

Low $V_{CE(SAT)}$ PNP Transistor

FEATURES

- Low $V_{CE(SAT)}$ -0.3 @ $I_C = -2A, I_B = -200mA$ (Typ.)
- Complementary part with TSD882
- Epitaxial Planar Type
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC.
- Halogen-free according to IEC 61249-2-21

APPLICATION

- Power Supply
- Low Speed Switching Applications

KEY PERFORMANCE PARAMETERS			
PARAMETER		VALUE	UNIT
BV_{CEO}		-30	V
BV_{CBO}		-50	V
I_C		-3	A
$V_{CE(SAT)}$	$I_C = -2A, I_B = -200mA$	-0.5	V



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise noted)				
PARAMETER		SYMBOL	LIMIT	UNIT
Collector-Base Voltage		V_{CBO}	-50	V
Collector-Emitter Voltage		V_{CEO}	-30	V
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current	DC	I_C	-3	A
	Pulse		-7 (note)	
Collector Power Dissipation	$T_A = 25^\circ C$	P_D	1	W
	$T_C = 25^\circ C$		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 $\leq 2\%$

THERMAL PERFORMANCE				
PARAMETER		SYMBOL	LIMIT	UNIT
Junction to Case Thermal Resistance		$R_{\theta JC}$	6.25	$^\circ C/W$

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$I_C = -50\mu\text{A}, I_E = 0$	BV_{CBO}	-50	--	--	V
Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}, I_B = 0$	BV_{CEO}	-30	--	--	V
Emitter-Base Breakdown Voltage	$I_E = -50\mu\text{A}, I_C = 0$	BV_{EBO}	-5	--	--	V
Collector Cutoff Current	$V_{CB} = -30\text{V}, I_E = 0$	I_{CBO}	--	--	-1	μA
Emitter Cutoff Current	$V_{EB} = -33\text{V}, I_C = 0$	I_{EBO}	--	--	-1	μA
Collector-Emitter Saturation Voltage	$I_C = -2\text{A}, I_B = -200\text{mA}$	$*V_{CE(SAT)}$	--	-0.3	-0.5	V
Base-Emitter Saturation Voltage	$I_C = -2\text{A}, I_B = -200\text{mA}$	$*V_{BE(SAT)}$	--	-1	-2	V
DC Current Transfer Ratio	$V_{CE} = -2\text{V}, I_C = -1\text{A}$	$*h_{FE}$	100	--	500	
Transition Frequency	$V_{CE} = -5\text{V}, I_C = -100\text{mA}, f = 100\text{MHz}$	f_T	--	80	--	MHz
Output Capacitance	$V_{CB} = -10\text{V}, f = 1\text{MHz}$	C_{ob}	--	55	--	pF
Collector Cutoff Current	$V_{CB} = -30\text{V}, I_E = 0$	I_{CBO}	--	--	-1	μA

* Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycles $\leq 2\%$

ORDERING INFORMATION

PART NO.	PACKAGE	PACKING
TSB772CK B0G	TO-126	250pcs / Bulk Bag
TSB772CK C0G	TO-126	50pcs / Tube

ELECTRICAL CHARACTERISTICS CURVES ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Figure 1. DC Current Gain

