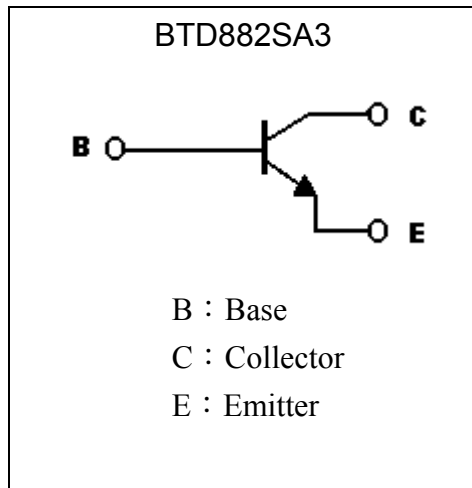
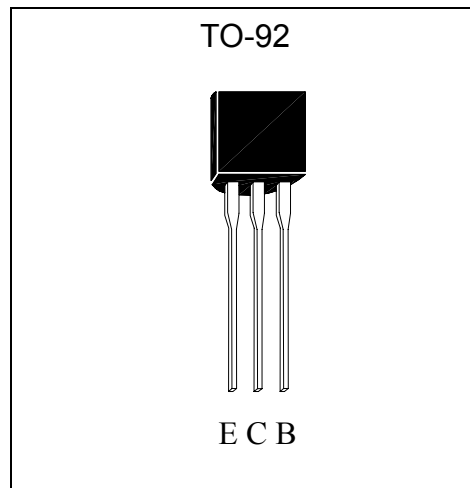


**Low Vcesat NPN Epitaxial Planar Transistor**

# BTD882SA3

**Features**

- Low  $V_{CE(sat)}$ , typically 0.25V at  $I_C / I_B = 2A / 0.2A$
- Excellent current gain characteristics
- Complementary to BTB772SA3

**Symbol**

**Outline**

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

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	$V_{CB0}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C(\text{DC})$	3	A
	$I_C(\text{Pulse})$	7 (Note)	A
Power Dissipation	$P_d$	750	mW
Junction Temperature	$T_j$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-55~+150	$^{\circ}\text{C}$

Note : \*1. Single Pulse  $P_w \leq 350\mu\text{s}$ , Duty  $\leq 2\%$ .



**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV <sub>CB0</sub>	60	-	-	V	I <sub>C</sub> =50μA, I <sub>E</sub> =0
BV <sub>CE0</sub>	50	-	-	V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
BV <sub>EB0</sub>	5	-	-	V	I <sub>E</sub> =50μA, I <sub>C</sub> =0
I <sub>CB0</sub>	-	-	1	μA	V <sub>CB</sub> =50V, I <sub>E</sub> =0
I <sub>EB0</sub>	-	-	1	μA	V <sub>EB</sub> =3V, I <sub>C</sub> =0
*V <sub>CE(sat)</sub>	-	0.25	0.5	V	I <sub>C</sub> =2A, I <sub>B</sub> =0.2A
*V <sub>BE(sat)</sub>	-	-	2	V	I <sub>C</sub> =2A, I <sub>B</sub> =0.2A
*h <sub>FE1</sub>	52	-	-	-	V <sub>CE</sub> =2V, I <sub>C</sub> =20mA
*h <sub>FE2</sub>	100	-	500	-	V <sub>CE</sub> =2V, I <sub>C</sub> =1A
f <sub>T</sub>	-	90	-	MHz	V <sub>CE</sub> =5V, I <sub>C</sub> =0.1A, f=100MHz
C <sub>ob</sub>	-	45	-	pF	V <sub>CB</sub> =10V, f=1MHz

