



### Pin Definition:

1. Emitter
2. Collector
3. Base

### PRODUCT SUMMARY

$BV_{CBO}$	50V
$BV_{CEO}$	50V
$I_C$	3A
$V_{CE(SAT)}$	0.5V @ $I_C / I_B = 2A / 200mA$

### Features

- Low  $V_{CE(SAT)}$  0.25 @  $I_C / I_B = 2A / 200mA$  (Typ.)
- Complementary part with TSB772

### Structure

- Epitaxial Planar Type
- NPN Silicon Transistor

### Ordering Information

Part No.	Package	Packing
TSD882CK B0	TO-126	250pcs / Bulk
TSD882CK B0G	TO-126	250pcs / Bulk

Note: "G" denote for Halogen Free Product

### Absolute Maximum Rating (Ta = 25°C unless otherwise noted)

Parameter	Symbol	Limit	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	3	A
	Pulse	7 (note)	
Collector Power Dissipation	Ta = 25°C	1	W
	Tc = 25°C	10	
Operating Junction Temperature	$T_J$	+150	°C
Operating Junction and Storage Temperature Range	$T_{STG}$	- 55 to +150	°C

Note: Single pulse, Pw≤350us, Duty≤2%

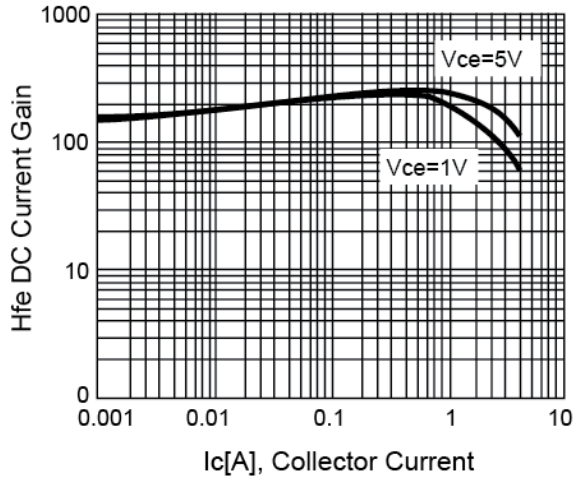
### Electrical Specifications (Ta = 25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$I_C = 50\mu A, I_E = 0$	$BV_{CBO}$	60	--	--	V
Collector-Emitter Breakdown Voltage	$I_C = 1mA, I_B = 0$	$BV_{CEO}$	50	--	--	V
Emitter-Base Breakdown Voltage	$I_E = 50\mu A, I_C = 0$	$BV_{EBO}$	5	--	--	V
Collector Cutoff Current	$V_{CB} = 50V, I_E = 0$	$I_{CBO}$	--	--	1	uA
Emitter Cutoff Current	$V_{EB} = 3V, I_C = 0$	$I_{EBO}$	--	--	1	uA
Collector-Emitter Saturation Voltage	$I_C / I_B = 2A / 200mA$	$*V_{CE(SAT)}$	--	0.25	0.5	V
Base-Emitter Saturation Voltage	$I_C / I_B = 2A / 200mA$	$*V_{BE(SAT)}$	--	--	2	V
DC Current Transfer Ratio	$V_{CE} = 2V, I_C = 1A$	$*h_{FE}$	100	--	500	
Transition Frequency	$V_{CE} = 6V, I_C = 50mA, f = 100MHz$	$f_T$	--	90	--	MHz
Output Capacitance	$V_{CB} = 10V, f = 1MHz$	Cob	--	45	--	pF

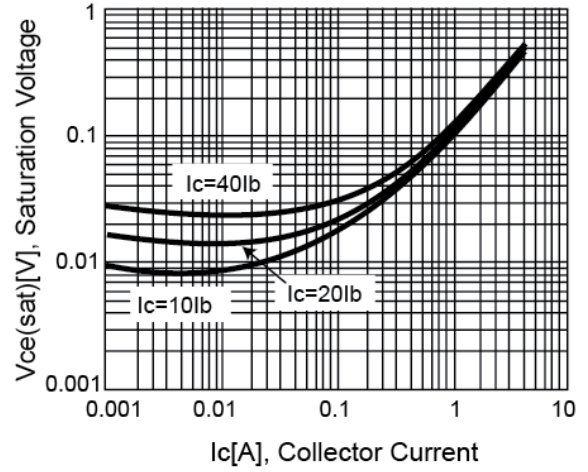
\* Pulse Test: Pulse Width ≤380uS, Duty Cycle≤2%

