



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  $V_{CE(SAT)}$  -0.3 @  $I_C / I_B = 2A / 200mA$  (Typ.)
- Complementary part with TSD882

### Structure

- Epitaxial Planar Type
- PNP Silicon Transistor

### Ordering Information

Part No.	Package	Packing
TSD772CK 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	$I_C$	DC	-3
		Pulse	-7 (note)
Collector Power Dissipation	$P_D$	$T_a = 25^\circ C$	1
		$T_c = 25^\circ C$	10
Operating Junction Temperature	$T_J$	+150	$^\circ C$
Operating Junction and Storage Temperature Range	$T_{STG}$	- 55 to +150	$^\circ C$

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

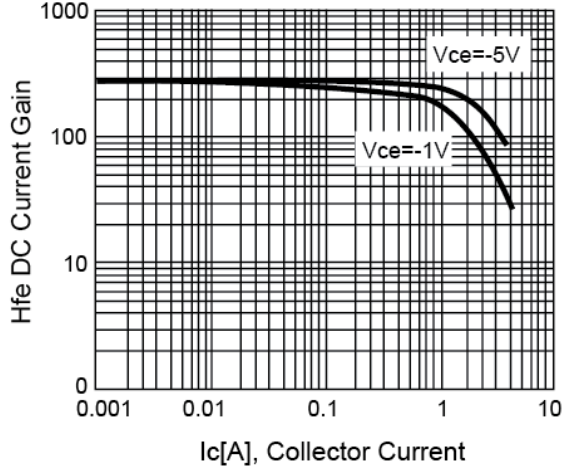
### Electrical Specifications ( $T_a = 25^\circ C$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$I_C = -50\mu A, I_E = 0$	$BV_{CBO}$	-50	--	--	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	$V_{CB} = -30V, I_E = 0$	$I_{CBO}$	--	--	-1	$\mu A$
Emitter Cutoff Current	$V_{EB} = 3V, I_C = 0$	$I_{EBO}$	--	--	-1	$\mu A$
Collector-Emitter Saturation Voltage	$I_C / I_B = -2A / -200mA$	$*V_{CE(SAT)}$	--	-0.3	-0.5	V
Base-Emitter Saturation Voltage	$I_C / I_B = -2A / -200mA$	$*V_{BE(SAT)}$	--	-1	-2	V
DC Current Transfer Ratio	$V_{CE} = -2V, I_C = -1A$	$*h_{FE}$	100	--	500	
Transition Frequency	$V_{CE} = -5V, I_C = -100mA, f = 100MHz$	$f_T$	--	80	--	MHz
Output Capacitance	$V_{CB} = -10V, f = 1MHz$	$C_{ob}$	--	55	--	pF

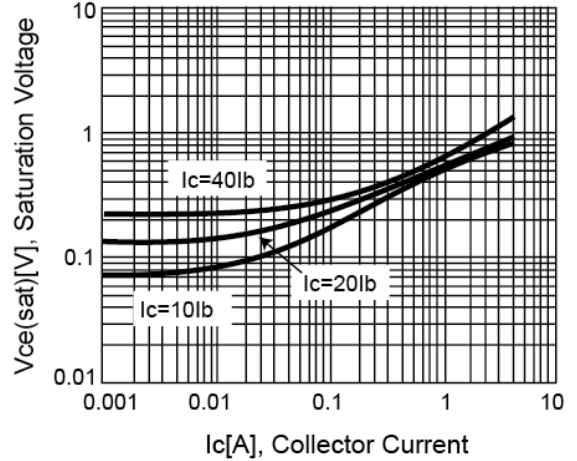
\* Pulse Test: Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$

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

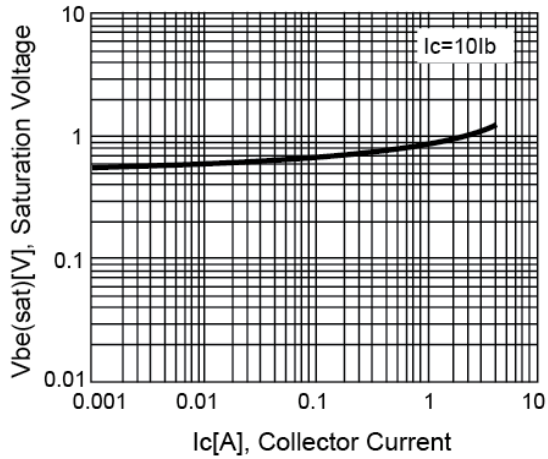
**Figure 1. DC Current Gain**



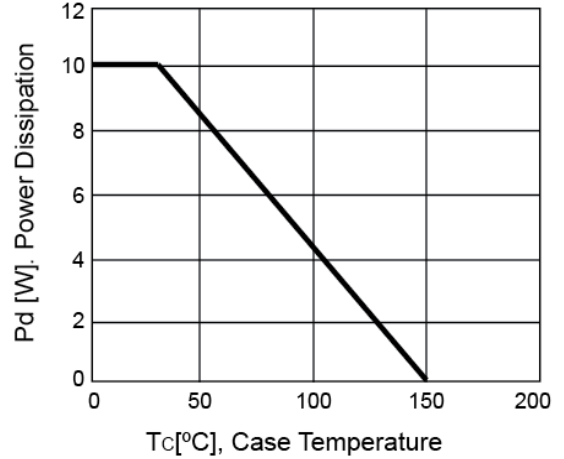
**Figure 2. Vce(sat) v.s. Ic**



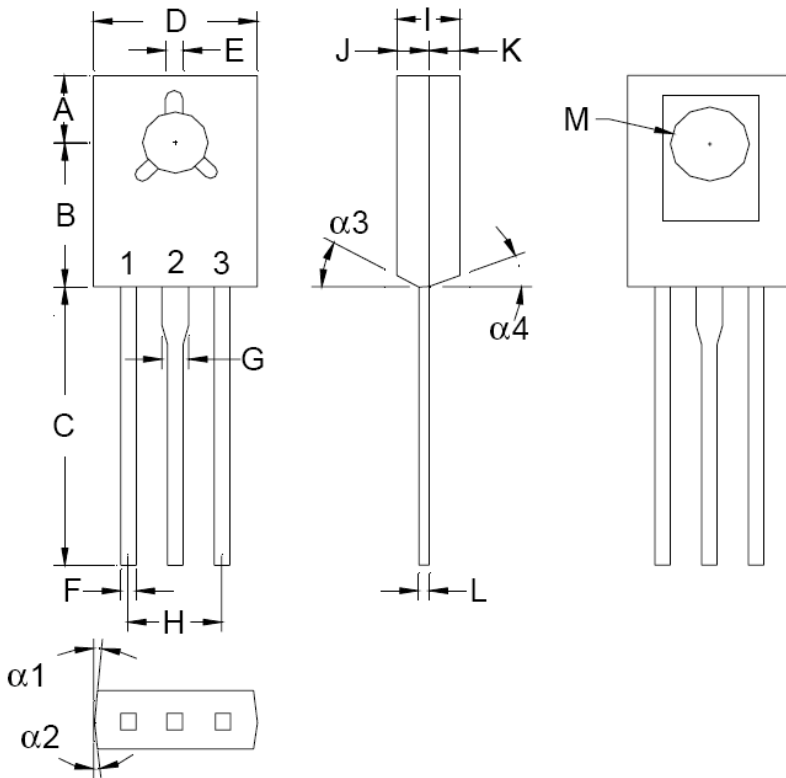
**Figure 3. Vbe(sat) v.s. Ic**



**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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