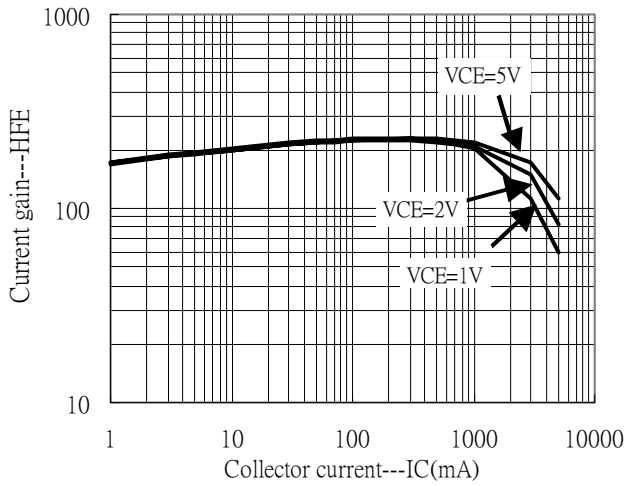
\*Pulse Test : Pulse Width ≤380μs, Duty Cycle≤2%

**Classification Of h<sub>FE2</sub>**

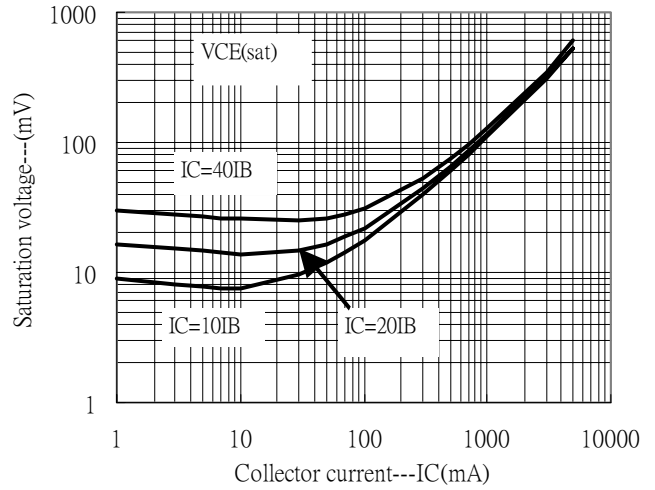
Rank	Q	P	E
Range	100~200	160~320	250~500