**Electrical Characteristics Curve** ( $T_a = 25^\circ\text{C}$ , unless otherwise noted)

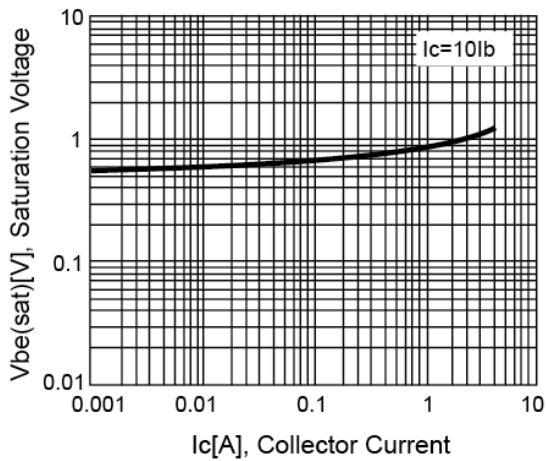
**Figure 1. DC Current Gain**



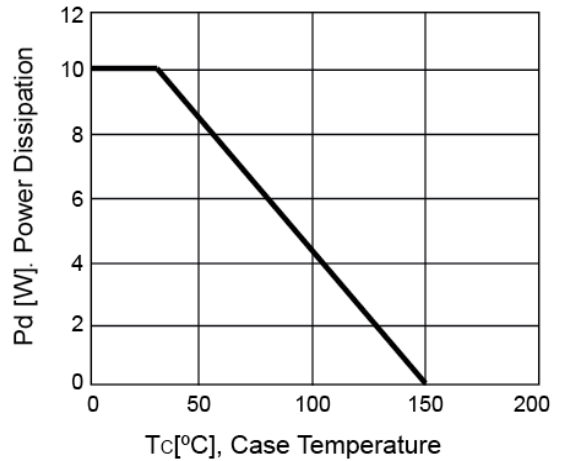
**Figure 2.  $V_{CE(SAT)}$  v.s.  $I_c$**



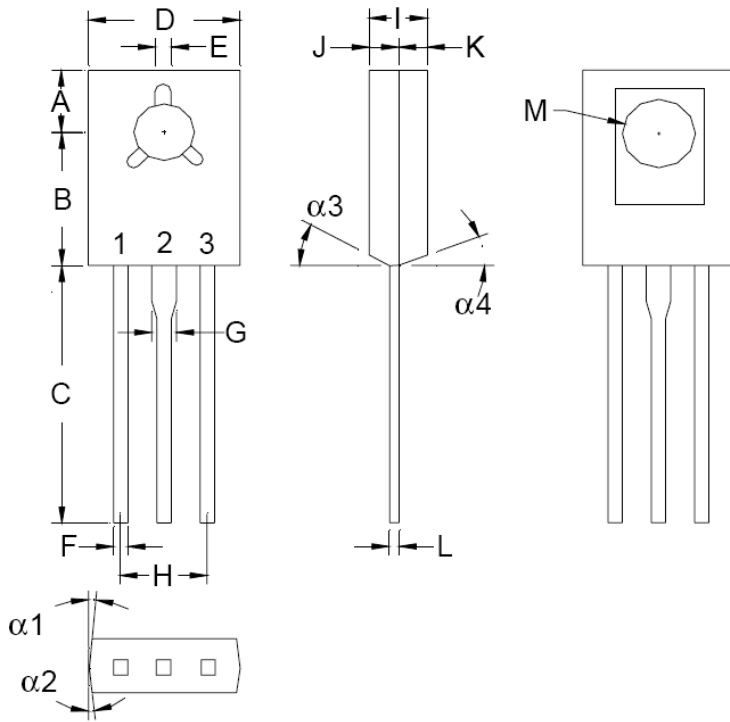
**Figure 3.  $V_{BE(SAT)}$  v.s.  $I_c$**



**Figure 4. Power Derating Curve**



**TO-18 Mechanical Drawing**



TO-18 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
$\infty 1$	--	3°	--	3°
$\infty 2$	--	3°	--	3°
$\infty 3$	--	3°	--	3°
$\infty 4$	--	3°	--	3°
A	0.150	0.153	3.81	3.91
B	0.275	0.279	6.99	7.09
C	0.531	0.610	13.50	15.50
D	0.285	0.303	7.52	7.72
E	0.034	0.041	0.95	1.05
F	0.028	0.031	0.71	0.81
G	0.048	0.052	1.22	1.32
H	0.170	0.189	4.34	4.80
I	0.095	0.105	2.41	2.66
J	0.045	0.055	1.14	1.39
K	0.045	0.055	1.14	1.39
L	--	0.021	--	0.55
M	0.137	0.152	3.50	3.86

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