Low Vcesat NPN Epitaxial Planar Transistor

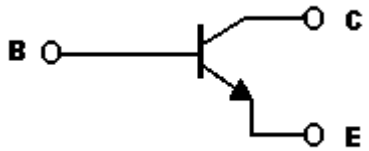
BTD882D3

Features

- Low $V_{CE(sat)}$, $V_{CE(sat)}$=0.25 V (typical), at I_C / I_B = 2A / 200mA
- Excellent current gain characteristics
- Complementary to BTB772D3
- Pb-free package

Symbol

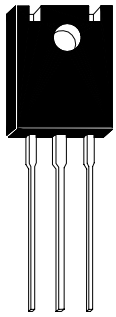
BTD882D3



B：Base
C：Collector
E：Emitter

Outline

TO-126ML



E C B

Absolute Maximum Ratings (Ta=25°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℃)	P_D	1	W
Power Dissipation (T_C=25℃)		10	
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : Pulse test, pulse width≤380μs, duty cycle≤2%.

Characteristics (Ta=25°C)

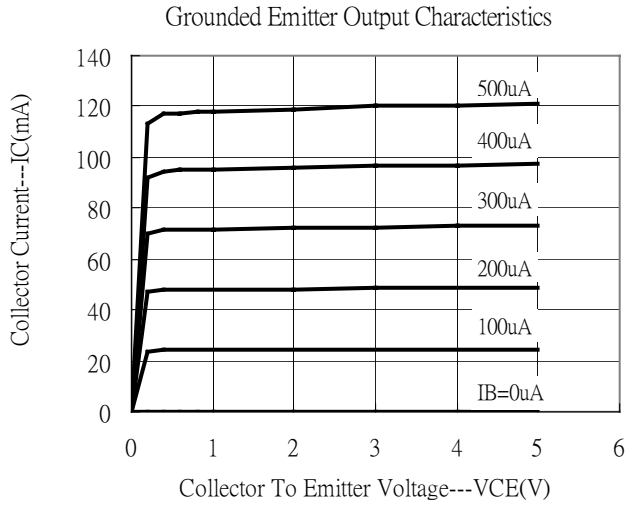
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	50	-	-	V	I_C=50μA, I_E=0
BV_{CEO}	50	-	-	V	I_C=1mA, I_B=0
BV_{EBO}	5	-	-	V	I_E=50μA, I_C=0
I_{CBO}	-	-	1	μA	V_{CB}=40V, I_E=0
I_{EBO}	-	-	1	μA	V_{EB}=5V, I_C=0
*$V_{CE(sat)}$	-	0.25	0.5	V	I_C=2A, I_B=200mA
*$V_{BE(sat)}$	-	-	2	V	I_C=2A, I_B=200mA
*$h_{FE}1$	150	-	-	-	V_{CE}=2V, I_C=20mA
*$h_{FE}2$	180	-	820	-	V_{CE}=2V, I_C=500mA
*$h_{FE}3$	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

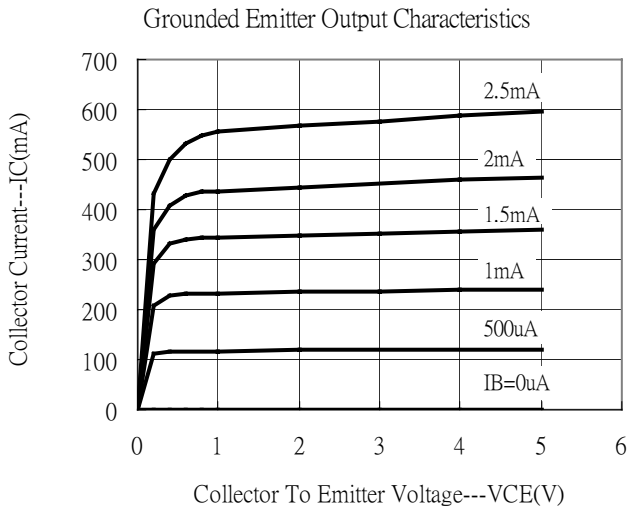
*Pulse Test : Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of h_{FE} 2