## Characteristic Curves

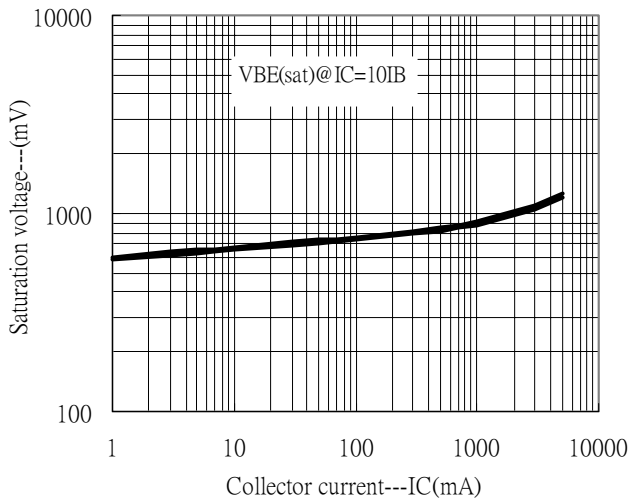
Current gain vs Collector current



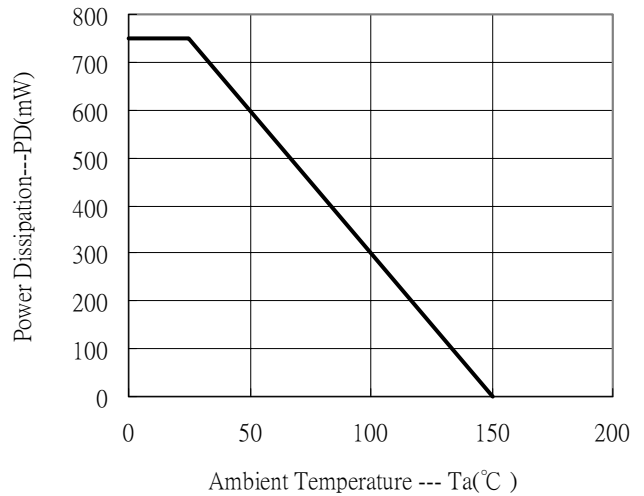
Saturation voltage vs Collector current



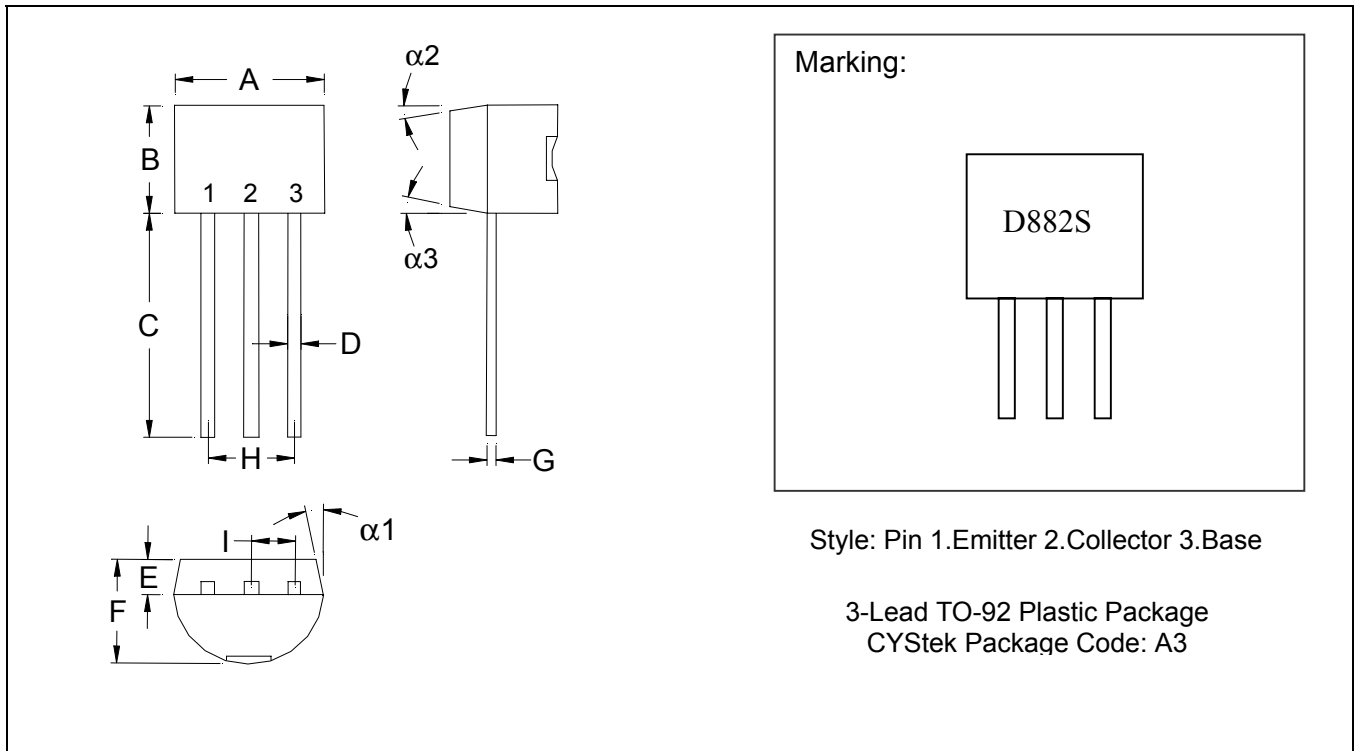
Saturation voltage vs Collector current



Power Derating Curve



**TO-92 Dimension**



\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1704	0.1902	4.33	4.83	G	0.0142	0.0220	0.36	0.56
B	0.1704	0.1902	4.33	4.83	H	-	*0.1000	-	*2.54
C	0.5000	-	12.70	-	I	-	*0.0500	-	*1.27
D	0.0142	0.0220	0.36	0.56	$\alpha 1$	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	$\alpha 2$	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	$\alpha 3$	-	*2°	-	*2°

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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