

TO-126

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	1Kpcs / Bulk

Absolute Maximum Rating ($T_a = 25^\circ C$ 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	SOT-89	0.75	W
	TO-92	0.625	
Operating Junction Temperature	T_J	+150	$^\circ C$
Operating Junction and Storage Temperature Range	T_{STG}	- 55 to +150	$^\circ C$

Note: Single pulse, $P_w \leq 350\mu s$, $Duty \leq 2\%$

Electrical Specifications ($T_a = 25^\circ C$ 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	μA
Emitter Cutoff Current	$V_{EB} = 3V, I_C = 0$	I_{EBO}	--	--	1	μA
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	$V_{CB} = 10V, f = 1MHz$	C_{ob}	--	45	--	pF

* Pulse Test: Pulse Width $\leq 380\mu s$, Duty Cycle $\leq 2\%$

Electrical Characteristics Curve (Ta = 25°C, unless otherwise noted)

Figure 1. DC Current Gain

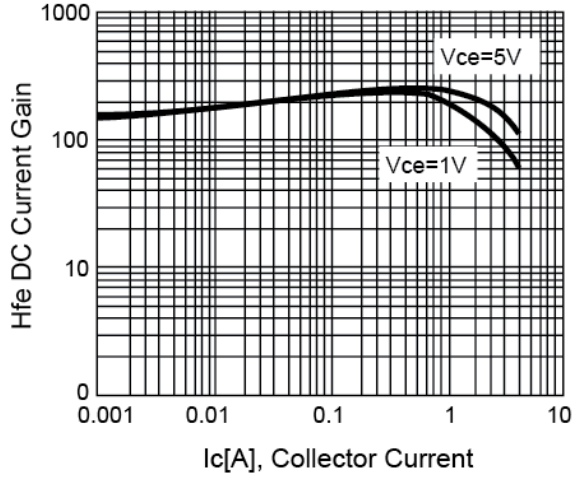


Figure 2. V_{CE(SAT)} v.s. Ic

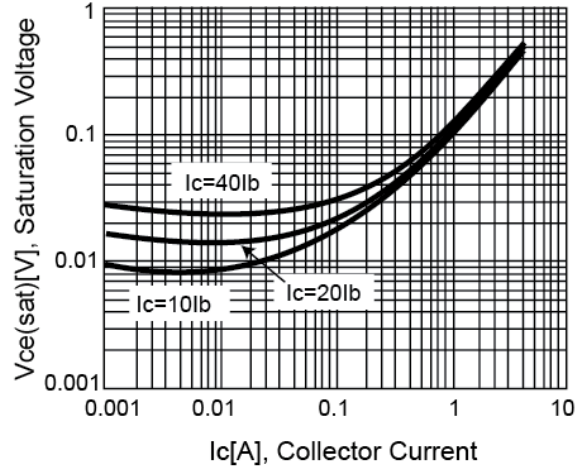


Figure 3. V_{BE(SAT)} v.s. Ic

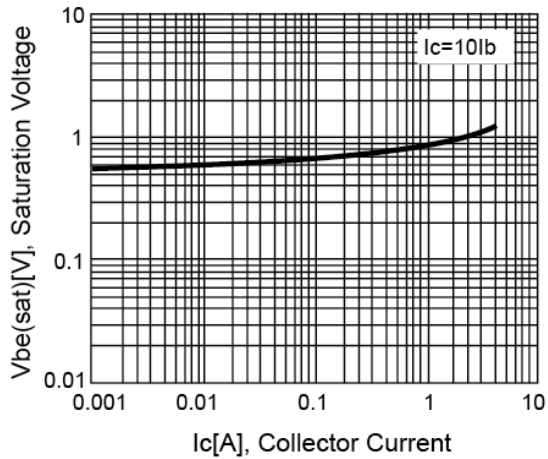
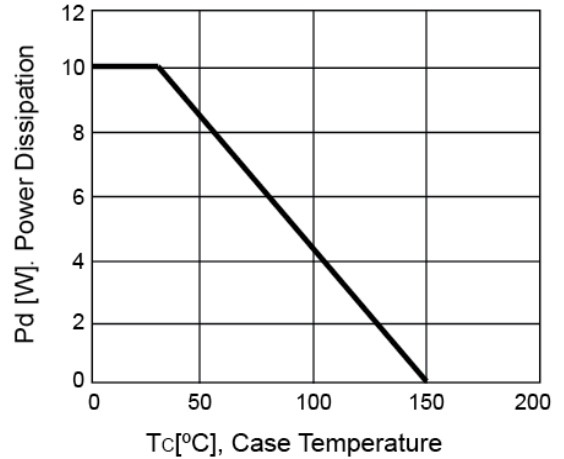
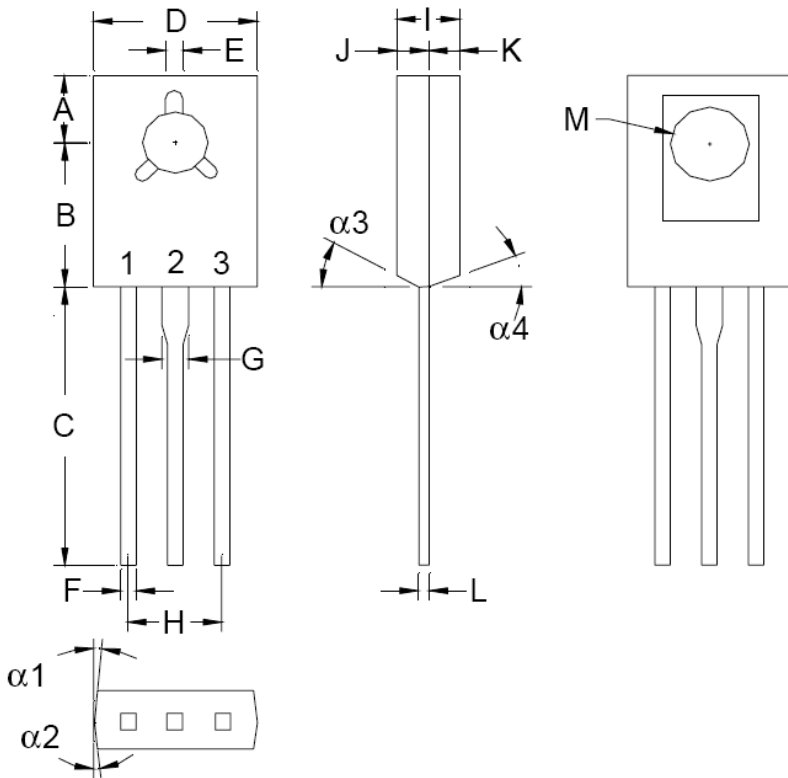


Figure 4. Power Derating Curve



TO-126 Mechanical Drawing



TO-126 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
$\alpha 1$	--	3°	--	3°
$\alpha 2$	--	3°	--	3°
$\alpha 3$	--	3°	--	3°
$\alpha 4$	--	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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