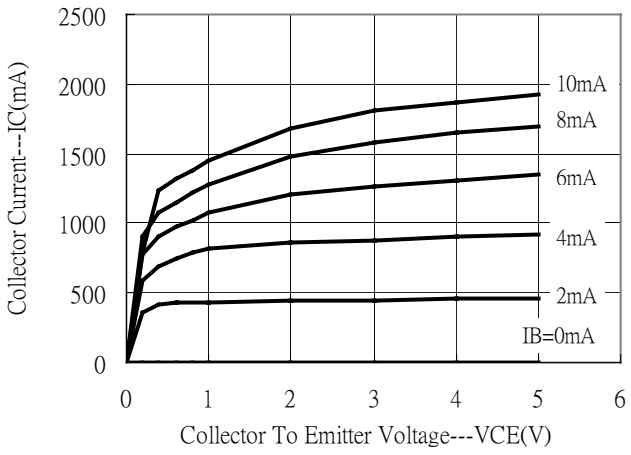
Rank	R	S	T
Range	180~390	270~560	390~820

Characteristic Curves

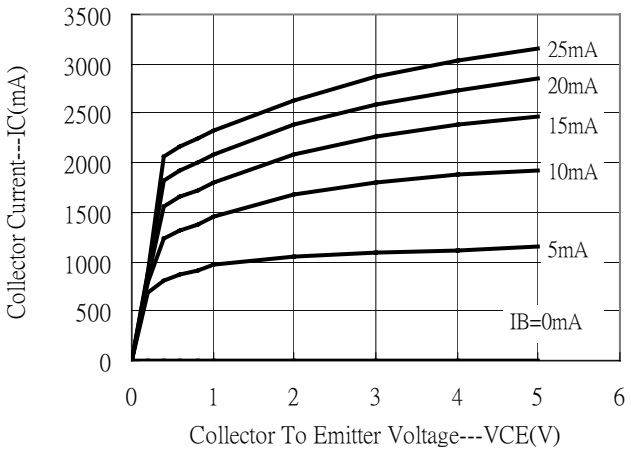




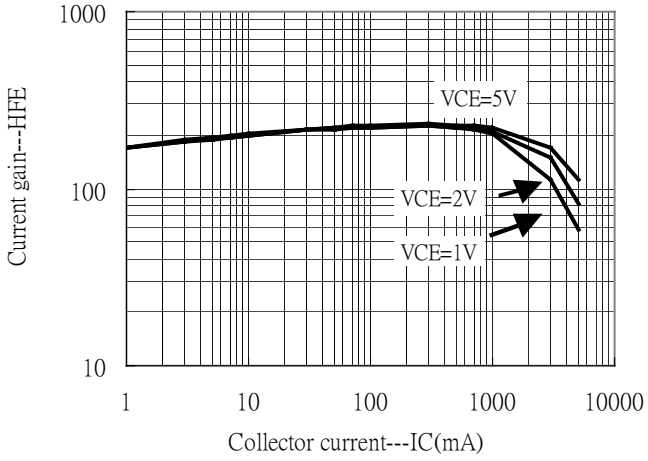
Grounded Emitter Output Characteristics



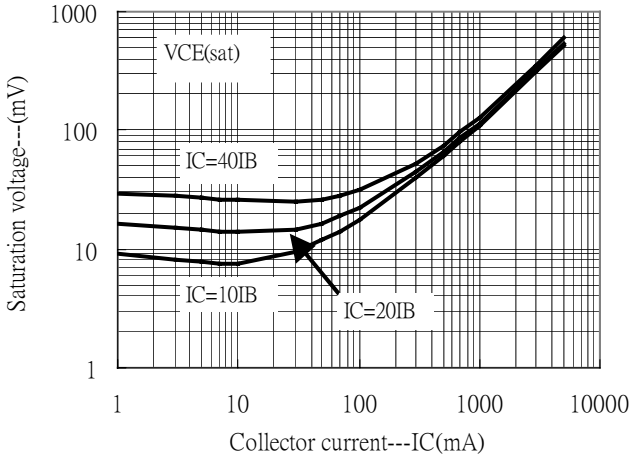
Grounded Emitter Output Characteristics



Current gain vs Collector current



Saturation voltage vs Collector current



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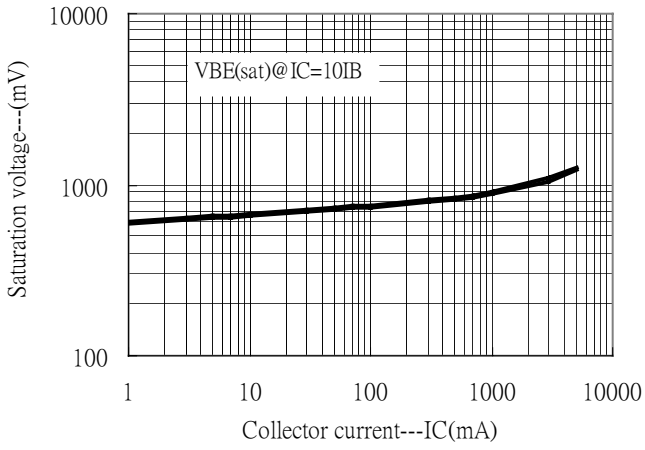
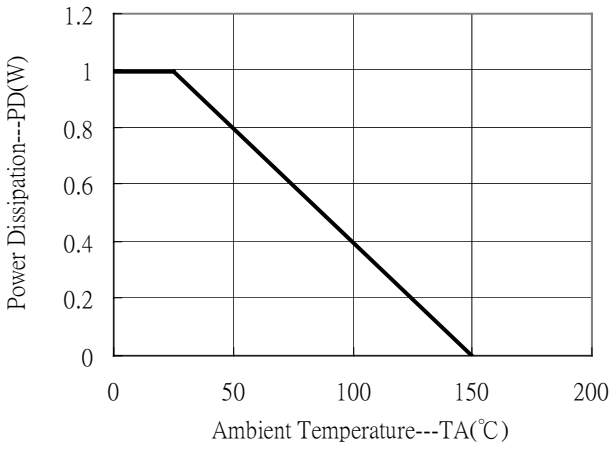
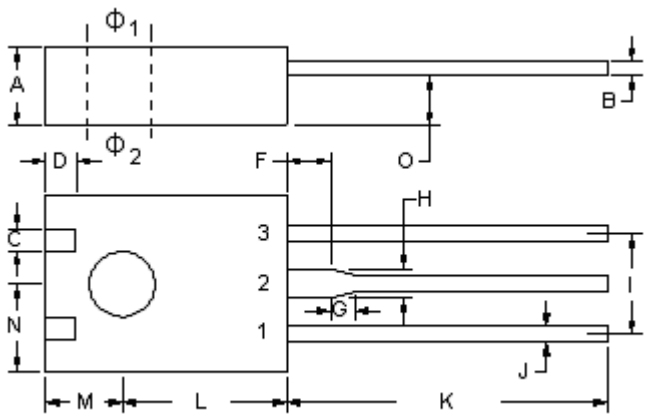


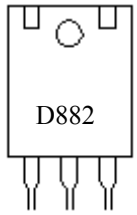
Power Derating Curve



TO-126ML Dimension



Marking:



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

3-Lead TO-126ML Plastic Package
CYStek Package Code: D3

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1356	0.1457	3.44	3.70	H	0.0462	0.0562	1.17	1.42
B	0.0170	0.0272	0.43	0.69	I	-	*0.1795	-	*4.56
C	0.0344	0.0444	0.87	1.12	J	0.0268	0.0331	0.68	0.84
D	0.0501	0.0601	1.27	1.52	K	0.5512	0.5906	14.00	15.00
Φ1	0.1220	0.1299	3.10	3.30	L	0.2903	0.3003	7.37	7.62
Φ2	0.1181	0.1260	3.00	3.20	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

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