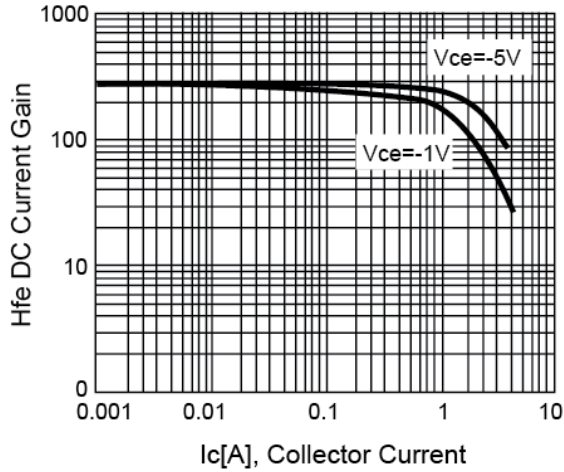


Figure 2. $V_{CE(SAT)}$ vs. Collector Current

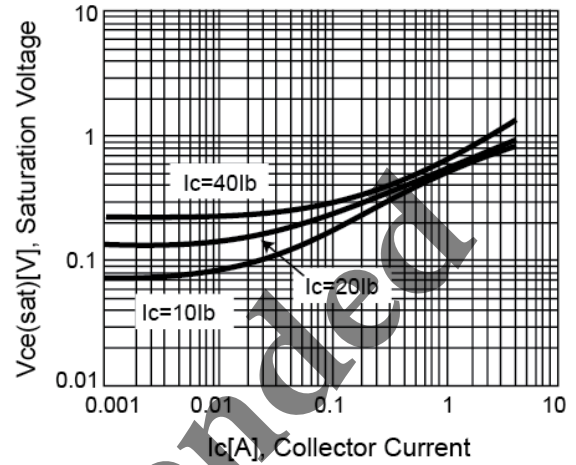


Figure 3. $V_{BE(SAT)}$ vs. Collector Current

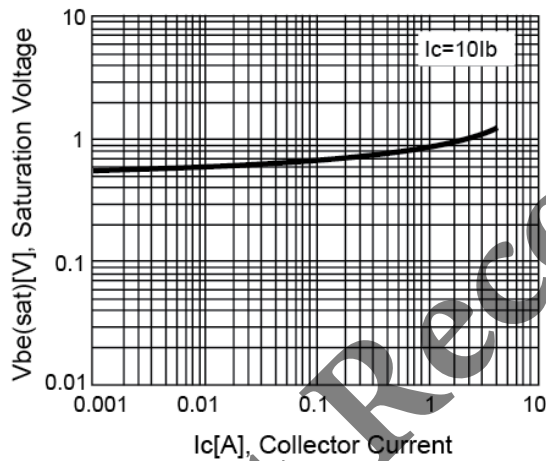
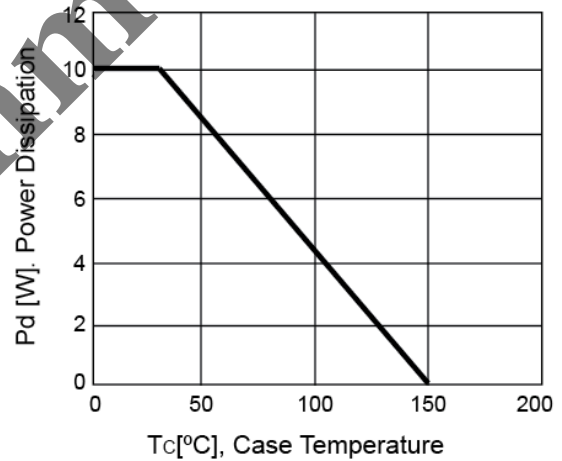


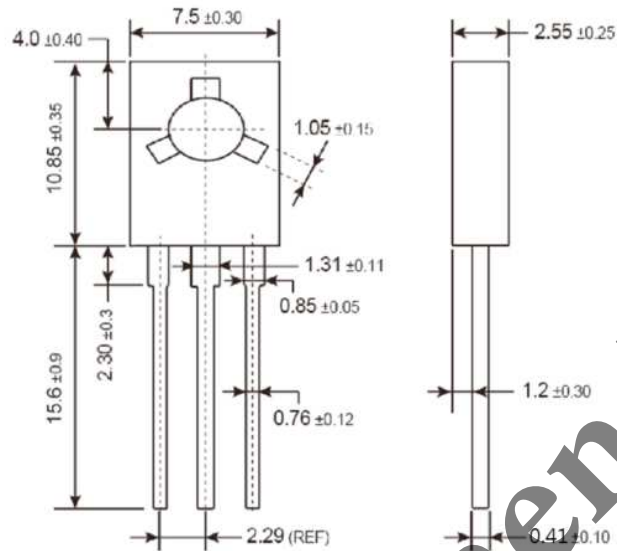
Figure 4. Power Derating Curve



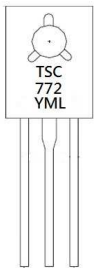
Not Recommended

PACKAGE OUTLINE DIMENSIONS (Unit: Millimeters)

TO-126



MARKING DIAGRAM



- Y = Year Code
- M = Month Code for Halogen Free Product
 - O =Jan P =Feb Q =Mar R =Apr
 - S =May T =Jun U =Jul V =Aug
 - W =Sep X =Oct Y =Nov Z =Dec
- L = Lot Code

Not Recommended

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