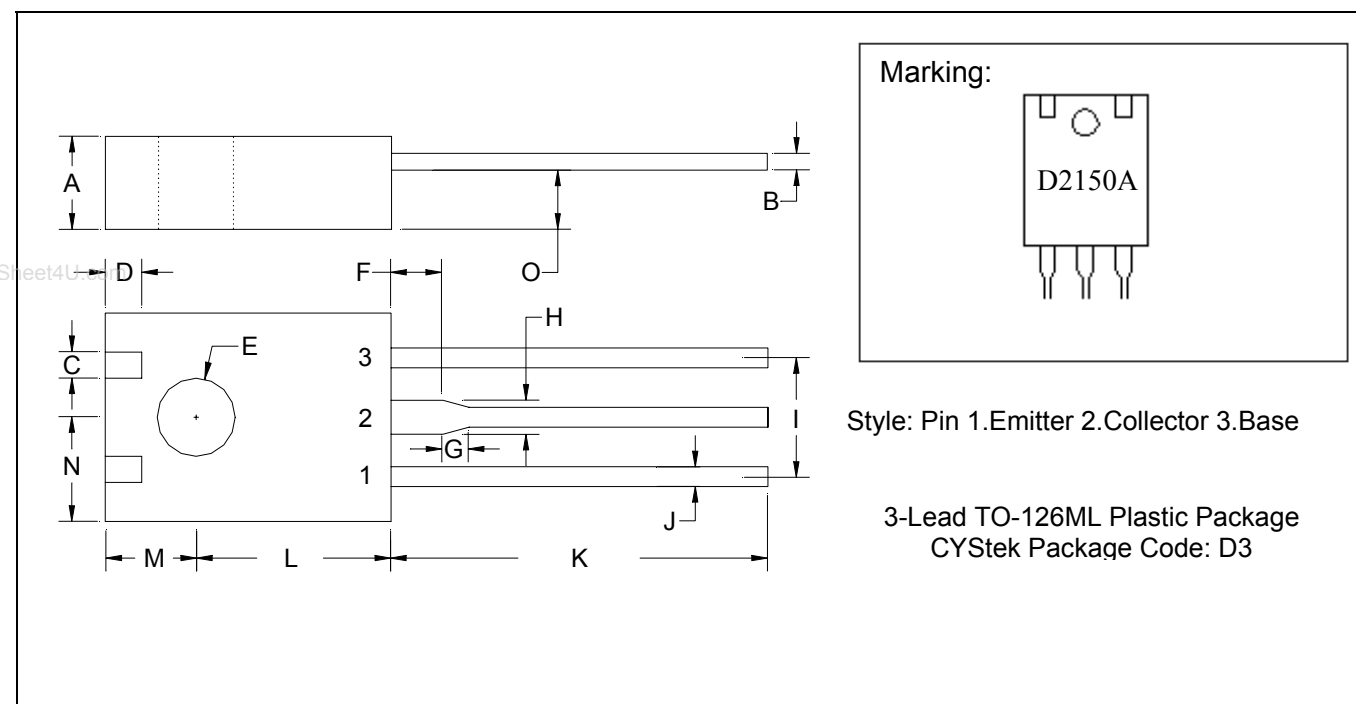
Saturation voltage vs Collector current



Power Derating Curve



TO-126ML Dimension



*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1356	0.1457	3.44	3.70	I	-	*0.1795	-	*4.56
B	0.0170	0.0272	0.43	0.69	J	0.0268	0.0331	0.68	0.84
C	0.0344	0.0444	0.87	1.12	K	0.5512	0.5906	14.00	15.00
D	0.0501	0.0601	1.27	1.52	L	0.2903	0.3003	7.37	7.62
E	0.1131	0.1231	2.87	3.12	M	0.1378	0.1478	3.50	3.75
F	0.0737	0.0837	1.87	2.12	N	0.1525	0.1625	3.87	4.12
G	0.0294	0.0494	0.74	1.25	O	0.0740	0.0842	1.88	2.14
H	0.0462	0.0562	1.17	1.42					

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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